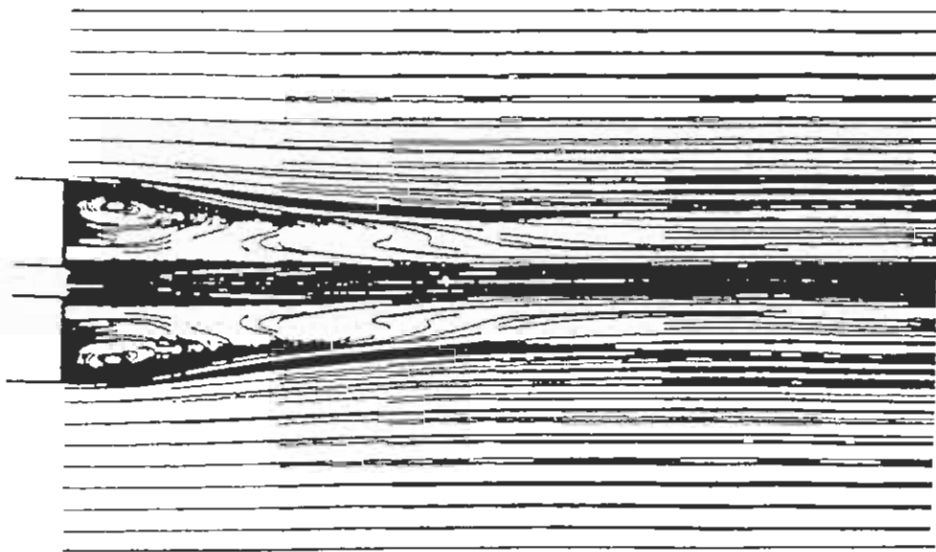


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ΤΜΗΜΑ ΜΗΧΑΝΟΛΟΓΙΑΣ



ΕΙΣΗΓΗΤΕΣ: ΜΑΥΡΙΔΗΣ Κ.  
ΚΟΥΡΗΣ Ν.

ΘΕΜΑ: ΛΗΨΗ- ΑΞΙΟΛΟΓΗΣΗ ΑΠΟΤΕΛΕΣΜΑΤΩΝ  
ΥΠΟΛΟΓΙΣΤΙΚΟΥ ΚΩΔΙΚΑ ΚΑΥΣΗΣ ΜΕΘΑΝΙΟΥ  
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ΑΛΕΞΟΠΟΥΛΟΣ ΙΩΑΝΝΗΣ

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**ΥΠΟΛΟΓΙΣΤΙΚΗ  
ΡΕΥΣΤΟΜΗΧΑΝΙΚΗ**

**ΠΑΤΡΑ 2001**

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## ΕΙΣΑΓΩΓΗ

Την τελευταία εικοσαετία η αριθμητική λύση Ρευστοδυναμικών Προβλημάτων έγινε πολύ ελκυστική και ένας μεγάλος αριθμός επιστημόνων ασχολήθηκε με το σχετικό αντικείμενο. Για την επίλυση οποιουδήποτε ροϊκού πεδίου, είναι πλέον δυνατή η χρήση υπολογιστικών πακέτων, τα οποία ύστερα από προσαρμογή του υπό διερεύνηση προβλήματος, δίδουν αριθμητική λύση που πλησιάζει την πραγματική. Ένα πρόγραμμα Υπολογιστικής Ρευστομηχανικής, στην προσπάθεια για επίτευξη ενός όσο το δυνατόν περισσότερο ρεαλιστικού αποτελέσματος, πρέπει να ικανοποιεί κάποια γενικά χαρακτηριστικά.

Τα βασικά του στοιχεία είναι τα ακόλουθα:

- Η δημιουργία ενός πεπερασμένου πίνακα από σημεία (κόμβους) του ροϊκού πεδίου, που απαρτίζουν το υπολογιστικό πλέγμα.
- Η μετατροπή των μερικών διαφορικών εξισώσεων, σε ένα σύστημα όμοιων αλγεβρικών εξισώσεων πεπερασμένων διαφορών, οι οποίες συσχετίζουν τις τιμές των εκάστοτε μεταβλητών στους κόμβους του πεδίου με τις τιμές στους γειτονικούς κόμβους.
- Η μετατροπή των εξισώσεων σε κατάλληλη μορφή για την επίλυσή τους από κάποια αξιόπιστη επαναληπτική τεχνική.
- Η παρουσίαση και αξιολόγηση των αποτελεσμάτων της επαναληπτικής διαδικασίας.

Επίσης οι παρακάτω όροι αυξάνουν την αξιοπιστία της υπολογιστικής λύσης:

- **Γενικότητα εφαρμογής:** Προσπάθεια δημιουργίας υπολογιστικού κώδικα με πεδίο εφαρμογής σε όσο το δυνατόν περισσότερες ροϊκές περιπτώσεις, με τις λιγότερες δυνατές αλλαγές.
- **Ακρίβεια λύσης:** Οι αλγεβρικές εξισώσεις αποτελούν προσεγγίσεις των μερικών διαφορικών εξισώσεων. Η διαφορά μεταξύ των αριθμητικών λύσεων των πρώτων και των αναλυτικών λύσεων των δεύτερων, δηλ. το υπολογιστικό λάθος (truncation error), πρέπει να είναι όσο το δυνατόν μικρότερο.
- **Σύγκλιση:** Ιδιότητα μιας επαναληπτικής μεθόδου επίλυσης ενός συστήματος όμοιων αλγεβρικών εξισώσεων που οδηγεί στην ομαλή επίλυσή τους. Μία αξιόπιστη μέθοδος συγκλίνει κάτω υπό οποιεσδήποτε συνθήκες.

- **Οικονομία λύσης:** Βασική ανάγκη μιας μεθόδου να είναι γρήγορη και οικονομική. Αυτή η ανάγκη για "υπολογιστική οικονομία " παίζει πολύ μεγάλο ρόλο στη δημιουργία κάθε υπολογιστικής μεθόδου.

Προβλέψεις στην Μεταφορά- Θερμότητας και Ρευστομηχανικής μπορούν να ληφθούν με δύο κύριες μεθόδους, την πειραματική έρευνα και τον θεωρητικό υπολογισμό. Τα τελευταία χρόνια η συνεχής αύξηση της χωρητικότητας των υπολογιστών, η βελτίωση των μεθόδων επίλυσης των εξισώσεων Navier-Stokes (ή Reynolds) και η βελτίωση των τυρβωδών μοντέλων που χρησιμοποιούνται για τον υπολογισμό των τυρβωδών τάσεων που εμφανίζονται στις εξισώσεις Reynolds, σε συνδυασμό με την ανάγκη για μεθόδους σχεδιασμού χαμηλού κόστους, οδήγησαν στην εκτενή χρήση μεθόδων της Υπολογιστικής Θερμορευστομηχανικής (Computational Fluid Dynamics and Heat Transfer (CFDHT)) σαν ένα επιπρόσθετο εργαλείο διεξαγωγής των πειραμάτων και της σχεδιαστικής διαδικασίας.

Τα πλεονεκτήματα του θεωρητικού υπολογισμού από την αντίστοιχη πειραματική έρευνα είναι:

- Το χαμηλό κόστος, είναι το πιο σπουδαίο πλεονέκτημα μιας υπολογιστικής πρόβλεψης. Στις περισσότερες εφαρμογές το κόστος κατασκευής και τρεξίματος ενός υπολογιστικού προγράμματος, είναι κατά πολλές τάξεις χαμηλότερο από το κόστος μιας αντίστοιχης πειραματικής διερεύνησης.
- Η ταχύτητα κατασκευής και εκτέλεσης μιας υπολογιστικής διερεύνησης σε αντιπαράθεση με μια αντίστοιχη πειραματική διερεύνηση.
- Οι πλήρεις πληροφορίες που αποτυπώνονται με την λύση ενός προβλήματος με υπολογιστική μέθοδο σε ολόκληρη την επιφάνεια λύσης που μας ενδιαφέρει και σε αντίθεση με το πείραμα, υπάρχουν ελάχιστες απρόσιτες περιοχές υπολογισμού και επίσης δεν υπάρχει διαταραχή ροής από τα όργανα λήψης μέτρησης.
- Η δυνατότητα εύκολης προσομοίωσης σε έναν θεωρητικό υπολογισμό, των πραγματικών συνθηκών. Ένα υπολογιστικό πρόγραμμα δεν είναι δύσκολο να εξομοιώνει μικρές ή μεγάλες διαστάσεις, να χειρίζεται χαμηλές ή υψηλές θερμοκρασίες, τοξικές ή εύφλεκτες ουσίες ή να ακολουθεί πολύ γρήγορες ή πολύ αργές διαδικασίες.

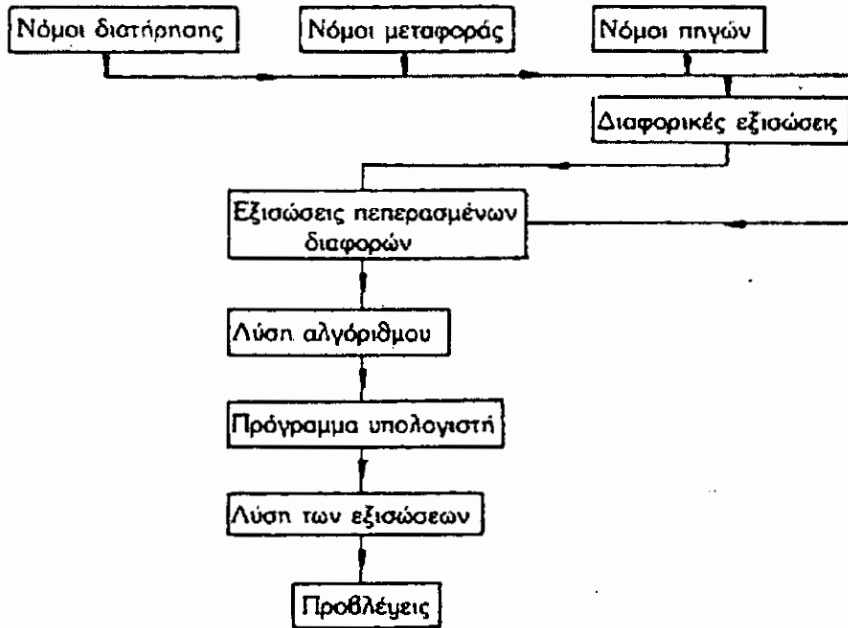
Παρά τα παραπάνω πλεονεκτήματα του θεωρητικού υπολογισμού δεν πρέπει να υπάρχει άκρατος ενθουσιασμός και είναι χρήσιμο να συνεκτιμώνται τα μειονεκτήματα και οι περιορισμοί του. Ο υπολογισμός με την χρήση Ηλεκτρονικών

Υπολογιστών επιλύει τις συνέπειες ενός μαθηματικού μοντέλου. Η πειραματική έρευνα αντίθετα παρατηρεί την πραγματικότητα. Τα όρια ισχύος ενός μαθηματικού μοντέλου περιορίζουν την χρησιμότητα του θεωρητικού υπολογισμού. Το τελικό αποτέλεσμα του θεωρητικού υπολογισμού εξαρτάται και από το μαθηματικό μοντέλο και από την χρησιμοποιούμενη αριθμητική μέθοδο. Μια σωστή προσπάθεια πρόβλεψης θα πρέπει να είναι ένας συνετός συνδυασμός θεωρητικού υπολογισμού και πειράματος. Το ποσοστό συμμετοχής των δύο παραγόντων εξαρτάται από τη φύση του προς επίλυση προβλήματος από τούς στόχους της πρόβλεψης και από τούς οικονομικούς και άλλους περιορισμούς της κατάστασης.

# ΚΕΦΑΛΑΙΟ 1

## 1.1. ΜΑΘΗΜΑΤΙΚΗ ΔΟΜΗ ΤΩΝ ΥΠΟΛΟΓΙΣΤΙΚΩΝ ΚΩΔΙΚΩΝ

Η δομή της μαθηματικής διατύπωσης των υπολογιστικών κωδίκων ακολουθεί το παρακάτω διάγραμμα ροής.



Όπως φαίνεται στο διάγραμμα ροής οι υπολογιστικοί κώδικες έχουν τη βάση τους στους νόμους της φύσης, της διατήρησης (ορμής, μάζας και ενέργειας) της μεταφοράς και των πηγών. Οι νόμοι της φύσης μετασχηματίζονται ευθέως σε μορφή πεπερασμένων διαφορών κάνοντας χρήση της ανάλυσης της μεθόδου του όγκου-ελέγχου. Τείνοντας τον αριθμό των κόμβων του πλέγματος στο άπειρο, η προσέγγιση των σχηματιζόμενων εξισώσεων πεπερασμένων διαφορών μπορεί να αντικαταστήσει αυτήν των διαφορικών εξισώσεων.

Για να καταστεί δυνατή η πρόβλεψη μέσω Η/Υ και να επιλυθούν οι εξισώσεις πεπερασμένων διαφορών είναι απαραίτητος ένας αλγόριθμος επίλυσης που να ενσωματώνεται κατάλληλα στο πρόγραμμα του υπολογιστή, να εκμεταλλεύεται την ταχύτητά του και να αποδίδει την φυσική πραγματικότητα.

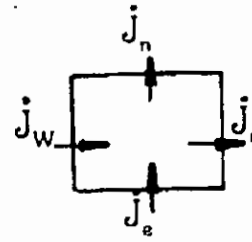
## 1.2. ΕΞΙΣΩΣΕΙΣ ΔΙΑΤΗΡΗΣΗΣ - ΜΕΡΙΚΕΣ ΔΙΑΦΟΡΙΚΕΣ ΕΞΙΣΩΣΕΙΣ

Για να δειχθεί πώς μπορούν να συνδιασθούν οι νόμοι της φύσης σε μια διαφορική εξίσωση λαμβάνεται για παράδειγμα η μεταφορά της ορμής. Σύμφωνα με το δεύτερο νόμο, του Newton, για την κατάσταση της μόνιμης ροής το άθροισμα της ορμής (i)



στην διεύθυνση  $i$  πρέπει να είναι ίσο με την καθαρή δύναμη στην αυτή διεύθυνση ( $S_i$ ). Η μαθηματική έκφραση είναι:

$$j_{i,w} - j_{i,e} + j_{i,s} - j_{i,n} = -S_i$$



Η μαθηματική έκφραση περιλαμβάνει ροές  $j$ , που παριστάνουν την μεταφορά της ορμής και με μεταφορά και με διάχυση (επενέργεια ιξώδους). Έχουν σαν αιτία τους νόμους μεταφοράς (νόμος ιξώδους του Newton). Βάσει του νόμου μεταφοράς, σε ένα νευτωνικό τυρβώδες ρευστό, η συνολική ροή είναι:

$$j_x = \rho U U - \mu_t \left( \frac{\partial U}{\partial x} \right) + \text{επιπρόσθετοι όροι} \quad (1.2.1)$$

Στην σχέση (1.2.1) υπάρχουν επίσης επιπρόσθετοι όροι (ή πηγές) που συνεισφέρουν στην μεταφορά της ορμής, που παράγονται από τους "νόμους της πηγής" και περιγράφουν την συνεισφορά που οφείλεται στην πίεση, στις άνωστικές δυνάμεις κ.τ.λ. Νόμος πηγών:

$$S_x = -\frac{\partial p}{\partial x} + S'_x$$

Αντικαθιστώντας στην μαθηματική έκφραση του δεύτερου νόμου του Newton τους νόμους μεταφοράς και πηγών, λαμβάνουμε την διαφορική εξίσωση για την ορμή στην  $x$ -διεύθυνση:

$$\frac{\partial}{\partial x} (\rho U U) + \frac{\partial}{\partial y} (\rho U V) - \frac{\partial}{\partial x} \left( \mu_t \frac{\partial U}{\partial x} \right) - \frac{\partial}{\partial y} \left( \mu_t \frac{\partial U}{\partial y} \right) = -\frac{\partial p}{\partial x} + S'_x$$

Οι διαφορικές εξισώσεις για την ορμή στις άλλες διευθύνσεις, όπως και για άλλες διατηρούμενες ιδιότητες, λαμβάνονται κατά όμοιο τρόπο. Το πλεονέκτημα των εξισώσεων μεταφοράς στην διατήρηση των διαφόρων ιδιοτήτων (εκτός της μάζας), είναι ότι μπορούν να εκφραστούν με έναν γενικό τύπο, που για διδιάστατα προβλήματα σταθερής κατάστασης (μόνιμης ροής), για κυλινδρικές συντεταγμένες είναι:

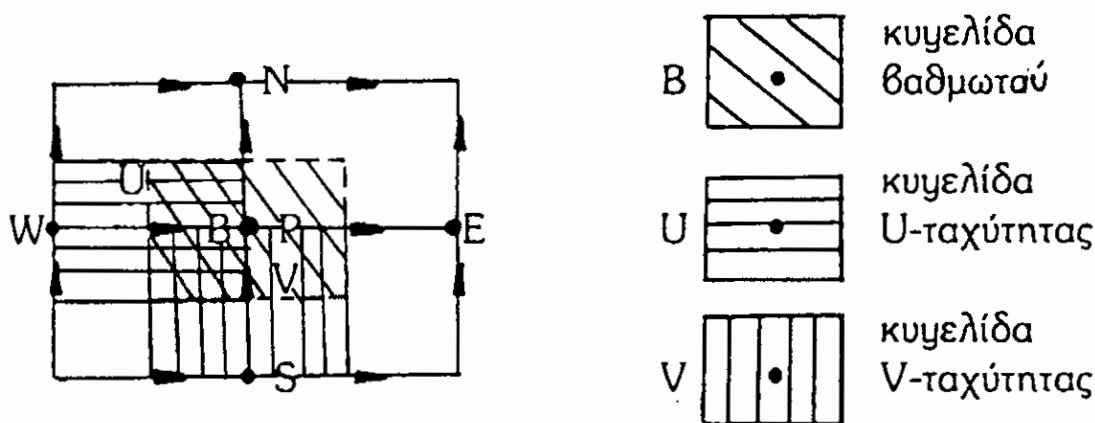
$$\frac{1}{r} \left[ \frac{\partial}{\partial x} (\rho r U \Phi) + \frac{\partial}{\partial r} (\rho r V \Phi) - \frac{\partial}{\partial x} \left( r \Gamma \frac{\partial \Phi}{\partial x} \right) - \frac{\partial}{\partial r} \left( r \Gamma \frac{\partial \Phi}{\partial r} \right) \right] - S_\Phi = 0$$

Το  $\Phi = U, V, k, \epsilon, T, m_i$ , κτλ., το  $\Gamma = \mu_t, \Gamma_k, \Gamma_\epsilon, \Gamma_T$ , κτλ. Το  $S_\Phi$  παριστάνει τις πηγές σε σχέση με την μεταφορά της μεταβλητής  $\Phi$ . Η εξίσωση της συνέχειας, ή αλλιώς

διατήρησης της μάζας, έχει ειδική έκφραση και θα συζητηθεί στην συνέχεια, μετά την παραγωγή της εξίσωσης της διορθωτικής πίεσης. Για  $r=1$  και  $\partial t = \Delta y$  πηγαίνουμε σε διδιάστατη επίπεδη ροή.

### 1.3. ΕΞΙΣΩΣΕΙΣ ΠΕΠΕΡΑΣΜΕΝΩΝ ΔΙΑΦΟΡΩΝ

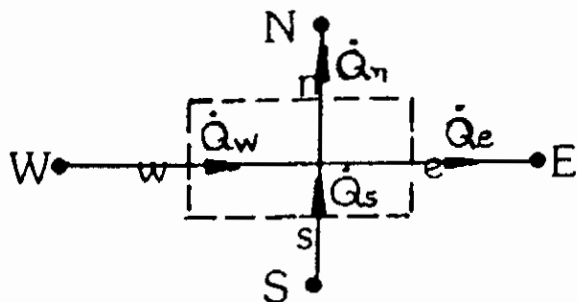
Για την παραγωγή των εξισώσεων πεπερασμένων διαφορών από τις διαφορικές εξισώσεις πρέπει να αναπτυχθεί το κατάλληλο πλέγμα και θέσεις αποθήκευσης των μεταβλητών. Το χρησιμοποιούμενο πλέγμα στο επίπεδο  $r$ - $x$ , είναι κανονικό ορθογώνιο, με τυχαίες αποστάσεις των κόμβων  $\delta x_{pw} \neq \delta x_{pe}$  και δείχνεται με τις συνεχείς γραμμές:



Τυπικά συμπλέγματα U, V και βαθμωτών κυψελίδων (ή όγκων ελέγχου) δείχνονται με τις διακεκομμένες γραμμές. Κάθε κυψελίδα περιβάλλει το σημείο τοποθέτησης της σχετικής μεταβλητής. Οι μεταβλητές αποθηκεύονται σε διαφορετικές θέσεις του πλέγματος. Η πίεση και τα βαθμωτά αποθηκεύονται στους κόμβους του πλέγματος, ενώ οι ταχύτητες στα όρια των κυψελίδων των βαθμωτών. Αυτό το σύστημα αποθήκευσης γνωστό σαν μετατοπισμένο "staggered" πλέγμα, έχει το πλεονέκτημα ότι οι μεταβλητές U, V, P αποθηκεύονται έτσι ώστε οι κλίσεις πίεσης που οδηγούν τις ταχύτητες U και V είναι εύκολο να εκτιμηθούν και επιπλέον οι ταχύτητες αποθηκεύονται εκεί όπου χρειάζονται για τον υπολογισμό της μεταφερόμενης ροής. Στις (•) θέσεις αποθηκεύονται οι βαθμωτές μεταβλητές P,  $k$ ,  $\epsilon$ , T,  $m_j$ , στις ( $\rightarrow$ ) θέσεις η U ταχύτητα και στις ( $\uparrow$ ) θέσεις η V ταχύτητα.

Η προσέγγιση με την μέθοδο του όγκου ελέγχου (ή κυψελίδας) είναι όμοια με την ολοκληρωτική μέθοδο, αλλά έχει περισσότερο φυσική. Η τιμή κάποιας ιδιότητας  $\Phi$  που αναφέρεται στο σημείο του κόμβου αναφέρεται στην μέση τιμή του όγκου

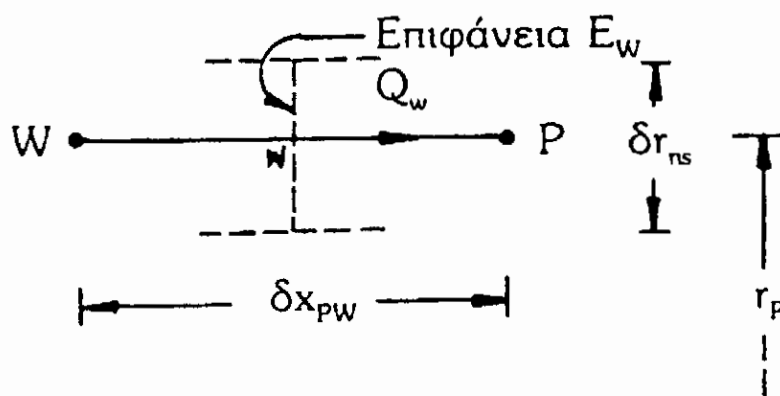
ελέγχου. Ο νόμος διατήρησης για την μεταφορά κάποιας εκτατικής ιδιότητας  $\Phi$  (μάζας, ορμής, ενέργειας κ.λ.π.), μπορεί να οριστεί: [(Η μεταβολή του  $\Phi$  στην κυψελίδα) = (με τον καθαρό ρυθμό εισαγωγής του  $\Phi$  στην κυψελίδα με μεταφορά) + (τον καθαρό ρυθμό εισαγωγής του  $\Phi$  στην κυψελίδα με διάχυση) + (τον ρυθμό παραγωγής του  $\Phi$  μέσα στην κυψελίδα)]. Και μαθηματικώς:



$$\frac{\Delta(\rho\Phi)}{\Delta t} dV + \dot{Q}_w - \dot{Q}_e + \dot{Q}_s - \dot{Q}_n + \int_V S_\phi dV = 0$$

Τα  $w, e, s, n$  παριστάνουν τα όρια των κυψελίδων. Τα  $Q_i$  την συνολική ροή λόγω μεταφοράς και διάχυσης, σαν άθροισμα γύρω από τα όρια των κυψελίδων, δίδοντας φυσική αντίληψη και τονίζοντας την διατήρηση. Ο όρος  $S$  παριστάνει την παραγωγή στη μονάδα του όγκου στην κυψελίδα και  $\Phi = U, V, T, m, k, \epsilon$  ( $\Phi=1$  για την μάζα).  $\Delta(\rho\Phi)/\Delta t=0$ , για ροή σταθερής κατάστασης (μόνιμη ροή).

Θεωρώντας χάριν ευκολίας μονοδιάστατη μεταφορά δια των ορίων της κυψελίδας, η "exact" μέθοδος επίλυσης του Spalding (1972), για το δυτικό όριο της κυψελίδας δίνει:



$$\dot{Q}_w \approx \rho_w U_w E_w [f_w \Phi_w + (1 - f_w) \Phi_p]$$

$$f_w \equiv \frac{\exp(P_{ew})}{\exp(P_{ew}) - 1}, \quad (\text{Αριθμός Peclet}) \quad P_{ew} \equiv \frac{\rho_w U_w \delta x_{pw}}{\Gamma_w}$$

$$A_w = r_p \delta r_{ns}, \quad \rho_w = \frac{\rho_w + \rho_p}{2}, \quad \Gamma_w = \frac{\Gamma_w + \Gamma_p}{2}$$

Το  $Q_w$  είναι το μεταφερόμενο βαθμωτό  $\Phi$  υπό την έννοια της μέσης τιμής, που λαμβάνεται μέσω του συντελεστού ισοζύγισης (ο οποίος εξαρτάται από τον τοπικό αριθμό Peclet). Εάν η πυκνότητα  $\rho$  και ο συντελεστής διάχυσης  $\Gamma$  δεν είναι αποθηκευμένα σε ομοιόμορφα πλέγματα, χρησιμοποιούνται ισοζυγισμένες τιμές προς επιβεβαίωση της συνέχειας της ροής.

Προς αποφυγή των "ακριβών υπολογιστικά" εκθετικών σχέσεων, υιοθετείται μία μέθοδος που χρησιμοποιεί την "piece-wise" (Patankar, 1980) γραμμική προσέγγιση, για τον υπολογισμό της "exact"  $Q_w \approx P_{ew}$  σχέσης (με μικρή απώλεια ακριβείας). Σύμφωνα με αυτήν την μέθοδο χρησιμοποιείται μια "central" μέθοδος διαφορών για χαμηλό αριθμό (Peclet) και μία "upwind" μέθοδος διαφορών (ασυμπτωτικά της upwind σχέσης) για μεγάλο αριθμό (Peclet). Για αυτό και η μέθοδος ονομάζεται μεικτή ("hybrid") μέθοδος:

$$\frac{Q_w}{\rho_w U_w E_w} \equiv \begin{cases} \frac{1}{2} \left[ (1 + 2P_{ew}^{-1})\Phi_w + (1 - 2P_{ew}^{-1})\Phi_p \right] & \text{για } -2 < P_{ew} < 2 \\ \Phi_w & \text{για } P_{ew} \geq 2 \\ \Phi_p & \text{για } P_{ew} \leq -2 \end{cases}$$

Τα  $Q_e$ ,  $Q_r$ , και  $Q_s$  παράγονται κατά όμοιο τρόπο.

#### 1.4 ΟΡΟΣ ΠΗΓΗΣ

Η συνολική παραγωγή στον όγκο ελέγχου δεν μπορεί να εκφρασθεί επακριβώς δίχως να γνωρίζουμε την ακριβή έκφραση του όρου πηγής  $S_\Phi$ . Παρ' όλα αυτά μπορούμε να της δώσουμε μια γραμμικοποιημένη μορφή:

$$-\int_V S_\Phi dV = b\Phi_p + c$$

$b$  και  $c$  παράγονται κατά την ολοκλήρωση και γραμμικοποίηση του όρου πηγής  $S_\Phi$ , και είναι γενικώς συναρτήσεις του  $\Phi$ . Αυτός ο τρόπος προσέγγισης δίδει πλεονεκτήματα και ευκολία στην χρήση στο υπολογιστικό πρόγραμμα, στις διάφορες ροϊκές καταστάσεις.

### 1.5. ΤΕΛΙΚΗ ΕΞΙΣΩΣΗ ΠΕΠΕΡΑΣΜΕΝΩΝ ΔΙΑΦΟΡΩΝ

Για την περίπτωση ροής σταθερής κατάστασης με αντικατάσταση στον νόμο της διατήρησης των εκφράσεων της ροής και της παραγωγής, παράγουμε και με την βοήθεια της συνέχειας την τελική εξίσωση πεπερασμένων διαφορών:

$$(a_p - b)\Phi_p = \sum_i a_i \Phi_i + c$$

$a_n, a_s, a_e, a_w$  συνδυάζουν συντελεστές μεταφοράς διάχυσης.

Όπου  $a_p = \sum_i a_i$ ,  $\Sigma_i$  = άθροισμα των γειτονικών N, S, E, W.

$$a_w = \rho_w U_w E_w f_w,$$

$$a_n = \rho_n U_n E_n f_n$$

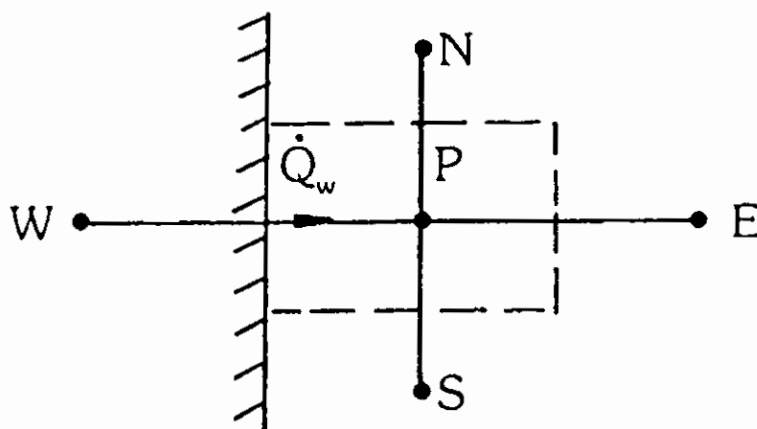
$$a_s = \rho_s U_s E_s f_s$$

$$a_e = \rho_e U_e E_e f_e$$

Με την βοήθεια της συνέχειας το  $a_p$  εκφράζει το άθροισμα των συνδυαζόμενων συντελεστών ροής στους κόμβους N, S, E, W. Όταν  $b = c = 0$ , το  $\Phi_p$  παριστάνει την μέση τιμή του αθροίσματος των γειτονικών κόμβων.

### 1.6. ΕΙΣΑΓΩΓΗ ΟΡΙΑΚΩΝ ΣΥΝΘΗΚΩΝ

Η γενική εξίσωση πεπερασμένων διαφορών δεν είναι εφαρμόσιμη στα όρια της περιοχής υπολογισμών. Απαιτείται ειδική μεταχείριση στις κυψελίδες δίπλα στα όρια, ώστε να υπάρχει πλεονέκτημα τόσο στον νόμο της διατήρησης όσο και στον υπολογισμό της ροής. Δείχνεται στο παρακάτω σχήμα τυπική κυψελίδα που το δυτικό όριό της συμπίπτει με τοίχωμα.



Σύμφωνα με αυτή την διευθέτηση υπάρχει σύνδεση μεταξύ  $\Phi_p$  και  $\Phi_w$  στην γενική εξίσωση πεπερασμένων διαφορών. Διακόπτεται η σύνδεση μεταξύ των  $\Phi_p$  και  $\Phi_w$  θέτοντας τον συντελεστή  $\alpha_w=0$ . Επίσης χρειάζεται να επέμβουμε στην ροή  $\dot{Q}_w$ . Οι ροές  $\dot{Q}_n$ ,  $\dot{Q}_s$  και  $\dot{Q}_e$  σύμφωνα με το σχήμα παραμένουν ανεπηρέαστες. Υπάρχουν διάφοροι τρόποι επέμβασης στο  $\dot{Q}_w$ . Εδώ υιοθετείται η μεταχείριση της "False" (λάθος) πηγής με καθορισμό των σταθερών b και c (εύκολα στον προγραμματισμό).

Εάν θέλουμε να εισάγουμε την οριακή ροή  $\dot{Q}_o$  θέτουμε:

$$\alpha_w = 0, \quad b = 0, \quad c = \dot{Q}_o$$

Εάν θέλουμε να εισάγουμε την οριακή τιμή  $\Phi_o$  πρέπει:

$$\dot{Q}_w = \alpha'_w (\Phi_o - \Phi_p)$$

και θέτουμε:

$$\alpha_w = 0, b = -\alpha'_w, c = \alpha'_w \Phi_o$$

Εάν το σχετικό όριο της περιοχής των υπολογισμών είναι τοίχωμα το  $\alpha'_w$  πρέπει να εκτιμηθεί από τις συναρτήσεις τοίχου, ή από άλλο μοντέλο που περιγράφει την ροή κοντά στον τοίχο.

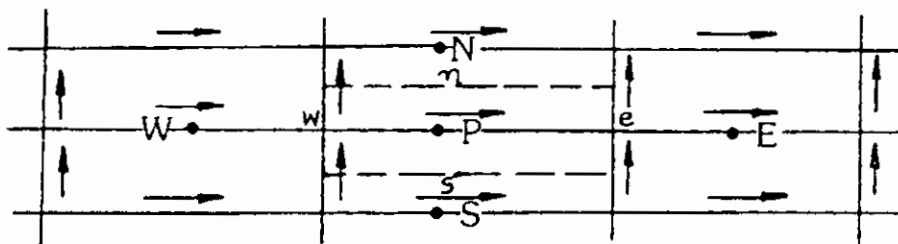
Πολλές φορές το  $\Phi$  χρειάζεται να έχει μια σταθερή τιμή μέσα στην περιοχή υπολογισμών (δευτερεύουσα δέσμη έγχυσης μέσα στην περιοχή υπολογισμών). Η μεταχείριση της "False" πηγής είναι ένα πολύ χρήσιμο εργαλείο σε αυτές τις περιπτώσεις. Θέτουμε:

$$b = -\gamma, \quad c = \gamma \Phi_{fix}$$

όπου  $\gamma$  ( $\equiv$  μεγάλος αριθμός), π.χ.  $10^{30}$  και  $\Phi_{fix}$  η επιθυμούμενη σταθερή τιμή μέσα στην περιοχή υπολογισμών.

### **1.7. ΕΞΙΣΩΣΗ ΠΕΠΕΡΑΣΜΕΝΩΝ ΔΙΑΦΟΡΩΝ ΓΙΑ ΤΗΝ ΟΡΜΗ**

Η προηγούμενη εξίσωση πεπερασμένων διαφορών που έχει παραχθεί στηρίχθηκε σε βαθμωτές μεταβλητές. Οι εξισώσεις πεπερασμένων διαφορών για την ορμή παράγονται όμοια με μόνη εξαίρεση την μετατόπιση του όγκου ελέγχου επειδή και οι ταχύτητες είναι μετατοπισμένες. Η U-εξίσωση που αναφέρεται στην κυψελίδα είναι:



$$(\alpha_p - b)U_p = \sum_i \alpha_i U_i + E_{ew}(P_w - P_p) + c$$

$$\alpha_w = \rho_w U_w E_{ew} f_w, \quad E_{ew} = r_p \delta r_{ns}, \quad f_w = f_{\text{Hybrid-Difference}}(R_{ew})$$

$$R_{ew} = \frac{\rho_w U_w \delta x_{pw}}{\mu_w},$$

$$\rho_w U_w = \frac{1}{2}(\rho_w U_w + \rho_p U_p)$$

Για τις πιέσεις θα αναφερθούμε στο κεφάλαιο της εξίσωσης της διορθωτικής πίεσης. Οι ταχύτητες στα όρια της κυψελίδας, οι πυκνότητες κτλ, υπολογίζονται με παρεμβολή, ώστε να ικανοποιείται η συνέχεια για την συνολική ροή.

### 1.8. ΕΠΙΛΥΣΗ ΕΞΙΣΩΣΕΩΝ ΠΕΠΕΡΑΣΜΕΝΩΝ ΔΙΑΦΟΡΩΝ

Περιγράφεται η γενική "Line - By - Line", επαναληπτική διαδικασία επίλυσης όλων των εξισώσεων πεπερασμένων διαφορών και ένας ειδικός αλγόριθμος (SIMPLE) για τις υδροδυναμικές εξισώσεις.

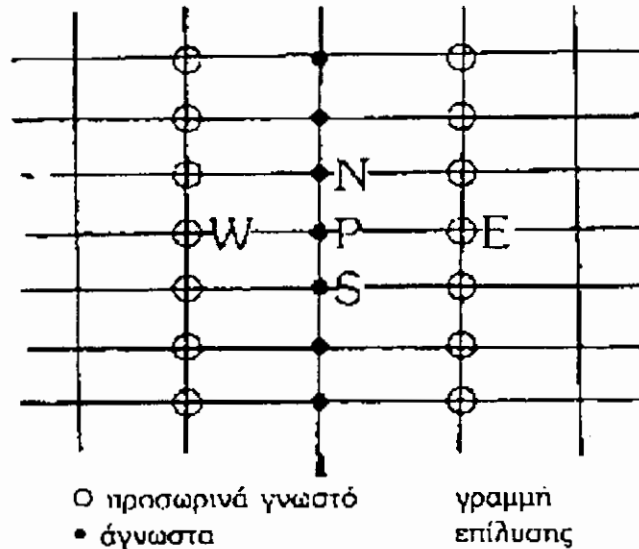
### 1.9. LBL ΕΠΙΛΥΣΗ ΕΞΙΣΩΣΕΩΝ ΠΕΠΕΡΑΣΜΕΝΩΝ ΔΙΑΦΟΡΩΝ ΜΕ ΧΡΗΣΗ ΤΟΥ TDMA ΑΛΓΟΡΙΘΜΟΥ

Γενικά η Line-By-Line διαδικασία είναι μία επαναληπτική μέθοδος, με αρχική υπόθεση των τιμών του πεδίου λύσης και βελτίωση της λύσης από γραμμή σε γραμμή. Κατά την λύση των εξισώσεων για τα σημεία της ίδιας γραμμής (π.χ. γραμμή N-S), οι τιμές των γειτονικών γραμμών υποτίθενται προσωρινά γνωστές. Η εξίσωση τότε για κάθε σημείο στην γραμμή N-S μετασχηματίζεται σε τέτοια μορφή ώστε μόνο τρεις τιμές ( $\Phi_p$ ,  $\Phi_N$  και  $\Phi_s$ ) να είναι άγνωστες.

$$a_p \Phi_p = \alpha_N \Phi_N + \alpha_S \Phi_S + c'$$

$$c' = a_w \Phi_w + a_E \Phi_E = c(\text{γνωστό})$$

$$\alpha_p = \alpha_p - b$$



Το σύστημα των εξισώσεων για όλα τα σημεία της N-S γραμμής παίρνει μια ιδιαίτερα απλή μορφή και ο πίνακας των μη μηδενικών συντελεστών είναι τριδιαγώνιος (tri-diagonal). Γενικά τα  $\Phi_1$  και  $\Phi_{i+1}$  είναι γνωστά στις εφαρμογές.

$$-\beta_2 \Phi_1 + D_2 \Phi_2 - \alpha_2 \Phi_3 = c'_2$$

$$-\beta_3 \Phi_2 + D_3 \Phi_3 - \alpha_3 \Phi_4 = c'_3$$

$$-\beta_j \Phi_{j-1} + D_j \Phi_j - \alpha_j \Phi_{j+1} = c'_j$$

$$-\beta_i \Phi_{i-1} + D_i \Phi_i - \alpha_i \Phi_{i+1} = c'_i$$

$$D \equiv a_p^1, a \equiv a_N, \beta \equiv \alpha_S, \Phi_1, \Phi_{i+1} \equiv \text{γνωστά}$$

Εξισώσεις αυτού του τύπου επιλύονται εύκολα με τον TDMA (Tri-Diagonal Matrix Algorithm) αλγόριθμο, από τα σημεία  $j = 2$  στο  $j = i$  στην γραμμή N-S.

Για τις ανάγκες του TDMA αλγόριθμου, το σύστημα των εξισώσεων με αλγεβρικό χειρισμό μετατρέπεται σε γενικές επαναληπτικές σχέσεις για το  $\Phi_j$  και τους συντελεστές  $A_j$  και  $C'_j$ . Χειριζόμενοι καταλλήλως την j-οστή εξίσωση λαμβάνουμε:

$$\Phi_j = Q_j \Phi_{j+1} + R_j \Phi_{j-1} + Z_j$$

όπου:

$$Q_j = \frac{a_j}{D_j}, R_j = \frac{\beta_j}{D_j}, Z_j = \frac{C'_j}{D_j}$$

Οι εξισώσεις γίνονται:



$$\Phi_2 = Q_2\Phi_3 + R_2\Phi_1 + Z_2 \quad (i)$$

$$\Phi_3 = Q_3\Phi_4 + R_3\Phi_2 + Z_3 \quad (ii)$$

$$\Phi_4 = Q_4\Phi_5 + R_4\Phi_3 + Z_4 \quad (iii)$$

$$\Phi_n = Q_n\Phi_{n+1} + R_n\Phi_{n-1} + Z_n$$

Το  $\Phi_1$  είναι γνωστό. Απαλείφοντας το  $\Phi_2$  από την (ii) και το  $\Phi_3$  από την (iii) κ.ο.κ., παράγεται ένας γενικός τύπος για το  $\Phi_j$ :

$$\Phi_j = A_j\Phi_{j+1} + C_j''$$

$$\text{όπου: } A_j = \frac{a_j}{D_j - \beta_j A_{j-1}}, C_j'' = \frac{\beta_j C_{j-1}' + C_j'}{D_j - \beta_j A_{j-1}}$$

$$\text{Σημειωτέον: } A_1 = 0, C_j'' = \Phi_1$$

Με την εφαρμογή του TDMA αλγορίθμου στην γραμμή N-S, υπολογίζονται από τις επαναληπτικές σχέσεις τα  $A_j$  και  $C_j''$  από  $j = 2$  έως  $j = n$ . Από την γενική επαναληπτική σχέση λαμβάνονται τα  $\Phi_j$  ξεκινώντας με το  $\Phi_n$  και τελειώνοντας με το  $\Phi_2$ . Εφαρμόζοντας τον TDMA αλγόριθμο σε όλο το πεδίο ο υπολογισμός ξεκινάει π.χ. από την ακρότατη γραμμή N-S. Στην συνέχεια ο υπολογισμός επαναλαμβάνεται κατά μήκος των επόμενων γειτονικών γραμμών N-S κάνοντας χρήση τις πρόσφατες υπολογισθείσες τιμές  $\Phi_j$  δια της ενσωμάτωσής των στο  $C_j'$ . Όλο το πλέγμα σαρώνεται (σάρωση = κίνηση από μία γραμμή πλέγματος σε άλλη) και ενδέχεται να κάνουμε χρήση πολλών σαρώσεων για να επιτευχθεί η επιθυμητή λύση. Αποκλίσεις της κατεύθυνσης των διασχίσεων (διάσχιση=κίνηση κατά μήκος μιας καθορισμένης γραμμής πλέγματος) και των σαρώσεων είναι δυνατές.

### **1.10. SIMPLE ΑΛΓΟΡΙΘΜΟΣ**

Οι άγνωστες μεταβλητές προς επίλυση είναι οι κύριες υδροδυναμικές μεταβλητές  $U$ ,  $V$ ,  $P$  και οι επιπρόσθετες βαθμωτές μεταβλητές κ.ε,  $T$ ,  $m_i$  κ.τ.λ. Κάθε άγνωστη απαιτεί προς επίλυση μια εξίσωση. Οι βαθμωτές μεταβλητές ικανοποιούν αυτήν την απαίτηση και οι ταχύτητες  $U$ ,  $V$  επίσης ικανοποιούν αυτήν την απαίτηση (με τις εξισώσεις της ορμής). Η πίεση όμως δεν έχει εξίσωση. Υπάρχει μία επιπρόσθετη εξίσωση, η εξίσωση της συνέχειας, αλλά σ' αυτήν δεν υπάρχει ο όρος της πίεσης. Συνεπώς χρειάζεται ειδική μεθοδολογία για να ληφθεί η πίεση  $P$ . Η χρησιμοποιούμενη εδώ μεθοδολογία συνίσταται στην επίλυση των εξισώσεων της ορμής αρχικά, έχοντας εκτιμήσει ένα πεδίο πίεσης. Κατόπιν λήψεως των εκτιμώμενων ταχυτήτων  $U$ ,  $V$  και τελικώς διορθώσεις του πεδίου πίεσης, έχοντας σε

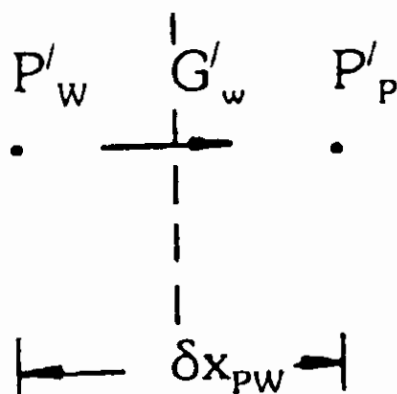
συμφωνία το πεδίο ταχυτήτων με την εξίσωση συνέχειας. Αυτή η διαδικασία επίλυσης είναι γνωστή σαν SIMPLE (Semi-Implicit Method for Pressure-Linked Equations) αλγόριθμος (Patankar and Spalding, 1972). Αρχικά υποτίθεται το πεδίο της πίεσης  $P$  και λύνονται οι εξισώσεις της ορμής με την LBL μέθοδο και παράγονται αντίστοιχες ταχύτητες  $U^*$ ,  $V^*$ . Οι μη σωστές τιμές των  $P^*$ ,  $U^*$  και  $V^*$  απαιτούν διόρθωση  $P'$ ,  $U'$  και  $V'$ :

$$P = P^* + P', U = U^* + U', V = V^* + V', G = G^* + G'$$

Το μετατοπισμένο "staggered" σύστημα πλέγματος παρέχει πλεονέκτημα στις διορθώσεις των ταχυτήτων, ή της ροής ( $G'$ ), με την έκφραση των  $G'_w, G'_e, G'_n, G'_s$  σαν συντελεστών χρονικών κλίσεων  $t'$ , των  $P'$ . Χρησιμοποιούμε γραμμικοποιημένη σχέση ροής για την λήψη του  $G'_w$  σε όρους του  $P'$ :

$$G'_w = \frac{t'_w(P'_p - P'_w)}{\delta x_{pw}}, t'_w = -\rho^* \delta x_{pw} \frac{\partial U_w^*}{\partial (P^*_p - P^*_w)}$$

$$\text{και } G'_w = \rho^* \frac{\partial U_w^*}{\partial (P^*_w - P^*_p)} (P'_w - P'_p)$$



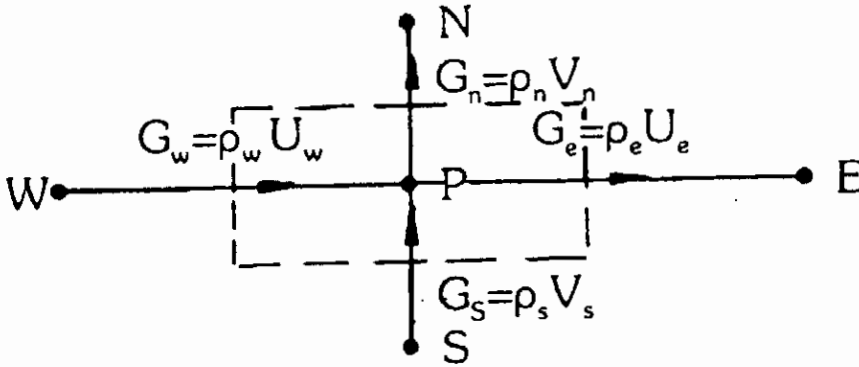
Χρησιμοποιώντας τις εξισώσεις της ορμής σε όρους των  $U^*$ ,  $V^*$  και  $P^*$ , η έκφραση για το  $G'_w$  μετασχηματίζεται τελικά σε έναν απλό τύπο, με τον συντελεστή  $D_w$  σε όρους των  $a_p$  και  $b$ :

$$G'_w = \rho^* D_w (P'_w - P'_p),$$

$$D_w = \frac{\partial U_w^*}{\partial (P^*_w - P^*_p)} = \frac{E_{ew}}{(a_p - b)}$$

Για ασυμπίεστη ροή  $G' = \rho^* U'$ . Στην συμπιεστή ροή χρειάζεται προσοχή στον υπολογισμό των πυκνοτήτων. Εάν οι ταχύτητες είναι διορθωμένες, η εξίσωση διατήρησης της μάζας θα ικανοποιείται και η πηγή της μάζας  $S_m$  είναι μηδέν. Φυσικά στις αρχικά υποτιθέμενες ταχύτητες  $U^*$  και  $V^*$  και συνεπώς  $G$  γενικώς δεν ικανοποιείται η συνέχεια και υπάρχει μια καθαρή πηγή μάζας. Για έναν τυπικό όγκο ελέγχου:

$$G_e E_e - G_w E_w + G_n E_n - G_s E_s = S_m \delta V$$



Ο σκοπός εδώ είναι να διορθωθούν ταχύτητες και πιέσεις έτσι ώστε να απαλειφθεί η πηγή μάζας. Αντικαθιστώντας  $G_w = G^* + G'$  κ.ο.κ. στην εξίσωση διατήρησης της μάζας, παράγεται μία εξίσωση Poisson για την διορθωτική  $P$ .

$$(\alpha_p - b) P'_p = \sum_i \alpha_i P'_i + M_p + c$$

όπου:

$$\alpha_p = \sum_i \alpha_i, \quad \alpha_w = \rho_w D_w E_w \quad \text{κ.ο.κ.}$$

$M_p = G^*_w E_w - G^*_e E_e + G^*_s E_s - G^*_n E_n \equiv$  πηγή υπολειπόμενης μάζας σε σχέση με τις υποτιθέμενες ροές  $G^*$ .

Επίλυση της διορθωτικής πίεσης  $P'$  με την LBL μέθοδο, συμπληρώνει την διαδικασία λήψης των διορθώσεων  $U'$ ,  $V'$  και  $P'$  που απαιτούνται για τα  $U^*$ ,  $V^*$  και  $P^*$ . Στα όρια των πεδίων λύσης, εάν υπάρχει ταχύτητα κάθετη στο όριο, δεν χρειάζονται διορθώσεις πίεσης. Π.χ. στο δυτικό όριο ο συντελεστής  $D_w$  πρέπει να είναι μηδέν και επιτυγχάνεται θέτοντας  $\alpha_w = 0$  στην εξίσωση της πίεσης:

$$U'_w = U_{\text{οριο}} - U^*_{\text{οριο}} = D_w (P'_w - P'_p) = 0$$

Εάν δίδεται η οριακή πίεση π.χ.  $P_w = P_{\text{οριο}}$  η διορθωτική πίεση  $P'_w$  είναι μηδέν. Τότε τα  $U_w$  και  $D_w$  λαμβάνονται κατά όμοιο τρόπο, ή από την εξίσωση της ορμής (π.χ. με γραμμικοποίηση της εξίσωσης Bernoulli ( $P = P_{\text{οριο}} + 1/2 \rho U_w^2$ ):

$$P_w = P_{\text{οριο}}, \quad P'_w = 0$$

$$U_w = \alpha P_p + \beta, \quad U'_w = \alpha P'_p$$

Τα διάφορα επί μέρους μέρη του SIMPLE αλγορίθμου που αναφέρθηκαν προηγούμενα συνδυάζονται τώρα με την επίλυση των εξισώσεων των μη υδροδυναμικών μεταβλητών, προς επίτευξη μιας συνολικά συνδιασμένης διαδικασίας επίλυσης. Υποτίθεται το πεδίο όλων των μεταβλητών ( U, V, P, T, k, ε, κ.ο.κ). Υπολογίζονται οι συντελεστές των εξισώσεων ορμής και επιλύονται οι βελτιωμένες τιμές U\*, V\* με την μέθοδο LBL, χρησιμοποιώντας επικρατούσες πιέσεις:

$$(\alpha_p - b)U^*_p = \sum_i U^*_i + E_{ew}(P^*_w - P^*_p) + c$$

Ενδέχεται να λάβουν χώρα περισσότερες της μιας σαρώσεις δίχως όμως αποχρονικοποιήσεις των συντελεστών. Σ' αυτό το σημείο ικανοποιούνται οι εξισώσεις της ορμής, αλλά όχι και η εξίσωση της συνέχειας. Στην συνέχεια υπολογίζονται οι συντελεστές της διορθωτικής εξίσωσης P' και επιλύεται η εξίσωση αυτή με την μέθοδο LBL. Συνήθως για την εξίσωση διορθωτικής πίεσης απαιτούνται περισσότερες της μιας σαρώσεις δίχως αποχρονικοποίηση των συντελεστών. Κατόπιν υπολογίζονται οι διορθωτικές ταχύτητες U' και V' και P, U και V λαμβάνονται από τις σχέσεις:

$$P = P^* + P', \quad U = U^* + U', \quad V = V^* + V'$$

Σ' αυτό το σημείο ικανοποιείται επακριβώς η συνέχεια αλλά όχι και οι εξισώσεις ορμής. Στο επόμενο βήμα υπολογίζονται οι συντελεστές των μη υδροδυναμικών εξισώσεων και επιλύονται τα σχετικά βαθμωτά Φ με την μέθοδο LBL. Ο απαιτούμενος αριθμός σαρώσεων στο ίδιο χρονικό βήμα. εξαρτάται από την φύση του προβλήματος. Τελικά εκτελείται ένα τεστ σύγκλισης, που αν δεν είναι επιτυχές τότε τα προσφάτως ληφθέντα πεδία των μεταβλητών θεωρούνται υποτιθέμενα και επαναλαμβάνεται η διαδικασία μέχρι τελικής σύγκλισης.

Στην συνέχεια περιγράφεται συνοπτικά η μεθοδολογία του SIMPLE αλγορίθμου για την περίπτωση της διδιάστατης μόνιμης ροής για καρτεσιανές συντεταγμένες.

Η εξίσωση συνέχειας είναι:

$$\frac{\partial \rho}{\partial t} + \frac{\partial \rho u}{\partial x} + \frac{\partial \rho v}{\partial y} + \frac{\partial \rho \omega}{\partial z} = 0$$

Για σταθερής κατάστασης (μόνιμη) διδιάστατη ροή:

$$\frac{\partial \rho}{\partial t} = 0 \quad \frac{\partial \rho \omega}{\partial z} = 0$$

Η εξίσωση συνέχειας γίνεται:

$$\frac{\partial \rho u}{\partial x} + \frac{\partial \rho v}{\partial y} = 0 \quad \equiv \quad \frac{\Delta \rho u}{\Delta x} + \frac{\Delta \rho v}{\Delta y} = 0$$

Με ολοκλήρωση στον όγκο ελέγχου:

$$\int_V \left( \frac{\partial \rho u}{\partial x} + \frac{\partial \rho v}{\partial y} \right) dV = 0 \Rightarrow (\Delta \rho u) \Delta y \Delta z + (\Delta \rho v) \Delta x \Delta z = 0$$

$$\Rightarrow ((\rho u)_e - (\rho u)_w) \Delta y \Delta z + ((\rho v)_n - (\rho v)_s) \Delta x \Delta z = 0$$

Χρησιμοποιώντας ένα μη - διορθωμένο πεδίο πίεσης  $p^*$  αφ' ενός μεν ικανοποιούνται οι εξισώσεις ορμής με τον υπολογισμό των  $u^*$  και  $v^*$ , αλλά όχι και η εξίσωση της συνέχειας. Ισχύει:

$p = p^* + p'$   $p$ =πραγματική,  $p^*$ =υποτιθέμενη,  $p'$ =διορθωτική πίεση.

Οι ταχύτητες μπορούν να διορθωθούν μέσω των σχέσεων:

$$u = u^* + u', \quad v = v^* + v'$$

Παράγονται οι εξισώσεις διορθωτικής ταχύτητας με αφαίρεση της πραγματικής λύσης από την αρχική υποτιθέμενη:

$$a_e u'_e = \sum \alpha_i u'_i + A_e (p'_p - p'_e)$$

Εάν τεθεί ίσος με μηδέν ο όρος  $\sum \alpha_i u'_i$ , δίδει έμμεσα στην εξίσωση λύση ορθή (ισχύει η εξίσωση σε περίπτωση σύγκλισης).

$$u'_e = \frac{A_e}{a_e} (p'_p - p'_e) = d_e (p'_p - p'_e) \quad \text{όπου} \quad d_e = \frac{A_e}{a_e}$$

Ο τύπος της διορθωτικής ταχύτητας:

$$u'_e = d_e (p'_p - p'_E) A_e$$

μπορεί να γραφεί και:

$$u_e = u_e^* + d_e (p'_p - p'_E)$$

Αντικατάσταση της πραγματικής ταχύτητας στην εξίσωση συνέχειας:

$$[p_e (u_e^* + u'_e) - p_w (u_w^* + u'_w)] \Delta y \Delta z + [p_n (u_n^* + u'_n) - p_s (u_s^* + u'_s)] \Delta x \Delta z = 0$$

Αντικατάσταση διορθωτικών ταχυτήτων σε όρους διορθωτικών πιέσεων:

$$0 = \Delta y \Delta z \left\{ \rho_e \left[ u_e^* + d_e (p_p' - p_e') \right] - \rho_w \left[ u_w^* + d_w (p_w' - p_p') \right] \right\} + \\ + \Delta x \Delta z \left\{ \rho_n \left[ u_n^* + d_n (p_p' - p_n') \right] - \rho_s \left[ u_s^* + d_s (p_s' - p_p') \right] \right\}$$

Καταλήγουμε στην τελική έκφραση για την εξίσωση διορθωτικής πίεσης:

$$a_p p_p' = a_E p_e' + a_w p_w' + a_s p_s' + a_n p_n' + b$$

$$a_E = \rho_e d_e \Delta y \Delta z$$

$$a_w = \rho_w d_w \Delta y \Delta z$$

$$a_s = \rho_s d_s \Delta x \Delta z$$

$$a_n = \rho_n d_n \Delta y \Delta z$$

$$a_p = a_E + a_w + a_s + a_n$$

$$b = (-\rho_e u_e^* + \rho_w u_w^*) \Delta y \Delta z + (-\rho_n u_n^* + \rho_s u_s^*) \Delta x \Delta z$$

Και σε περίπτωση ύπαρξης και του χρονικού όρου στην εξίσωση συνέχειας:

$$\frac{(\rho_p - \rho_p^o) \Delta x \Delta y}{\Delta t}$$

Ο όρος b γίνεται:

$$b = \frac{(\rho_p - \rho_p^o) \Delta x \Delta y}{\Delta t} + (\rho_w u_w^* - \rho_e u_e^*) \Delta y \Delta z + (\rho_s u_s^* - \rho_n u_n^*) \Delta x \Delta z$$

### 1.11 ΣΥΓΚΛΙΣΗ ΜΕΘΟΔΟΥ

Όλες οι εξισώσεις ικανοποιούν συνθήκες για σύγκλιση του πίνακα (Scarborough, 1930):

$$|a_p - b| \leq \sum_i |a_i|, \quad \mu\epsilon \quad b \leq 0$$

Κατά την διαδικασία επίλυσης η σύγκλιση προσδιορίζεται στο τέλος κάθε επανάληψης, με βάση το κριτήριο της «υπολοιπόμενης πηγής», σύμφωνα με το οποίο συγκρίνονται οι «υπολοιπόμενες πηγές» κάθε εξίσωσης πεπερασμένων διαφορών με κάθε τιμή αναφοράς  $R_{\Phi, \text{ αναφ.}}$  ( $R_{\Phi, \text{ αναφ.}}$  = μια πολύ μικρή τιμή).

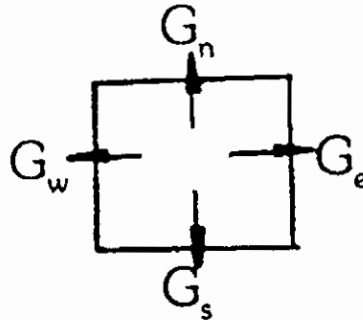
Με την χρήση μιας κατάλληλης μεθόδου υποχαλάρωσης για μια επαναληπτική διαδικασία, μπορεί να βελτιωθεί η σύγκλιση και πολλές φορές αποφεύγεται η απόκλιση. Οι εξισώσεις που λύνονται είναι μη-γραμμικές και είναι απαραίτητη υποχαλάρωση (under-relaxation):

$$\Phi_p^{NEW} = f \Phi_p + (1-f) \Phi_p^{OLD}$$

$f$  = συντελεστής υποχαλάρωσης,  $\Phi_p^{NEW}$  = τωρινή μεταβλητή με υποχαλάρωση,  
 $\Phi_p$  = τωρινή μεταβλητή,  $\Phi_p^{OLD}$  = μεταβλητή προηγούμενης επανάληψης.

Εαν οι ροές μάζας δεν ικανοποιούν την συνέχεια ενδέχεται να ανακύψει μια κατάσταση όπου όλα τα  $a_i$  να είναι μηδέν. Οι εξισώσεις πεπερασμένων διαφορών παίρνουν μορφή:

$$a_p = \sum_i a_i$$



Η λύση είναι να προστεθεί μία "λάθος" (false) πηγή, δια της μεθόδου της γραμμικοποιημένης πηγής. Η τελική τότε εξίσωση πεπερασμένων διαφορών έχει επιπρόσθετες σταθερές τις  $b_f$  και  $c_f$ . Η γραμμικοποιημένη πηγή  $S_f$  είναι:

$$S_f = \left| m_{καθαρό} \right| (\Phi_p^{OLD} - \Phi_p) = b_f \Phi_p + c_f$$

όπου:  $m_{καθαρό} = \sum_i m_i$  με  $m_w = G_w E_w$  κ.ο.κ. Ο τύπος της εξίσωσης πεπερασμένων διαφορών που πρέπει να λυθεί γίνεται:

$$(a_p - b - b_f) \Phi_p = \sum_i a_i \Phi_i + c + c_f$$

Αυτή η προσθήκη βοηθάει στην ευστάθεια της διαδικασίας επίλυσης χωρίς να έχει επίδραση στην τελική λύση.

### 1.12. ΑΚΡΙΒΕΙΑ ΜΕΘΟΔΟΥ

Η ακρίβεια της διαδικασίας επίλυσης γενικά είναι συνάρτηση της σύγκλισης και του αριθμού των χρησιμοποιούμενων κόμβων πλέγματος. Για κάθε διαμόρφωση ροής, αναζητείται λύση που να είναι ανεξάρτητη του πλέγματος, με αύξηση του αριθμού των γραμμών του πλέγματος μέχρις ότου να μην παρατηρείται παραπέρα μεταβολή της τελικής λύσης.

Κύρια πηγή λανθασμένης πρόβλεψης είναι η "λάθος" (false) διάχυση, που συμβαίνει όταν ο αριθμός Peclet είναι μεγάλος και η ροή είναι πλάγια στο πλέγμα (στην μέθοδο πεπερασμένων διαφορών υπολογίζεται το  $\Phi_p$  σαν μέση τιμή των

γειτονικών  $\Phi_i$ ). Θα μπορούσε σαν λύση να τεθεί το πλέγμα παράλληλο των ροϊκών γραμμών, ή να καταστούν όλοι οι αριθμοί Peclet μικροί.

### 1.13. ΤΥΡΒΩΔΕΣ ΜΟΝΤΕΛΟ ΔΥΟ ΕΞΙΣΩΣΕΩΝ

Σ' αυτή την παράγραφο παρουσιάζεται η ενσωμάτωση στην διαδικασία επίλυσης ενός τυρβώδους μοντέλου, για να ληφθεί λύση των εξισώσεων μέσων χρονικών τιμών της μέσης ροής, με την βοήθεια δύο τυρβωδών ποσοτήτων  $k$  και  $\epsilon$ , που λαμβάνονται από τις εξισώσεις μεταφοράς των. Σύμφωνα με την θεώρηση των μέσων χρονικών τιμών Reynolds οι στιγμιαίες τιμές ταχυτήτων και βαθμωτών μεταβλητών αναλύονται στις μέσες τιμές και στις διακυμάνσεις των:

$$\hat{U}_i = U_i + u_i,$$

$$\hat{\Phi} = \Phi + \phi'$$

Για ροές σταθερής κατάστασης και με την χρήση καρτεσιανών συντεταγμένων οι εξισώσεις μέσων χρονικών τιμών για την συνέχεια, ορμή και μεταφορά βαθμωτού λαμβάνουν την έκφραση:

$$\frac{\partial}{\partial x_i} (\rho U_i) = 0$$

$$\frac{\partial}{\partial x_j} (\rho U_j U_i) = \frac{\partial}{\partial x_j} (-\rho \overline{u_i u_j}) - \frac{\partial P}{\partial x_i} + \frac{\partial}{\partial x_j} [\mu (\frac{\partial U_i}{\partial x_j} + \frac{\partial U_j}{\partial x_i})] + S_{ui}$$

$$\frac{\partial}{\partial x_i} (\rho U_i \Phi) = \frac{\partial}{\partial x_i} (\rho \overline{u_j \phi'}) + \frac{\partial}{\partial x_j} (\frac{\mu}{\sigma_\phi} \frac{\partial \Phi}{\partial x_j}) + S_\phi$$

$\mu$  = στρωτό ιξώδες,  $\sigma_\phi$  στρωτός αριθμός Prandtl/Schmidt. Δυστυχώς αυτές οι εξισώσεις περιέχουν άγνωστες τάσεις Reynolds  $\rho \overline{u_i u_j}$  και βαθμωτές ροές  $\rho \overline{u_i \phi'}$ . Αυτές οι τυρβώδεις διαχυτικές ροές παίζουν ένα σημαντικό ρόλο στον προσδιορισμό της συμπεριφοράς της ροής καθόσον αντιπροσωπεύουν τις επιδράσεις στο επίπεδο μικρο-κλίμακας.

Η υιοθετούμενη μέθοδος για την λήψη ενός κλειστού συστήματος εξισώσεων είναι ένα μοντέλο "ενεργού" ιξώδους, στο οποίο οι άγνωστες τυρβώδεις διαχυτικές ροές εκφράζονται σε όρους βάσει της "υπόθεσης κλίσης μεταφοράς" (Hinge, 1959), στην οποία οι ροές υποτίθενται ανάλογες των κλίσεων των μέσων ιδιοτήτων της ροής. Οι σταθερές της αναλογίας είναι το  $\mu_i$  ή το  $\mu/\sigma_{\phi,i}$



$$-\rho u_i u_j = \mu_t \left( \frac{2U_i}{2x_j} + \frac{2U_j}{2x_i} \right),$$

$$-\rho u_j \phi' = \frac{\mu_t}{\sigma_{\phi,t}} \frac{\partial \Phi}{\partial x_j}$$

$\mu_t$  = τυρβώδες ιξώδες,  $\sigma_{\phi,t}$  = ενεργός αριθμός Prandtl/Schmidt.

Το  $\sigma_{\phi,t}$  υποτίθεται συχνά γνωστό και από την διαστατική ανάλυση το  $\mu_t$ , συνάγεται ότι είναι συνάρτηση της τυρβώδους κινητικής ενέργειας  $k$  και του ρυθμού σκέδασης της  $\varepsilon$ .  $k$  και  $\varepsilon$  τα παίρνουμε από τις εξισώσεις μεταφοράς, γι' αυτό και ονομάζεται τυρβώδες μοντέλο  $k$ - $\varepsilon$ , δύο εξισώσεων:

$$\mu_t = C_\mu \rho \frac{k^2}{\varepsilon}$$

$C_\mu$  = συντελεστής τριβής, βάσει πειραματικών μετρήσεων  $C_\mu = 0.09$ .

#### 1.14. ΟΡΙΑΚΕΣ ΣΥΝΘΗΚΕΣ

Στην είσοδο της υπολογιστικής περιοχής της ροής οι μεταβλητές  $U$ ,  $V$ ,  $\Phi$ ,  $k$ ,  $\varepsilon$ , μπορεί να καθορισθούν από την καλή γνώση της ιδιαίτερης κατάστασης της ροής (πειραματικές μετρήσεις), η να εκτιμηθούν. Π.χ. ο ρυθμός σκέδασης  $\varepsilon$  μπορεί να εκτιμηθεί από την διαστατική ανάλυση, βασιζόμενοι στο γεγονός ότι η τύρβη χαρακτηρίζεται από την ενέργεια της  $k$  και μία κλίμακα μήκους  $L$ , που παριστάνει το μέγεθος των τυρβωδών δινών ( $\varepsilon \approx k^{3/2} / L$ ).

Στην έξοδο της υπολογιστικής περιοχής (για μεγάλους αριθμούς Reynolds), ο προσδιορισμός των μεταβλητών δεν είναι σημαντικός. Η συνήθης πρακτική είναι να θέτουμε κάθετες κλίσεις ίσες με μηδέν και να λαμβάνουμε τις ταχύτητες εξόδου από το ισοζύγιο μάζας. Κοντά στον τοίχο ο τοπικός Reynolds γίνεται πολύ μικρός και το τυρβώδες μοντέλο ανεπαρκές (είναι σχεδιασμένο για υψηλούς αριθμούς Reynolds). Αυτό σε συνδυασμό με την απότομη μεταβολή των μεταβλητών κοντά στον τοίχο κάνει προσεκτική την εκλογή της θέσης των κόμβων του πλέγματος κοντά στον τοίχο.

Οι εξισώσεις της μέσης ροής  $U$ ,  $V$ ,  $P'$  και  $\Phi$  της στρωτής ροής μετατρέπονται για την τυρβώδη ροή, αντικαθιστώντας το  $\mu$  με  $\mu_{\text{eff}}$ , το  $\Gamma$  με  $\Gamma_{\text{eff}}$  και με την εισαγωγή κάποιων επιπρόσθετων όρων πηγής, με τη χρήση γραμμικοποίησης πηγής. Οι εξισώσεις  $k$  και  $\varepsilon$  δεν είναι διαφορετικές από τις άλλες εξισώσεις μεταφοράς βαθμωτού, θεωρώντας τα  $S_k$  και  $S_\varepsilon$  επιπρόσθετους όρους πηγής, που εισάγονται με τη μέθοδο γραμμικοποίησης πηγής.

$$\int_V S_k dV = bk_p + c = -\frac{C_\mu C_p^2 k_p^* \delta V}{\mu_t} k_p + G \delta V$$

$$\int_V S_\varepsilon dV = b\varepsilon_p + c = \frac{C_2 \rho \varepsilon_p^* \delta V}{k_p} \varepsilon_p + \frac{C_1 \varepsilon_p^* G \delta V}{k_p^*}$$

$\delta V$  = όγκος κυψελίδας,  $k_p$ ,  $\varepsilon_p$  = προηγούμενες τιμές.

$$G \cong 2\left[\left(\frac{U_e - U_w}{\delta \chi_{ew}}\right)^2 + \left(\frac{V_n - V_s}{\delta r_{ns}}\right) + \dots\right]$$

Ένα σημείο που πρέπει να προσεχθεί σχετικά με την μεταχείριση των πηγών  $S_k$  και  $S_\varepsilon$  είναι ότι το  $b$  δεν πρέπει να είναι αρνητικό. Πράγμα που μας παρέχει ευστάθεια λύσης και επιβεβαιώνει ότι οι τιμές του  $k$  που υπολογίζονται δεν καθίστανται ποτέ αρνητικές.

Γενικά κοντά στον τοίχο θεωρείται ότι επικρατούν συνθήκες μιας μονοδιάστατης ροής Couette. Το οριακό στρώμα θεωρείται σταθερής διατμητικής τάσης ( $\tau_w$ ) και σταθερής ροής θερμότητας ( $\dot{q}'' = \dot{q}''_w$ ). Οι συνθήκες αυτές απαιτούν αδιαπέραστο τοίχο με κλίσεις πίεσης μηδενικές ή αμελητέες στην κατεύθυνση της ροής:

$$\frac{\tau_w}{dP/dx} \gg y$$

Η εξίσωση της ορμής μετασχηματίζεται τότε σε μια ιδιαίτερα απλή αδιάστατη μορφή:

$$\tau = (\mu + \mu_t) \frac{dU}{dy}$$

ή

$$\frac{\tau}{\tau_w} = \left(1 + \frac{\mu_t}{\mu}\right) \frac{dU^+}{dy^+}$$

Στην περιοχή κοντά στον τοίχο ο τοπικός αριθμός Reynolds μεταβάλλεται σημαντικά και η υιοθετούμενη προσέγγιση είναι η εξάρτηση του τοπικού αριθμού Reynolds,  $y^+$ , που βασίζεται στην απόσταση  $y$  από τον τοίχο και στην ταχύτητα τριβής  $U_\tau$ :

$$y^+ = \frac{U_\tau y}{\nu}$$

$$U_\tau = \sqrt{\frac{\tau_w}{\rho}}$$

Η περιοχή κοντά στον τοίχο χωρίζεται σε τρεις υποπεριοχές (Hinge, 1959). Στο ιξώδες υπόστρωμα  $0 < y^+ < 5$ , όπου επικρατούν οι επιδράσεις του ιξώδους, στο αδρανές υπόστρωμα  $30 < y^+ < 400$ , όπου η ροή είναι πλήρως τυρβώδης αλλά  $\tau = \tau_w$  και στο μεταβατικό στρώμα  $5 < y^+ < 30$ , όπου η ροή δεν είναι επηρεασμένη μόνο από το ιξώδες αλλά ούτε και πλήρως τυρβώδης. Ακολουθείται ο διαχωρισμός της ροής με καθορισμό του σημείου  $y^+ = 11.63$  (όπου η γραμμική κατανομή της ταχύτητας του ιξώδους υποστρώματος συναντά την λογαριθμική κατανομή του αδρανούς υποστρώματος), κάτω από το οποίο η ροή υποτίθεται πλήρως ιξώδης και πάνω πλήρως τυρβώδης.

$$\text{Για } y^+ \leq 11.63, \frac{\mu_t}{\mu} \ll 1, \tau \approx \tau_w \Rightarrow U^+ = y^+$$

$$\begin{aligned} \text{Για } y^+ > 11.63, \frac{\mu_t}{\mu} \gg 1, \tau \approx \tau_w, \nu_t \approx \kappa y U_r \Rightarrow \\ \Rightarrow U^+ = \frac{1}{\kappa} \ln y^+ + \text{const} = \frac{1}{\kappa} \ln(Ey^+) \end{aligned}$$

$U^+ = U/U_r$ ,  $\kappa = 0.4187$  σταθερά von Karman και  $E$  είναι μια σταθερά ολοκλήρωσης που εξαρτάται από το μέγεθος της μεταβολής της διατμητικής τάσης εγκάρσιως του οριακού στρώματος και της τραχύτητας τον τοίχου. Η τιμή  $E = 9.8$  είναι για λείο τοίχο και σταθερή διατμητική τάση. Επιδράσεις μεταφοράς μάζας εγκάρσια του οριακού στρώματος και διαφορετικές κλίσεις πίεσης, ενσωματώνονται με τροποποίηση του  $E$ .

Επίσης υπάρχει μεγάλο μηχανολογικό ενδιαφέρον για πρόβλεψη χαρακτηριστικών μεταφοράς στους τοίχους. Η ίδια μεταχείριση όπως και στην μεταφορά ορμής, εφαρμόζεται και για την μεταφορά θερμότητας. Η αντίστοιχη αδιάστατη εξίσωση είναι:

Μεταφορά βαθμωτού (π.χ.  $\Phi = T$ ):

$$\dot{q}'' = (\Gamma + \Gamma_t) c_p \frac{dT}{dy}, \frac{\dot{q}''}{q_w} = \left( \frac{\Gamma}{\mu} + \frac{\Gamma_t}{\mu} \right) \frac{dT^+}{dy^+}$$

Υποτίθεται σταθερή ροή θερμότητας εγκάρσια του οριακού στρώματος.

$$\text{Για } y^+ \leq 11.63, \Gamma \gg \Gamma_t, \dot{q}'' \approx \dot{q}_w \Rightarrow T^+ = \sigma_\theta y^+$$

$$y^+ > 11.63, \Gamma \ll \Gamma_l, \dot{q}'' \approx \dot{q}_w'' \Rightarrow \frac{\Gamma_l}{\rho} = \frac{\nu_l}{\sigma_{\phi,l}} \approx \frac{\kappa y U_\tau}{\sigma_{\phi,l}} \Rightarrow$$

Για

$$\Rightarrow T^+ = \frac{\sigma_{\phi,l}}{\kappa} \ln y^+ + C_T \left\{ \sigma_\phi \right\} = \sigma_{\phi,l} \left[ U^+ P \left\{ \frac{\sigma_\phi}{\sigma_{\phi,l}} \right\} \right]$$

$$\text{Όπου: } T = \frac{\rho U_\tau C_p (T_w - T)}{\dot{q}_w''}, \sigma_\phi = \frac{C_p \mu}{\kappa}, \sigma_{\phi,l} \text{ τυρβώδης αριθμός Prandtl και:}$$

$$P \left\{ \frac{\sigma}{\sigma_{\phi,l}} \right\} = 9.24 \left[ \left( \frac{\sigma_\phi}{\sigma_{\phi,l}} \right)^{3/4} + 1 \right] \quad (\text{Jayatilaka, 1966})$$

$C_p$  = ειδική θερμότητα υπό σταθερή πίεση,  $\kappa$  = συντελεστής αγωγιμότητας.

Όπως και προηγουμένως ο αριθμός διαχωρισμού Reynolds είναι 11.63. Για  $y^+ < 11.63$  η μεταφορά υποτίθεται ότι λαμβάνει χώρα με μοριακή δραστηριότητα. Για  $y^+ > 11.63$  υποτίθεται ότι η μεταφορά οφείλεται καθ' ολοκληρία στην τύρβη. Η παράμετρος  $T^+$ , ροής θερμότητας, είναι μία λογαριθμική συνάρτηση του  $y^+$  και επίσης ενός όρου, ο οποίος με την σταθερά ολοκλήρωσης  $C_T$ , συνδυάζεται με την  $P$ -συνάρτηση (ισχύει για αδιαπέραστους λείους τοίχους).

Η μεταχείριση στον τοίχο των  $k$  και  $\varepsilon$  εξισώσεων βασίζεται πάλι στην θεώρηση μονοδιάστατης, σταθερής διατμητικής τάσης Couette ροής οριακού στρώματος. Η υιοθετούμενη προσέγγιση ισχύει μόνο στο αδρανές υπόστρωμα, όπου η ροή υποτίθεται πλήρως τυρβώδης,  $y^+ > 30$ , αλλά επαρκώς κοντά στον τοίχο, ώστε να ισχύει η παραδοχή της σταθερής διατμητικής τάσης ( $y^+ < 400$ ). Σε αυτήν την περιοχή, ο τοπικός ρυθμός παραγωγής της τύρβης εξισορροπείται από τον ρυθμό της σκέδασής της  $\varepsilon$ :

$$-\nu \frac{du}{dy} = \varepsilon \quad \text{παράγοντας } k = \left( \frac{\tau_l}{\rho} \right) C_\mu^{1/2} \Rightarrow \tau_l = \rho C_\mu^{1/2} k$$

διατμητική τάση στο αδρανές υπόστρωμα

$$\text{και: } \varepsilon^{++} = \frac{C_\mu^{3/4} k^{3/2}}{\kappa y}$$

Η εξίσωση της τυρβώδους ενέργειας μετασχηματίζεται σε μία απλή σχέση που περιγράφει την διατμητική τάση  $\tau_l$  ( $\sim \tau_w$ ) και τον ρυθμό σκέδασης  $\varepsilon$ , μέσα στο αδρανές υπόστρωμα.

Η εξίσωση  $\epsilon$  μετασχηματίζεται σ' έναν τύπο που αποτυπώνει τροποποίηση του σε αυτήν την περιοχή:

$$C_1 = C_2 - \frac{\kappa^2}{\sigma_\epsilon C_\mu^{1/2}}$$

και:

$$\sigma_\epsilon = \frac{\kappa^2}{(C_2 - C_1)C_\mu^{1/2}}$$

Μια από τις πιο σημαντικές συνέπειες της θεώρησης ισορροπίας είναι η τελική έκφραση για την διατμητική τάση τοίχου  $\tau_w$ , σε όρους του  $\kappa$  και των σταθερών της τύρβης.

$$\tau_w = \frac{\rho C_\mu^{1/4} \kappa^{1/2} \kappa U}{\ln(Ey^+)}$$

$$\tau_w = \frac{U}{U^+} \rho C_\mu^{1/4} \kappa^{1/2}, U^+ \equiv \frac{U \sqrt{\rho \tau_w}}{\tau_w}, y^+ = \frac{y \sqrt{\tau_w / \rho}}{\nu} \equiv \frac{y \rho C_\mu^{1/4} \kappa^{1/2}}{\mu}$$

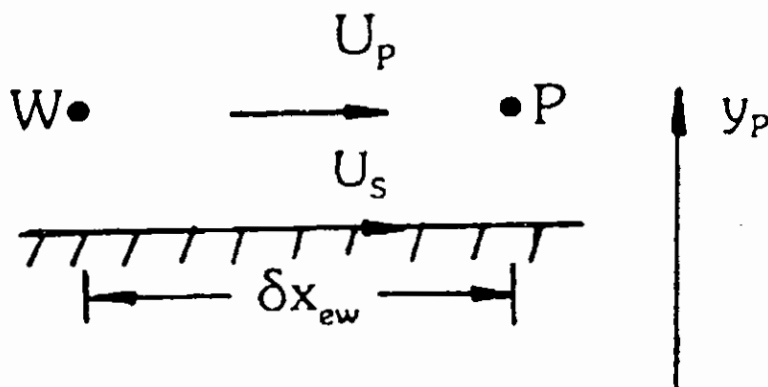
Επίσης η σχέση για το  $\epsilon$  με ολοκλήρωση στον όγκο ελέγχου (η κυψελίδα), την παρακείμενη στον τοίχο (με επέκταση της ισορροπίας στην  $\kappa$  εξίσωση στο ιξώδες υπόστρωμα και στο ενδιάμεσο στρώμα):

$$\int_V \epsilon dV \equiv \frac{C_\mu^{3/4} \kappa^{3/2} U^+ dV}{y}$$

με

$$U^+ = \begin{cases} y^+ & \text{για } y^+ \leq 11.63 \\ \frac{1}{\kappa} \ln(Ey^+) & \text{για } y^+ > 11.63 \end{cases}$$

Για την ενσωμάτωση τώρα των οριακών συνθηκών τοίχου υποτίθεται μία επαπτομενική ταχύτητα  $U_p$ , στο συνηθισμένο ισοζύγιο ορμής, για έναν κόμβο κοντά στον τοίχο:



Γι' αυτήν την γεωμετρία τίθεται  $\alpha_s=0$ . Η ενσωμάτωση της σωστής έκφρασης της διατμητικής δύναμης εισάγεται δια της μεθόδου της πηγής:

Για τον κόμβο P εντός της τυρβώδους περιοχής ( $y^*>11.63$ ):

$$F_s = \tau_s \delta x_{ew} = \frac{\rho C_\mu^{1/4} k_{pw}^{1/2} (U_p - U_s) \kappa \delta x_{ew}}{\ln(Ey^+)}$$

όπου :

$$k_{pw} = \frac{k_p + k_w}{2},$$

$$y^+ = \frac{\rho C_\mu^{1/4} k_{pw}^{1/2} y_p}{\mu}$$

Για τον κόμβο P εντός του ιξώδους υποστρώματος ( $y^+ < 11.63$ ):

$$F_s = \tau_s \delta x_{ew} = \frac{\mu (U_p - U_s) \delta x_{ew}}{y_p}$$

Για τις ταχύτητες τις κάθετες στον τοίχο δεν χρειάζεται ειδική μεταχείριση.

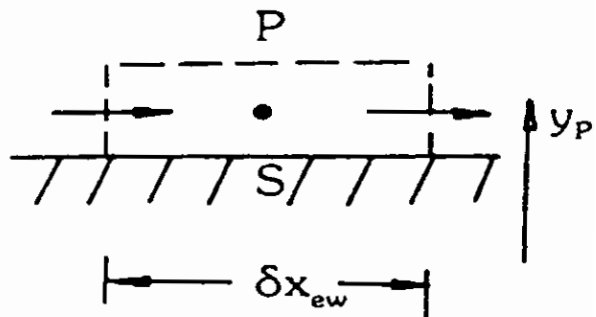
Η ενσωμάτωση των οριακών συνθηκών τοίχου για τις βαθμωτές μεταβλητές ακολουθεί την ίδια διαδικασία, όπως και στην περίπτωση της ορμής. Μηδενίζεται η έκφραση  $\alpha_s$  και η ροή βαθμωτού  $Q_s$  από το ισοζύγιο θερμότητας:

Για το P μέσα στην τυρβώδη περιοχή ( $y^*>11.63$ ):

$$\dot{Q}_s = q'' \delta x_{ew} = \frac{\rho c C_\mu^{1/4} k_p^{1/2} (T_p - T_s) \delta x_{ew}}{T^*}$$

όπου:

$$T^* = \sigma_{\phi,i} [U^+ + P(\frac{\sigma_{\phi,i}}{\sigma_{\phi,i}})]$$



Για το P μέσω στο ιξώδες υπόστρωμα ( $y^+ \leq 11.63$ ):

$$\dot{Q}_s = \dot{q}'' \delta x_{ew} = \frac{\mu}{\sigma_\phi} \frac{(T_p - T_s) \delta x_e}{y_p}$$

Η ενσωμάτωση του  $\dot{Q}_s$  επιτυγχάνεται πάλι με την μέθοδο της γραμμικοποίησης της πηγής.

Η ενσωμάτωση της τυρβώδους κινητικής ενέργειας  $k$  απαιτεί ειδική διαδικασία. Χρησιμοποιώντας το ισοζύγιο για το  $k$  τίθεται  $\alpha_s=0$  στον τοίχο. Ο όρος παραγωγής  $G$  στην  $k$ -εξίσωση μετασχηματίζεται σε μια απλούστερη μορφή, σε συνάρτηση με την διατμητική τάση  $T_s$ :

$$\int_V \mu_t \left( \frac{\partial U}{\partial r} + \frac{\partial V}{\partial x} \right)^2 dV \cong \frac{\tau_s (U_p - U_s) \delta V}{y_p}$$

Όπου  $\tau_s$ ,  $U_s$  θεωρούνται μέσες τιμές στην κυψελίδα και:

$$\int_V C_D \rho \varepsilon dV \cong \frac{C_D \rho C_\mu^{3/4} (k_p^{*1/2} K_p - K_s^{3/2}) U^+ \delta V}{y_p}$$

$$\text{όπου: } U^+ = \frac{1}{\kappa} \ln(Ey^+) \quad \text{για } y^+ > 11.63$$

$$\text{και: } U^+ = y^+ \quad \text{για } y^+ \leq 11.63$$

Ολόκληρη η πηγή  $S_k = G - C_D \rho \varepsilon$  για το ισοζύγιο του  $k$ , ενσωματώνεται στον κώδικα δια της μεθόδου της πηγής με την βοήθεια των συντελεστών  $b$  και  $c$ .

Η ροή στον τοίχο σε αντίθεση με το  $k$  (που είναι μηδέν), για το  $\varepsilon$  φθάνει στην μέγιστη τιμή (πολύ μεγαλύτερη της ελεύθερης ροής). Αυτή η συμπεριφορά έχει αποτέλεσμα να είναι δύσκολο, στο ισοζύγιο του  $\varepsilon$ , στην κυψελίδα κοντά στον τοίχο να χειριστούμε το  $\alpha_s$ . Εδώ υιοθετείται μια καθορισμένη τιμή για το  $\varepsilon_p$  (ανεξάρτητη του  $y^+$ ), βασισμένοι σε σχέσεις ισορροπίας. Μέσα στο αδρανές υπόστρωμα (όπου ο αριθμός  $Re$  είναι μεγάλος):

$$\varepsilon_p = \frac{C_\mu K_p^{3/2}}{L}, L = C_\mu^{1/4} \kappa y$$

συνεπώς:

$$\varepsilon_p = \frac{C_\mu^{3/4} k_p^{3/2}}{\kappa y_p}$$

όπου:  $L$  είναι κλίμαξ μήκους σκέδασης της τύρβης. Η τιμή  $\varepsilon_p$  ενσωματώνεται με τη μέθοδο εισαγωγής των σταθερών  $b$  και  $c$  (π.χ.  $b = -10^{30}$ ,  $C = \varepsilon_p 10^{30}$ ).

## ΚΕΦΑΛΑΙΟ 2

### PROJECT

Το υπολογιστικό πρόγραμμα είναι γραμμένο για μόνιμη διδιάστατη (δυνατότητα επέκτασης σε τριδιάστατη) τυρβώδη (ή στρωτή), επίπεδη (ή αξονοσυμμετρική), ασυμπιεστή ροή με ανακυκλοφορία. Υπάρχει δυνατότητα επέκτασης για εφαρμογή σε μη –μόνιμες τρισδιάστατες ροές.

Το συγκεκριμένο πρόγραμμα POPCH4.FOR επιλύει την γεωμετρία του συνημμένου σχήματος. Οι εξισώσεις είναι χρονοεξαρτημένες και περιλαμβάνεται και μοντέλο καύσης. Καύσιμο είναι αέρας –μεθάνιο (CH<sub>4</sub>).

Όταν τρέχουμε για πρώτη φορά το πρόγραμμα θέτουμε IREAD /0/ και τοποθετούμε C (comments, σχόλια) στο αρχείο FOR015.DAT. Το αρχείο FOR015.DAT αποθηκεύει «στιγμιαίες τιμές» και το αρχείο FOR032.DAT «μέσες τιμές».

**FOR016.DAT:** Είναι το αρχείο που περιέχει τις στιγμιαίες μεταβλητές όλων των μεταβλητών οι οποίες χρειάζονται για να συνεχίσει ο κώδικας σε κάποιο τυχαίο χρονικό σημείο.

**FOR015.DAT.:** Το FOR016.DAT το κάνουμε COPY στο FOR015.DAT. Έτσι ο κώδικας συνεχίζει από μία λύση ενδιάμεση. Σε κάθε λήψη συνολικής λύσης σβήνεται το FOR015.DAT και λαμβάνεται η λύση όλων των μεταβλητών εκείνο το χρονικό σημείο από το FOR016.DAT.

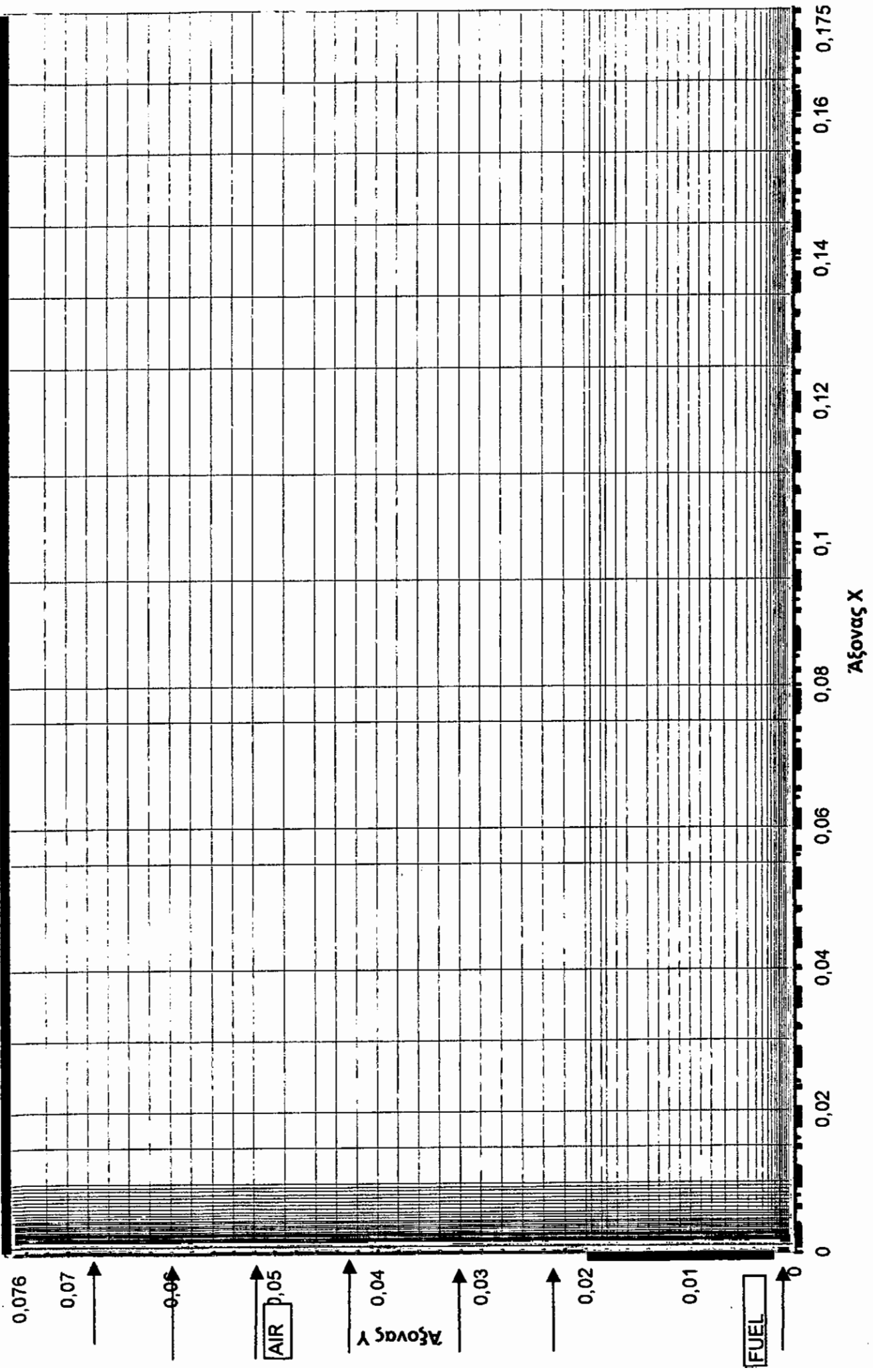
Το ίδιο συμβαίνει και με το αρχείο FOR031.DAT (γράφονται όλες οι μέσες στατιστικά μεταβλητές) και FOR032.DAT (διαβάζονται για IREAD =1 από τον κώδικα όλες οι μέσες στατιστικά μεταβλητές). Κάθε φορά λαμβάνεται από τον κώδικα το FOR031.DAT και γίνεται COPY στο FOR032.DAT. Τα αρχεία FOR014.DAT, FOR017.DAT, FOR018.DAT, FOR019.DAT, FOR041.DAT αποθηκεύουν δεδομένα για λήψη scatter, plots, θερμοκρασιών και species καθώς φάσεις ταχυτήτων και μέσες ταχύτητες. Κατόπιν χρησιμεύουν σαν δεδομένα στο ORIGIN και στα γραφικά steakline και contour - plots.

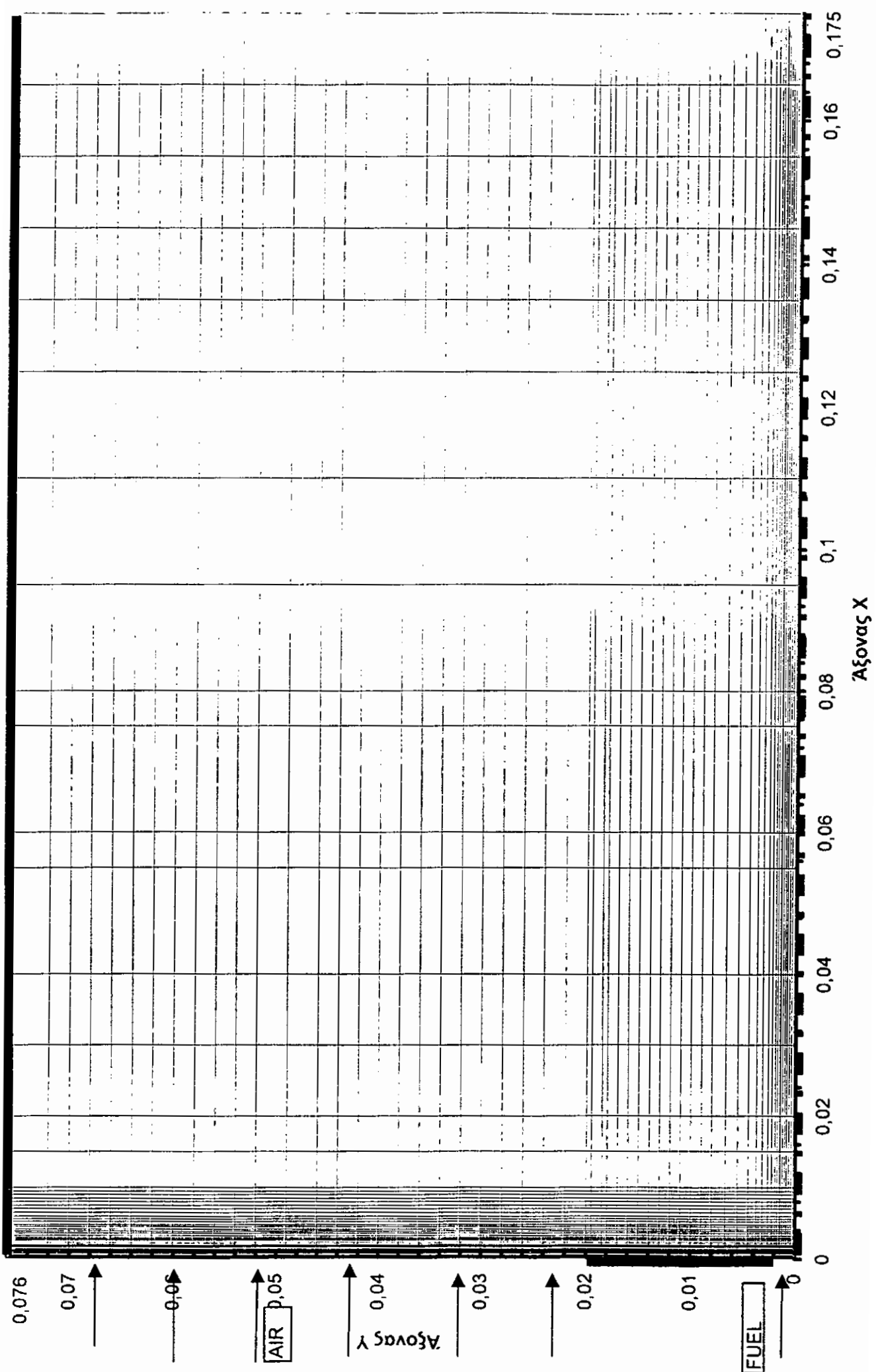
Όταν τρέχουμε τον FORTRAN LACHE δεν πρέπει να υπάρχουν διάφορα αρχεία γιατί τα «βρίσκει» ο κώδικας και δεν τρέχει. Γι αυτό κάθε φορά σβήνονται.

DEL \*.OBJ <ENTER>

DEL \*.RES <ENTER>







0,076

0,07

0,05

0,05

0,04

0,03

0,02

0,01

0

AIR

Αξονας Y

FUEL

Αξονας X

0 0,02 0,04 0,06 0,08 0,1 0,12 0,14 0,16 0,175

DEL \*.EXP <ENTER>  
 DEL FOR016.DAT <ENTER>  
 DEL FOR031.DAT <ENTER>  
 DEL FOR019.DAT <ENTER>  
 DEL FOR041.DAT <ENTER>  
 DEL FOR014.DAT <ENTER>  
 DEL FOR017.DAT <ENTER>  
 DEL POP.RES <ENTER>

**POPCH4.FOR:** Κύριος κώδικας για την επίλυση υδροδυναμικών μεταβλητών σε καυστήρα (καύση CH<sub>4</sub>, αέρα)

**POPCHK.FOR:** Κώδικας μετατροπής γραφικών. Λαμβάνει U,V ταχύτητες του POPCH4.FOR και δημιουργεί τα αρχεία PRPAR2.DAT, 3DGRID.DAT, FTN04, FTN08.

**FOR013.DAT:** Είναι το αρχείο που αποθηκεύονται όλα τα θερμοδυναμικά δεδομένα για το POPCH4. Για να δημιουργηθεί τρέχει ο κώδικας της NASA 505.FOR καύσης CH<sub>4</sub> – αέρα.

**F77L3 POPCH4.FOR:** Εντολή για να τρέξει ο κώδικας στην FORTRAN77 LACHE. <ENTER>. Το πρόγραμμα τρέχει.

**OS386:** Εντολή για μετατροπή από περιβάλλον 16bit σε 32 bit για να αυξηθούν οι δυνατότητες επεξεργασίας του προγράμματος από άποψη αποθήκευσης (storage) και ταχύτητας.

**UP-L32 POPCH4.OBJ:** Εντολή μετατροπής του κώδικα από γλώσσα FORTRAN σε γλώσσα μηχανής.

**UP POPCH4.EXP:** Εκτέλεση προγράμματος για λήψη αποτελεσμάτων.

Ο κώδικας λύνει όλες τις εξισώσεις σε όλους τους κόμβους της γεωμετρίας μας σε 20 εσωτερικά βήματα ανά step. Ανά 20 step μας δίνει ενδεικτικές λύσεις:

<u>ΒΗΜΑ</u>	<u>ΧΡΟΝΟΣ</u>	<u>ΤΑΧΥΤΗΤΕΣ ΣΕ ΚΑΘΕ ΣΗΜΕΙΟ ΑΝΑ ΧΡΟΝΙΚΟ ΒΗΜΑ</u>		
		(U)	(U)	(U)
(STEP)	(TIM)			
20	0.100000 E-02	18.2866	18.2699	17.9968

Ο κώδικας για το συγκεκριμένο πρόβλημα επίλυσης του καυστήρα (καύση CH<sub>4</sub> – αέρα) εκτελεί 15.000 χρονικά βήματα (20 εσωτερικά STEP για κάθε χρονικό βήμα).

Δίδονται οι εξισώσεις μέσων χρονικών τιμών για την συνέχεια, ορμή και μεταφορά βαθμωτού για διδιάστατες, σταθερής κατάστασης τυρβώδεις αξονοσυμμετρικές (ή επίπεδες, r=1) ροές:

➤ **Συνέχεια:**

$$\frac{\partial}{\partial x}(r\rho U) + \frac{\partial}{\partial r}(r\rho V) = 0$$

➤ **Ορμή:**

$$\frac{1}{r} \left[ \frac{\partial}{\partial x}(r\rho UU) + \frac{\partial}{\partial r}(r\rho VU) \right] = \frac{-\partial P}{\partial x} + \frac{1}{r} \left[ \frac{\partial}{\partial x}(r\mu_{eff} \frac{\partial U}{\partial x}) + \frac{\partial}{\partial r}(r\mu_{eff} \frac{\partial U}{\partial r}) \right] + S_u$$

$$\frac{1}{r} \left[ \frac{\partial}{\partial x}(r\rho UV) + \frac{\partial}{\partial r}(r\rho VV) \right] = \frac{-\partial P}{\partial r} + \frac{1}{r} \left[ \frac{\partial}{\partial x}(r\mu_{eff} \frac{\partial V}{\partial x}) + \frac{\partial}{\partial r}(r\mu_{eff} \frac{\partial V}{\partial r}) \right] - \mu_{eff} \frac{V}{r^2} + S_v$$

$$S_u = \frac{\partial}{\partial x}(\mu_{eff} \frac{\partial U}{\partial x}) + \frac{1}{r} \frac{\partial}{\partial r}(r\mu_{eff} \frac{\partial V}{\partial r})$$

$$S_v = \frac{\partial}{\partial x}(\mu_{eff} \frac{\partial U}{\partial r}) + \frac{1}{r} \frac{\partial}{\partial r}(r\mu_{eff} \frac{\partial V}{\partial r}) - \mu_{eff} \frac{V}{r^2}$$

$$\mu_{eff} = \mu + \mu_t,$$

$$\Gamma_{eff} = \frac{\mu}{\sigma_\phi} + \frac{\mu_t}{\sigma_{\phi,t}}$$

➤ **Μεταφορά Βαθμωτού:**

$$\frac{1}{r} \left[ \frac{\partial}{\partial x}(r\rho U\Phi) + \frac{\partial}{\partial r}(r\rho V\Phi) \right] = \frac{1}{r} \left[ \frac{\partial}{\partial x}(r\Gamma_{eff} \frac{\partial \Phi}{\partial x}) + \frac{\partial}{\partial r}(r\Gamma_{eff} \frac{\partial \Phi}{\partial r}) \right] + S_\phi$$

Εδώ τα  $\mu_{eff}$  και  $\Gamma_{eff}$  είναι οι ενεργοί συντελεστές ανταλλαγής, που αναπαριστούν το άθροισμα της στρωτής και της τυρβώδους μεταφοράς. Σε υψηλούς αριθμούς Reynolds (πλήρης τυρβώδης ροή) οι επιδράσεις της μοριακής μεταφοράς  $\mu$  και  $\Gamma$  είναι αμελητέες και παραλείπονται στις εξισώσεις. Στις εκφράσεις  $S_u$ ,  $S_v$  παραλείπονται επιπρόσθετοι όροι που σχετίζονται με μη-ομοιόμορφο ιξώδες και που η επίδρασή τους αρχίζει να γίνεται σημαντική για σημαντικές αλλαγές των ιδιοτήτων του ρευστού.

Οι απαραίτητες εξισώσεις για την τυρβώδη κινητική ενέργεια  $k$  και τον ρυθμό σκέδασής της  $\epsilon$ , που συμπληρώνουν τις εξισώσεις μέσων χρονικών τιμών για διδιάστατη, σταθερής κατάστασης αξονοσυμμετρική ροή είναι:

➤ Τυρβώδης ενέργεια k:

$$\frac{1}{r} \left[ \frac{\partial}{\partial x} (r\rho U k) + \frac{\partial}{\partial r} (r\rho V k) \right] = \frac{1}{r} \left[ \frac{\partial}{\partial x} \left( r \frac{\mu_{eff}}{\sigma_k} \frac{\partial k}{\partial x} \right) + \frac{\partial}{\partial r} \left( r \frac{\mu_{eff}}{\sigma_k} \frac{\partial k}{\partial r} \right) \right] + \underbrace{G - C_D \rho \varepsilon}_{S_k}$$

➤ Ρυθμός σκέδασης ενέργειας ε:

$$\frac{1}{r} \left[ \frac{\partial}{\partial x} (r\rho U \varepsilon) + \frac{\partial}{\partial r} (r\rho V \varepsilon) \right] = \frac{1}{r} \left[ \frac{\partial}{\partial x} \left( r \frac{\mu_{eff}}{\sigma_\varepsilon} \frac{\partial \varepsilon}{\partial x} \right) + \frac{\partial}{\partial r} \left( r \frac{\mu_{eff}}{\sigma_\varepsilon} \frac{\partial \varepsilon}{\partial r} \right) \right] + \underbrace{C_1 \frac{\varepsilon}{k} G - C_2 \rho \frac{\varepsilon^2}{k}}_{S_\varepsilon}$$

Οι σταθερές (Launder και Spalding, 1974):

$C_\mu$	$C_D$	$C_1$	$C_2$	$\sigma_k$	$\sigma_\varepsilon$
0.09	1.0	1.44	1.92	1.0	1.3

Φαίνεται η ομοιότητα αυτών των εξισώσεων με εκείνες της μέσης ροής με την αντικατάσταση

$$S_k = G - C_D \rho \varepsilon$$

και

$$S_\varepsilon = C_1 \frac{\varepsilon}{k} G - C_2 \rho \frac{\varepsilon^2}{k}$$

Το G παριστάνει την παραγωγή του k από την μέση ροή, μέσω της τυρβώδους διατμητικής τάσης και για να είμαστε ακριβείς, το ε είναι ο ρυθμός της σκέδασης του ιξώδους του k σε θερμότητα από τις πολύ μικρές τυρβώδεις δίνες. Οι συντελεστές C και οι αριθμοί Prandtl  $\sigma$ , είναι γενικά εμπειρικές συναρτήσεις, αλλά λαμβάνονται σαν σταθερές για υψηλούς αριθμούς Reynolds. Το  $S_\varepsilon$  έχει και άλλους όρους παραγωγής, που οι επιδράσεις τους είναι μικρές, εκτός ροών μη-ομοιόμορφων ιδιοτήτων.

**FOR016.DAT:** Αρχείο με τις στιγμιαίες τιμές των ρευστοδυναμικών μεταβλητών.

**FOR031.DAT:** Αρχείο με τις μέσες τιμές των ρευστοδυναμικών μεταβλητών.

**FOR014.DAT:** Αρχείο με τις μέσες U, V ταχύτητες στην x και y διευθύνσεις.

**FOR041.DAT:** Αρχείο με τις στιγμιαίες U, V ταχύτητες στην x και y διευθύνσεις.

**FOR017.DAT** Ρευστοδυναμικές μεταβλητές καύσης, κλάσμα μίγματος,  
**FOR018.DAT** θερμοκρασία σε καθορισμένα σημεία του χώρου, CH<sub>4</sub>  
**FOR019.DAT** (μεθάνιο), μονοξείδιο του άνθρακα (CO).

Τρέχω (run) τον κώδικα και παίρνω λύση στα 15.000 χρονικά βήματα μαζί με τα διάφορα αρχεία και το POP.RES. Μέσα στο αρχείο αυτό είναι όλες οι ρευστοδυναμικές μεταβλητές σε FORMATTED μορφή.

Τρέχω το POPDOK.FOR Αυτό διαβάζει το αρχείο FOR014.DAT και δημιουργεί τέσσερα καινούργια αρχεία στο C:\FORTRAN\SOURCE.

Τα αρχεία αυτά είναι τα εξής: **PRPAR2.DAT**  
**3DGRID.DAT**  
**FTN04**  
**FTN08**

Οι εντολές που δίνουμε είναι οι εξής:

- **F77L3 POPDOK.FOR**
- **OS386**
- **UP L32 POPDOK. OBJ**
- **UP POPDOK.EXP**
- **OS386 REMOVE**

Φεύγουμε από το αρχείο C:\TEST\ και πηγαίνουμε στο C:\FORTRAN\SOURCE\.  
Αμφότερα σε περιβάλλον DOS. Η FORTRAN εδώ είναι WINDOWS 5.01. Το STREAK31.FOR είναι πρόγραμμα γραφικών το οποίο διαβάζει τα παραπάνω τέσσερα (4) αρχεία.

Δίδουμε DEL RESULTS.DAT και «τρέχουμε» το STREAK31.FOR (είναι το έτοιμο το STREAK31.EXE).

Πληκτρολογώ: 1 <ENTER>

Πληκτρολογώ: 2 <ENTER>

Πληκτρολογώ: Y <ENTER>

Πληκτρολογώ: 1 <ENTER>

Πληκτρολογώ: 1 <ENTER>

Πληκτρολογώ: 1 <ENTER>

Πληκτρολογώ: 1,5 <ENTER>  
50

Το πρόγραμμα STREAK31.FOR εμφανίζει στην οθόνη τα γραφικά STREAKLINE της συνισταμένης U, V ταχυτήτων του προγράμματος POPCH4.FOR.

MODE C080: Εντολή για την αποδέσμευση της οθόνης των γραφικών.

NED RESULTS.DAT: Editor για τον χειρισμό του αρχείου που δημιουργήθηκε από το STREAK31.FOR, το RESULTS.DAT.

Σβήνω το DEL RESULTS.SCR

Εκτελώ NED CONVERT.FOR

Για να βελτιωθεί η ποιότητα σχεδίασης των ρικών γραμμών (STREAKLINES) δημιουργήθηκε το πρόγραμμα CONVERT.FOR το οποίο τρέχει σε συνεργασία με τον κώδικα STREAK31.FOR και μετατρέπει τα δεδομένα σχεδίασης σε μορφή τέτοια ώστε να διαβάζονται από το πρόγραμμα AUTOCAD.

Δημιουργείται το RESULTS.SCR.

Μεταφερόμαστε στο C:\ACAD10\.

Το AUTOCAD "τρέχει" με την εντολή ACAD.

Πληκτρολογώ 1 <ENTER>

Πληκτρολογώ 41 <ENTER>

Πληκτρολογώ Y <ENTER>

Εντολή SCRIPT <ENTER>

Αρχείο 41:\C:\FORTRAN\SOURCE\RESULTS <ENTER>

Διαβάζει δεδομένα του RESULTS.SCR

Editor χρησιμοποιείται ο NED.COM.

Το POPCH4.FOR έχει τη γεωμετρία

Το FOR013.DAT είναι το αρχείο όπου αποθηκεύονται τα δεδομένα του θερμοδυναμικού μοντέλου 41X41 διπλές σειρές FORMATED δεδομένων. Βήμα ποσοστού αναλογίας αέρα - καυσίμου από 0 / 1 (βήμα = 2.500E-02) και κλάσματος διοξειδίου του άνθρακα CO<sub>2</sub> (0 - 1) (βήμα = 2.500E-02). Αντίστοιχα δεδομένα p - T (πυκνότητα - θερμοκρασία) και κατ' όγκον ποσότητες αερίων καύσης (ρυπών) CO, CO<sub>2</sub>, N, H<sub>2</sub>, CH<sub>4</sub>, O<sub>2</sub> κλπ.

Όταν ο κώδικας αρχίζει για πρώτη φορά είναι ανοικτά τα αρχεία FOR016.DAT, FOR013.DAT και τα αρχεία αποθήκευσης των δεδομένων που λαμβάνουμε FOR031.DAT, FOR017.DAT, FOR018.DAT, FOR019.DAT, FOR06.DAT, FOR014.DAT, FOR041.DAT.

**FOR032.DAT** Διαβάζει για IREAD =1 τις στατιστικά μέσες τιμές μεταβλητών.

**FOR031.DAT** Αποθηκεύει όλες τις στατιστικά μέσες τιμές μεταβλητών

**FOR041.DAT** Αποθηκεύονται οι στιγμιαίες ταχύτητες U, V

**FOR042.DAT, FOR043.DAT, ..., FOR051.DAT** Αποθηκεύονται οι στιγμιαίες τιμές (φάσεις) U, V, TEMP σε διαφορετικές χρονικές στιγμές.

**FOR015.DAT** Όλες οι μεταβλητές των εξισώσεων που επιλύουμε για να  
**FOR016.DAT** συνεχίσει το πρόγραμμα από την χρονική στιγμή της διακοπής του.



# **ΥΠΟΛΟΓΙΣΤΙΚΟ ΠΡΟΓΡΑΜΜΑ**

```

C*****
C   A COMPUTER PROGRAMME FOR SOLVING THE CONSERVATION EQUATIONS
C   OF TWO DIMENSIONAL FLUID FLOW
C   VERSION- REACTING TURBULENT FLOW ; GASEOUS FUEL
C
C   -----
C   AIR-->
C   /
C   /
C   /
C   FUEL-->
C   .....
C
C
C
C*****
      PARAMETER (NX=59, NY=59, NS=59, NXYZ=3481)
      DIMENSION F (17*NXYZ), GAM(NXYZ), P(NXYZ), RHO(NXYZ)
      DIMENSION U(NXYZ), V(NXYZ), W(NXYZ), DP(NXYZ), Q(NXYZ),
      1D(NXYZ), TEMP(NXYZ), PSI(NXYZ), VISMIXT(NXYZ), PRAD(NXYZ)
      COMMON/CBCOEF/AN(NXYZ), AS(NXYZ), AR(NXYZ), AL(NXYZ),
      1SP(NXYZ), SU(NXYZ), QU(NXYZ), QV(NXYZ)
      COMMON/CBOLT/FOLD(8*NXYZ), RHOFOLD(NXYZ)
      COMMON/GENRAL/R(NY), X(NX), Y(NY), RELAX(20), RESID(20),
      1TITLE(6,20), PR(20), PRT(20)
      COMMON/CBLK1/ICYCL(20), IPRINT(20), KO(NX), NFO(20),
      1NVORDR(20)
      COMMON/CBLK2/ISTEP, KRAD, KTIM, IMAX, KMAX, L, LP1, N, NP1,
      1ISTR, KSTR, ISKIP, KSKIP, NSKIP, IDMX, KDMX, IKREF, IBURN,
      1ITEST, ISTOP, LSTEP, NCYCL, NF, NV, NVU, NVV, NVW, NVDP, NVK, NVD, NVF, NVFF,
      1NVNO, NVT, NVP, NVRHO, NVCO, NVCO2, NVHC, NVH2, NVH2O, NVO2, NVN2, NMAX

COMMON/CBLK3/DMAX, DSUM, DTIM, FLOIN, FLOUT1, FLOUT2, PRESS, TIM, TLAST,
      1F1A, F2A, ATOT1, ATOT2, FLOC, FLOINFU
      COMMON/CGRID/DY(NY), DX(NX), RDIFY(NY), RDIFYV(NY),
      1DIFX(NX), DIFXU(NX), RM(NY), YV(NY), XU(NX)
      COMMON/CINLET/UINL(NY), QINL(NY), DINL(NY)
      COMMON/CSTORE/TS(NS), YS(NS,4), GS(NS)
      COMMON/CTURB/AK, CD1, CD2, CM, CD, EWALL, RED
      COMMON/CPROP/CP, GASCON, RHOREF, VISCO, WAIR
      COMMON/CBFUEL/AA, BB, RHOAIR, TEMPAD, OXYG1
      COMMON/CBEQUI/YTEQ(41,41,6), FDCO2(41,41), RHOG(41,41),
      1FS(41), ZS(41), NFS, NZS
      COMMON/CGEOM/FXBC(2,10), UC, UIN(NY), CMU25
      1, RINA, ROUTA, RINF, ROUTF
      COMMON/CBPECL/PUV, PKE, ISWIUV, ISWIKE
      COMMON/OBSTACL/IARX, ITEL, KARX, KTEL, IFARX, IFTEL, IIN1, IIS1,
      1KKW1, KKE1, IIN2, IIS2, UFU, RHOFU, RKE(NXYZ), DIK(NXYZ), RLU(NXYZ),
      1RLV(NXYZ), RLUV(NXYZ), FIKL(NY), FIKR(NY), FIKN(NX), FIKS(NX)
      COMMON/UVRMS/URMS(NXYZ), VRMS(NXYZ), UMESO(NXYZ), VMESO(NXYZ),
      1QMESO(NXYZ), DMESO(NXYZ), ARXEI1(NXYZ), ARXEI2(NXYZ), ARXEI3(NXYZ),
      1ARXEI4(NXYZ), PMESO(NXYZ), ARXEI5(NXYZ), ARXEI6(NXYZ), ARXEI7(NXYZ)
      1, ARXEI8(NXYZ), ARXEI9(NXYZ), ARXEI10(NXYZ), QTOTAL(NXYZ)
      1, PRMS1(NXYZ), UR1(NXYZ), UR2(NXYZ), VR1(NXYZ), VR2(NXYZ), COMESO
(NXYZ)
      1, ARXEI11(NXYZ), TMESO(NXYZ), ARXEI12(NXYZ), FMESO(NXYZ)
      COMMON/FTY/TY(NY)
      COMMON/FDUT/FDOT(NXYZ)
      COMMON/FIII/FII(NXYZ), FLLL(NXYZ)
      EQUIVALENCE (F(1), U(1)), (F(NXYZ+1), V(1)), (F(2*NXYZ+1), DP(1)),
      1(F(3*NXYZ+1), W(1)), (F(4*NXYZ+1), Q(1)), (F(5*NXYZ+1), D(1)),
      1(F(9*NXYZ+1), TEMP(1))
C
      DATA EMAX/1.E-7/
      DATA ILSTEP/0/

```

```

DATA KISTEP/1/
DATA IREAD/0/
DATA IWRITE/1/
C   OPEN(15,STATUS='OLD',FORM='UNFORMATTED',FILE='FOR015.DAT')
OPEN(16,STATUS='NEW',FORM='UNFORMATTED',FILE='FOR016.DAT')
OPEN(13,STATUS='OLD',FORM='FORMATTED',FILE='FOR013.DAT')
C   OPEN(11,STATUS='OLD',FORM='FORMATTED',FILE='FOR011.DAT')
C   OPEN(32,STATUS='OLD',FORM='UNFORMATTED',FILE='FOR032.DAT')
OPEN(31,STATUS='NEW',FORM='UNFORMATTED',FILE='FOR031.DAT')
OPEN(17,STATUS='NEW',FORM='FORMATTED',FILE='FOR017.DAT')
OPEN(18,STATUS='NEW',FORM='FORMATTED',FILE='FOR018.DAT')
OPEN(19,STATUS='NEW',FORM='FORMATTED',FILE='FOR019.DAT')
C   OPEN(48,STATUS='NEW',FORM='FORMATTED',FILE='FOR048.DAT')
C   OPEN(49,STATUS='NEW',FORM='FORMATTED',FILE='FOR049.DAT')
C   OPEN(50,STATUS='NEW',FORM='FORMATTED',FILE='FOR050.DAT')
OPEN(6,STATUS='NEW',FILE='POP.RES')
OPEN(14,STATUS='NEW',FORM='UNFORMATTED',FILE='FOR014.DAT')
C//////////
OPEN(41,STATUS='NEW',FORM='UNFORMATTED',FILE='FOR041.DAT')
C   OPEN(42,STATUS='NEW',FORM='UNFORMATTED',FILE='FOR042.DAT')
C   OPEN(43,STATUS='NEW',FORM='UNFORMATTED',FILE='FOR043.DAT')
C   OPEN(44,STATUS='NEW',FORM='UNFORMATTED',FILE='FOR044.DAT')
C   OPEN(45,STATUS='NEW',FORM='UNFORMATTED',FILE='FOR045.DAT')
C   OPEN(46,STATUS='NEW',FORM='UNFORMATTED',FILE='FOR046.DAT')
C   OPEN(47,STATUS='NEW',FORM='UNFORMATTED',FILE='FOR047.DAT')
C
10 FORMAT(16I5)
20 FORMAT(9F8.5)
30 FORMAT(20A4)
35 FORMAT(6E12.4)
37 FORMAT(4E12.6)
40 FORMAT(8F9.3)
52 FORMAT(10I5)
53 FORMAT(22I3)
54 FORMAT(8F5.1)
61 FORMAT(F9.6,1X,E12.6,1X,E12.6,1X,E12.6)
C ** READ INPUT DATA**
CALL COEFF0(F,GAM,RHO,P,U,V,W,Q,D,DP,VISMIXT,PRAD)
C*****GEOMETRY DATA*****
WRITE(6,10)IREAD,IWRITE
WRITE(6,10)NMAX,L,N,IKREF
Y(1)=0.0
Y(2)=0.0001
Y(3)=0.0002
Y(4)=0.0004
Y(5)=0.0006
Y(6)=0.0008
Y(7)=0.001
Y(8)=0.0012
Y(9)=0.0014
Y(10)=0.0015
C-----
Y(11)=0.0017
Y(12)=0.0019
Y(13)=0.0022
Y(14)=0.0026
Y(15)=0.0031
Y(16)=0.0037
Y(17)=0.0045
Y(18)=0.0055
Y(19)=0.0067
Y(20)=0.0080
Y(21)=0.009
Y(22)=0.01
Y(23)=0.011
Y(24)=0.012

```

Y(25)=0.013  
Y(26)=0.014  
Y(27)=0.015  
Y(28)=0.016  
Y(29)=0.017  
Y(30)=0.018  
Y(31)=0.0185

C-----

Y(32)=0.0195  
Y(33)=0.020  
Y(34)=0.022  
Y(35)=0.024  
Y(36)=0.026  
Y(37)=0.028  
Y(38)=0.030  
Y(39)=0.032  
Y(40)=0.034  
Y(41)=0.036  
Y(42)=0.038  
Y(43)=0.040  
Y(44)=0.042  
Y(45)=0.044  
Y(46)=0.046  
Y(47)=0.049  
Y(48)=0.052  
Y(49)=0.054  
Y(50)=0.056  
Y(51)=0.058  
Y(52)=0.060  
Y(53)=0.062  
Y(54)=0.064  
Y(55)=0.066  
Y(56)=0.068  
Y(57)=0.070  
Y(58)=0.072  
Y(LP1)=0.076

C-----

WRITE(6,20) (Y(I),I=1,LP1)

C-----

RINF=0.0  
ROUTF=0.00159  
RINA=0.01905  
ROUTA=0.076

C-----

X(1)=0.0  
X(2)=0.0001  
X(3)=0.0002  
X(4)=0.0003  
X(5)=0.0004  
X(6)=0.0005  
X(7)=0.0006  
X(8)=0.0007  
X(9)=0.0008  
X(10)=0.0009  
X(11)=0.001  
X(12)=0.0011  
X(13)=0.0012  
X(14)=0.0013  
X(15)=0.0014  
X(16)=0.0015  
X(17)=0.0016  
X(18)=0.0017  
X(19)=0.0018  
X(20)=0.0019  
X(21)=0.002  
X(22)=0.0022

```

X(23)=0.0024
X(24)=0.0026
X(25)=0.0028
X(26)=0.003
X(27)=0.0033
X(28)=0.0036
X(29)=0.0039
X(30)=0.0042
X(31)=0.0045
X(32)=0.0048
X(33)=0.0052
X(34)=0.0056
X(35)=0.006
X(36)=0.0065
X(37)=0.007
X(38)=0.0075
X(39)=0.008
X(40)=0.0085
X(41)=0.009
X(42)=0.0095
X(43)=0.01
X(44)=0.015
X(45)=0.02
X(46)=0.03
X(47)=0.04
X(48)=0.055
X(49)=0.06
X(50)=0.075
X(51)=0.08
X(52)=0.095
X(53)=0.11
X(54)=0.125
X(55)=0.135
X(56)=0.145
X(57)=0.155
X(58)=0.165
X(NP1)=0.175
WRITE(6,20)(X(K),K=1, NP1)
IF(KRAD.EQ.1) R(1)=1.0
WRITE(6,20) R(1),RINF,ROUTF,RINA,ROUTA,Y(LP1),X(NP1)
IARX=32
ITEL=58
KARX=0
KTEL=0
IFARX=2
IFTEL=10
III1=0
III2=0
III3=1
III4=0
KKK1=0
KKK2=0
IIN1=1
IIS1=10
KKW1=32
KKE1=59
IIN2=LP1-III3
IIS2=1+III4
WRITE(6,10) IIN2,IIS2,IIN1,IIS1,KKW1,KKE1
C*****CYLINDRICAL*****
UINL2=18.
UMEAN=18.
RED=UMEAN*0.2032*RHOREF/VISCO
UFU=62.5
RHOFU=0.65155
C*****

```

```

TEIN2=2./3.*(1./100.*UINL2)**2
EDIN2=TEIN2**1.5/ (.25*2*(ROUTA-RINA))
FTEIN2=2./3.*(1./100.*UFU)**2
FEDIN2=FTEIN2**1.5/ (.25*2*(ROUTE-RINF))
FXBC(1,NVU)=UINL2
FXBC(1,NVV)=0.0
FXBC(1,NVW)=0.0
FXBC(1,NVDP)=0.0
FXBC(1,NVK)=TEIN2
FXBC(1,NVD)=0.
FXBC(1,NVF)=0.0
FXBC(1,NVFF)=0.0
FXBC(1,NVNO)=0.0
FXBC(2,NVU)=UFU
FXBC(2,NVV)=0.0
FXBC(2,NVW)=0.0
FXBC(2,NVDP)=0.0
FXBC(2,NVK)=FTEIN2
FXBC(2,NVD)=0.0
FXBC(2,NVF)=1.0
FXBC(2,NVFF)=0.0
FXBC(2,NVNO)=0.0
C READ COMPOSITION DATA
C SET FIELD VARIABLES
C
REWIND 13
DO 1110 J=1,NZS
DO 1110 I=1,NFS
READ(13,1014) FS(I), ZS(J), RHOG(I,J), FDCO2(I,J), (YTEQ(I,J,K), K=
1,6)
1110 CONTINUE
1014 FORMAT(3X,1P6E12.4,/,27X,1P4E12.4)
DO 1015 KF=1,NFS
DO 1015 LZ=1,NZS
IF(FS(KF).NE.0.0) GO TO 1015
RHOAIR=RHOG(KF,LZ)
TEMPAD=YTEQ(KF,LZ,1)
OXYG1=YTEQ(KF,LZ,3)
1015 CONTINUE
C
44 CALL COEFF1(F,GAM,RHO,P,U,V,W,Q,D,DP,VISMIXT,PRAD)
C
C SET FIELD VARIABLES
C
C READ(32) KISTEP,ARXEI1,ARXEI2,ARXEI3,ARXEI4,ARXEI5,ARXEI6
C 1,ARXEI7,ARXEI8,ARXEI9,ARXEI10,ARXEI11,ARXEI12,FII
C
C KISTEP=1
C
DO 151 I=1,LP1
DO 151 K=1,NP1
IK=I+KO(K)
RLUV(IK)=1.5
PRAD(IK)=0.7
IF(I.GE.L.OR.I.LE.2.OR.K.LE.2.OR.K.GE.N) RLUV(IK)=.09
IF(IREAD.EQ.1) GO TO 151
FII(IK)=2.
151 CONTINUE
C-----
IF(IREAD.EQ.0) GO TO 45
READ(15) F,P,RHO,FOLD,RHOFOLD,RLUV
C-----

GO TO 55
45 CONTINUE
DO 50 I=1,LP1

```

```

DO 50 K=1,NP1
IK=I+KO(K)
RHO(IK)=RHOREF
P(IK)=0.0
TEMP(IK)=0.
DO 50 NV=1,NF
IKP=IK+NFO(NV)
F(IKP)=FXBC(1,NV)
50 CONTINUE
55 CONTINUE
CALL PROBSP(F,GAM,RHO,U,V,W,Q,D,DP)
IF(IREAD.NE.1) GO TO 1333
GO TO 1135
1333 CONTINUE
DO 1134 NC=1,NF
NV=NVORDR(NC)
DO 1134 I=1,LP1
DO 1134 K=1,NP1
IK=I+KO(K)
RHOFOLD(IK)=RHO(IK)
IK=I+KO(K)+NFO(NV)
FOLD(IK)=F(IK)
1134 CONTINUE
C
1135 VOL=0.5*(R(1)+R(LP1))*(Y(LP1)-Y(1))*(X(NP1)-X(1))
C
C   START OF MAIN LOOP
C
100 CONTINUE
PUV=1.E6
CALL THERMP(RHO,F,TEMP,VISMIXT,PRAD)
DO 155 I=1,LP1
DO 155 K=1,NP1
IK=I+KO(K)
IF(K.EQ.1.AND.I.GE.IFARX.AND.I.LE.IFTEL) RHO(IK)=0.65155
155 CONTINUE
101 CONTINUE
ILSTEP=ILSTEP+1
IF(ISTEP.GE.14999) CALL OUTPUT(F,U,V,GAM,RHO,P,PSI)
IF(ISTOP.EQ.1) GO TO 204
IF(ISTOP.EQ.1.AND.KTIM.EQ.1) GO TO 200
CALL COEFF2(F,GAM,RHO,P,U,V,W,Q,D,DP,VISMIXT,PRAD)
ISTEP=ISTEP+1
IF(ISTOP.EQ.0) GO TO 110
DSUM=DSUM/FLOIN
DMAX=DMAX*VOL/FLOIN
RESID(NVDP)=RESID(NVDP)*VOL/FLOIN
110 CONTINUE
IF(KTIM.EQ.2) GO TO 150
IF(ISTEP.LT.LSTEP.AND.DSUM.GT.EMAX) GO TO 100
ISTOP=ISTOP+1
IF(IBURN.EQ.0) ISTOP=ISTOP+1
DO 1515 NV=1,NF
1515 ICYCL(NV)=0
C   ICYCL(NVNO)=0
RELAX(NVRHO)=0.0
IF(ISTOP.EQ.0) GO TO 100
ISTEP=ISTEP-1
C   NV=NVNO
C   CALL TEST(2,F,GAM)
GO TO 100
150 IF(ISTOP.EQ.0) GO TO 7630
QINF=RHOREF*UINL2**2/2.
C-----
C   PRINT *,ISTEP,TIM,F(45+KO(22)+NFO(1)),F(45+KO(32)+NFO(1)),
C   1DSUM

```

```

C-----
      IF(DSUM.GT.EMAX.AND.ILSTEP.LT.20) GO TO 101
7630 ILSTEP=0
      IF(ISTEP.LT.LSTEP.AND.TIM.LT.TLAST) GO TO 215
      IF(IBURN.LE.0) THEN
        ISTOP=1
      ELSE
        ISTOP=ISTOP+1
        DO 115 NV=1,NF
115   ICYCL(NV)=0
        ISTEP=ISTEP-1
        RELAX(NVRHO)=.0
      ENDIF
215   IF(ISTOP.GE.0) GO TO 1333
        TIM=TIM+DTIM
C-----
      IF(ISTEP.GE.1) THEN
        KISTEP=KISTEP+1
        WRITE(6,10) KISTEP
      END IF
      IF(ISTEP.EQ.14980) WRITE(41) U,V
C     IF(ISTEP.EQ.6300) WRITE(42) TEMP,TEMP
C     IF(ISTEP.EQ.6800) WRITE(43) TEMP,TEMP
C     IF(ISTEP.EQ.7300) WRITE(44) TEMP,TEMP
C     IF(ISTEP.EQ.16000) WRITE(45) U,V
C     IF(KISTEP.EQ.170) WRITE(46) U,V
C     IF(KISTEP.EQ.180) WRITE(47) U,V
C     IF(KISTEP.EQ.265) WRITE(48) U,V
C     IF(KISTEP.EQ.800) WRITE(49) U,V
C     IF(KISTEP.EQ.900) WRITE(50) U,V
C     IF(KISTEP.EQ.1000) WRITE(51) U,V
C=====DRAG=====
C     CFF1=0.
C     CFF2=0.
C     CPP1=0.
C     CPP2=0.
C     DO 9 K=KARX,KTEL
C       IKH=ITEL+1+KO(K)+NFO(NVU)
C       CFF1=CFF1+2.*F(IKH)/DY(ITEL+1)*VISCO/(0.5*RHOREF*UINL2*
C       1UINL2)*DX(K)
C       IKH=IARX-1+KO(K)+NFO(NVU)
C       CFF2=CFF2+2.*F(IKH)/DY(IARX)*VISCO/(0.5*RHOREF*UINL2*UINL2)*
C       1DX(K)
C     9 CONTINUE
C     DO 94 I=IARX,ITEL
C       IKH=I+KO(KARX-1)
C       CPP1=CPP1+P(IKH)/(0.5*RHOREF*UINL2*UINL2)*RDIFY(I)
C       IKH=I+KO(KTEL+1)
C       CPP2=CPP2+P(IKH)/(0.5*RHOREF*UINL2*UINL2)*RDIFY(I)
C     94 CONTINUE
C     CFF1=CFF1/.008
C     CFF2=CFF2/.008
C     CPP1=CPP1/.008
C     CPP2=CPP2/.008
C     CFF=CFF1+CFF2
C     CPP=CPP1-CPP2
C     COLIKO=CFF+CPP
C     PRINT *,COLIKO
C     WRITE(6,37) COLIKO
C
DO 8 I=1,LP1
DO 8 K=1,NP1
IF(I.GE.L.OR.I.LE.2.OR.K.LE.2.OR.K.GE.N) GO TO 8
IK=I+KO(K)
IKN=IK+1
IKR=IK+KO(2)

```



```

UMESO(IK)=( (KISTEP-1)*ARXEI1(IK)+U(IK) )/KISTEP
ARXEI1(IK)=UMESO(IK)
VMESO(IK)=( (KISTEP-1)*ARXEI2(IK)+V(IK) )/KISTEP
ARXEI2(IK)=VMESO(IK)
QMESO(IK)=( (KISTEP-1)*ARXEI7(IK)+F(IK+NFO(NVK) ) )/KISTEP
ARXEI7(IK)=QMESO(IK)
URMS(IK)=( (KISTEP-1)*ARXEI8(IK)+(F(IK+NFO(NVU) )-UMESO(IK) )
1*(F(IK+NFO(NVU) )-UMESO(IK) ) )/KISTEP
ARXEI8(IK)=URMS(IK)
VRMS(IK)=( (KISTEP-1)*ARXEI9(IK)+(F(IK+NFO(NVV) )-VMESO(IK) )
1*(F(IK+NFO(NVV) )-VMESO(IK) ) )/KISTEP
ARXEI9(IK)=VRMS(IK)
TMESO(IK)=( (KISTEP-1)*ARXEI11(IK)+TEMP(IK) )/KISTEP
ARXEI11(IK)=TMESO(IK)
FMESO(IK)=( (KISTEP-1)*ARXEI12(IK)+F(IK+NFO(NVF) ) )/KISTEP
ARXEI12(IK)=FMESO(IK)
COMESO(IK)=( (KISTEP-1)*ARXEI12(IK)+F(IK+NFO(NVCO) ) )/KISTEP
ARXEI12(IK)=COMESO(IK)

```

C

```
IF(I.GE.L.OR.I.LE.2.OR.K.LE.2.OR.K.GE.N) GO TO 8
```

C

```
IF(I.GE.(L-3).OR.I.LE.5.OR.
```

C

```
1(I.LE.(ITEL+5).AND.K.LE.(KTEL+27).AND.I.GE.(IARX-5).
```

C

```
1AND.K.GE.KARX) GO TO 881
```

C

```
IF(I.LE.ITEL.AND.K.LE.(KTEL+3).AND.I.GE.IARX.
```

C

```
1AND.K.GE.(KARX-3) GO TO 882
```

```
DUDX=(UMESO(IKR)-UMESO(IK))/DIFX(K)
```

```
DVDY=(VMESO(IKN)-VMESO(IK))/RDIFY(I)
```

```
DUDX=DUDX*0.33-0.667*DVDY
```

```
DUDX=ABS(DUDX)
```

```
DVDY=DVDY*0.33-0.667*DUDX
```

```
DVDY=ABS(DVDY)
```

```
DDD=SQRT(DIFX(K)*RDIFY(I))
```

```
RMSUV=0.5*(URMS(IK)+VRMS(IK))
```

```
QMESO(IK)=ABS(QMESO(IK))
```

```
QKSGS=SQRT(QMESO(IK)+1.E-10)
```

```
RLUV1=1./DDD*QKSGS/(DUDX+1.E-10)*(URMS(IK)/(RMSUV+1.E-10)+
```

0.667)

```
RLUV2=1./DDD*QKSGS/(DVDY+1.E-10)*(VRMS(IK)/(RMSUV+1.E-10)+
```

0.667)

```
IF(RLUV1.LT.1.5) RLUV1=1.5
```

```
IF(RLUV1.GT.1.5) RLUV1=1.5
```

```
IF(RLUV2.LT.1.5) RLUV2=1.5
```

```
IF(RLUV2.GT.1.5) RLUV2=1.5
```

```
RLUV(IK)=0.5*(RLUV1+RLUV2)
```

C-----

C

```
GO TO 8
```

C

```
881 CONTINUE
```

C

```
DDD=SQRT(DIFX(K)*RDIFY(I))
```

C

```
RMSUV=0.5*(URMS(IK)+VRMS(IK))
```

C

```
QMESO(IK)=ABS(QMESO(IK))
```

C

```
QKSGS=SQRT(QMESO(IK)+1.E-10)
```

C

```
DVDY=(VMESO(IKN)-VMESO(IK))/RDIFY(I)
```

C

```
DVDY=ABS(DVDY)
```

C

```
RLUV2=1./DDD*QKSGS/(RMSUV+1.E-10)*VRMS(IK)/(DVDY+1.E-10)
```

C

```
IF(RLUV2.LT.0.09) RLUV2=0.09
```

C

```
IF(RLUV2.GT.1) RLUV2=.1
```

C

```
RLUV(IK)=RLUV2
```

C

```
GO TO 8
```

C

```
882 CONTINUE
```

C

```
DDD=SQRT(DIFX(K)*RDIFY(I))
```

C

```
RMSUV=0.5*(URMS(IK)+VRMS(IK))
```

C

```
QMESO(IK)=ABS(QMESO(IK))
```

C

```
QKSGS=SQRT(QMESO(IK)+1.E-10)
```

C

```
DUDX=(UMESO(IKR)-UMESO(IK))/DIFX(K)
```

C

```
DUDX=ABS(DUDX)
```

```

C      RLUV1=1./DDD*QKSGS/(RMSUV+1.E-10)*URMS(IK)/(DUDX+1.E-10)
C      IF(RLUV1.LT.0.09) RLUV1=0.09
C      IF(RLUV1.GT..1) RLUV1=.1
C      RLUV(IK)=RLUV1
C      8 CONTINUE
C      WRITE(6,10) ISTEP
C      QINF=RHOREF*UINL2**2/2.
C
C-----
C      PRINT *,ISTEP,TIM,F(58+KO(34)+NFO(1)),F(58+KO(41)+NFO(1)),
C      1F(58+KO(46)+NFO(1)),DSUM
C-----
C      WRITE(6,37) TIM,DTIM,DSUM
C      WRITE(6,37) ISTEP,TIM,F(58+KO(34)+NFO(1)),F(58+KO(41)+NFO(1)),
C      1F(58+KO(46)+NFO(1)),DSUM
C-----
C      WRITE(17,61) TIM,F(12+KO(66)+NFO(1)),F(12+KO(66)+NFO(2))
C      WRITE(17,61) F(19+KO(32)+NFO(NVF)),TEMP(19+KO(32))
C      WRITE(18,61) F(19+KO(32)+NFO(NVF)),F(19+KO(32)+NFO(NVCO))
C      WRITE(17,61) F(24+KO(46)+NFO(NVF)),TEMP(24+KO(46))
C      WRITE(18,61) F(24+KO(46)+NFO(NVHC)),F(24+KO(46)+NFO(NVCO))
C      IF(ISTEP.EQ.300) THEN
C      DO 9814 I=1,LP1
C      DO 9814 K=1,NP1
C      IK=I+KO(K)
C      WRITE(17,61) X(K),Y(I),TMESO(IK)
C 9814 CONTINUE
C      ENDIF
C-----
C      204 IF(ISTOP.EQ.1) GO TO 200
C      GO TO 1333
C      200 CONTINUE
C      IF(IWRITE.EQ.0) GO TO 300
C      WRITE(31) KISTEP,ARXEI1,ARXEI2,ARXEI3,ARXEI4,ARXEI5,ARXEI6
C      1,ARXEI7,ARXEI8,ARXEI9,ARXEI10,ARXEI11,ARXEI12,FII
C      WRITE(14) UMESO,VMESO
C      WRITE(16) F,P,RHO,FOLD,RHOFOLD,RLUV
C-----
C      DO 321 I=1,LP1
C      DO 321 K=1,NP1
C      IK=I+KO(K)
C      IF(I.EQ.5.OR.I.EQ.10.OR.I.EQ.17.OR.I.EQ.20.OR.I.EQ.21) GO TO
C 322
C      IF(I.EQ.34.OR.I.EQ.35.OR.I.EQ.39.OR.I.EQ.43.
C 1OR.I.EQ.44.OR.I.EQ.57) GO TO 322
C      IF(I.EQ.58.OR.I.EQ.61.OR.I.EQ.68.OR.I.EQ.73) GO TO 322
C      GO TO 321
C 322 CONTINUE
C      IF(K.EQ.9.OR.K.EQ.12.OR.K.EQ.15.OR.K.EQ.16.OR.K.EQ.24) GO TO
C 323
C      IF(K.EQ.31.OR.K.EQ.32.OR.K.EQ.33.OR.K.EQ.34.OR.K.EQ.36) GOTO
C 323
C      IF(K.EQ.38.OR.K.EQ.42.OR.K.EQ.46.OR.K.EQ.51.OR.K.EQ.56) GO TO
C 323
C      GO TO 321
C 323 CONTINUE
CC
C      WRITE(48,61) X(K),Y(I),TEMP(IK)
C      WRITE(49,61) X(K),Y(I),F(IK+NFO(NVF))
CC      WRITE(50,61) X(K),Y(I),F(IK+NFO(NVCO))
C 321 CONTINUE
C-----
C      300 STOP
C      END
C
C      BLOCK DATA

```

C

```

PARAMETER (NX=59, NY=59, NS=59, NXYZ=3481)
COMMON/CBFUEL/AA, BB, RHOAIR, TEMPAD, OXYG1
COMMON/CBEQUI/YTEQ(41, 41, 6), FDICO2(41, 41), RHOG(41, 41),
1FS(41), ZS(41), NFS, NZS
COMMON/GENRAL/R(NY), X(NX), Y(NY), RELAX(20), RESID(20),
1TITLE(6, 20), PR(20), PRT(20)
COMMON/CBLK1/ICYCL(20), IPRINT(20), KO(NX), NFO(20),
1NVORDR(20)
COMMON/CBLK2/ISTEP, KRAD, KTIM, IMAX, KMAX, L, LP1, N, NP1,
1ISTR, KSTR, ISKIP, KSKIP, NSKIP, IDMX, KDMX, IKREF, IBURN,
1ITEST, ISTOP, LSTEP, NCYCL, NF, NV, NVU, NVV, NVW, NVDP, NVK, NVD, NVF, NVFF,
1NVNO, NVT, NVP, NVRHO, NVCO, NVCO2, NVHC, NVH2, NVH2O, NVO2, NVN2, NMAX

```

```

COMMON/CBLK3/DMAX, DSUM, DTIM, FLOIN, FLOUT1, FLOUT2, PRESS, TIM, TLAST,
1F1A, F2A, ATOT1, ATOT2, FLOC, FLOINFU
COMMON/CGRID/DY(NY), DX(NX), RDIFY(NY), RDIFYV(NY),
1DIFX(NX), DIFXU(NX), RM(NY), YV(NY), XU(NX)
COMMON/CTURB/AK, CD1, CD2, CM, CD, EWALL, RED
COMMON/CPROP/CP, GASCON, RHOREF, VISCO, WAIR
COMMON/CBPECL/PUV, PKE, ISWIUV, ISWIKE

```

C

```

DATA IMAX, KMAX, NMAX, L, N, IKREF/59, 59, 17, 58, 58, 85/
DATA FLOIN, FLOUT1, FLOUT2, DMAX, DSUM, IDMX, KDMX/5*0., 2*0/
DATA ISTOP, KRAD, LSTEP, ITTEST/-1, 2, 15000, 1/
DATA NF, NVU, NVV, NVDP, NVW, NVK, NVD, NVF, NVFF, NVNO
1/8, 1, 2, 3, 4, 5, 6, 7, 8, 9/
DATA NVT, NVCO, NVCO2, NVHC, NVH2, NVH2O, NVO2, NVN2, NVP, NVRHO
1/10, 11, 12, 13, 14, 15, 16, 17, 18, 19/
DATA NVORDR/1, 2, 3, 4, 5, 6, 7, 8, 9, 11*0/
DATA RELAX/2*0.5, 0.8, 5*0.5, 1.0, 11*0.5/
DATA IPRINT/3*1, 2, 1, 1, 1, 2, 2, 4*1, 1, 2*1, 2, 3*2/
DATA ICYCL/2*1, 3, 0, 1, 1, 1, 0, 0, 11*0/
DATA ISKIP, KSKIP, NSKIP, IBURN/2*1, 500, 1/
DATA KTIM, DTIM, TLAST/2, 1.E-3, 9.E3/
DATA PR/6*1., 14*0.7/, RHOREF/1.1716/, VISCO/1.79E-5/
DATA AK, CD1, CD2, CM, CD, EWALL/0.433, 1.44, 1.92, .09, 2.0, 4.82/
DATA PRT/5*1.0, 1.3, 14*0.7/, PRESS/0.0/
DATA PUV, PKE/2., 2./
DATA ISWIUV, ISWIKE/1, 1/
DATA NFS/41/, NZS/41/
DATA AA/2.743315/, BB/0.3186404/
DATA TITLE/4HU VE, 4HLOCI, 4HTY , 3*4H
1 4HV VE, 4HLOCI, 4HTY , 3*4H
2 4HDP P, 4HRESS, 4HURE , 4HCORR, 4HECTI, 4HON
3 4HW VE, 4HLOCI, 4HTY , 3*4H
4 4HK TU, 4HRBUL, 4HENCE, 4H ENE, 4HRGY , 4H
5 4HD DI, 4HSSIP, 4HATIO, 4HN RA, 4HTE , 4H
5 4HMIXT, 4HURE , 4HFRAC, 4HTION, 4HN , 4H
5 4H CO, 4H2CO2, 4HFRAC, 4HTION, 4HN , 4H
5 4H NI, 4HTRIC, 4HOXID, 4HE , 4H , 4H
6 4H TE, 4HMPER, 4HATUR, 4HE , 4H , 4H
5 4H CA, 4HRBON, 4HMONO, 4HXIDE, 4H , 4H
5 4H CA, 4HRBON, 4H DIO, 4HXIDE, 4H , 4H
5 4HPROP, 4HANE , 4H , 4H , 4H , 4H
5 4HH2 , 4H , 4H , 4H , 4H , 4H
5 4HH2O , 4H , 4H , 4H , 4H , 4H
5 4HO2 , 4H , 4H , 4H , 4H , 4H
5 4HN2 , 4H , 4H , 4H , 4H , 4H
7 4HP PR, 4HESSU, 4HRE (, 4HRELA, 4HTIVE, 4H)
5 4HD DE, 4HNSIT, 4HY , 4H , 4H , 4H
5 4HN333, 4H , 4H , 4H , 4H , 4H /

```

END

C

```

SUBROUTINE PROBSP (F, GAM, RHO, U, V, W, Q, D, DP)

```

```

C
PARAMETER (NX=59, NY=59, NS=59, NXYZ=3481)
DIMENSION F (17*NXYZ), GAM(NXYZ), P(NXYZ), RHO(NXYZ)
DIMENSION U(NXYZ), V(NXYZ), W(NXYZ), DP(NXYZ), Q(NXYZ),
1D(NXYZ)
COMMON/CBOLT/FOLD(8*NXYZ), RHOFOLD(NXYZ)
COMMON/CBCOEF/AN(NXYZ), AS(NXYZ), AR(NXYZ), AL(NXYZ),
1SP(NXYZ), SU(NXYZ), QU(NXYZ), QV(NXYZ)
COMMON/GENRAL/R(NY), X(NX), Y(NY), RELAX(20), RESID(20),
1TITLE(6,20), PR(20), PRT(20)
COMMON/CINLET/UINL(NY), QINL(NY), DINL(NY)
COMMON/CBLK1/ICYCL(20), IPRINT(20), KO(NX), NFO(20),
1NVORDR(20)
COMMON/CBLK2/ISTEP, KRAD, KTIM, IMAX, KMAX, L, LP1, N, NP1,
1ISTR, KSTR, ISKIP, KSKIP, NSKIP, IDMX, KDMX, IKREF, IBURN,
1ITEST, ISTOP, LSTEP, NCYCL, NF, NV, NVU, NVV, NVW, NVDP, NVK, NVD, NVF, NVFF,
1NVNO, NVT, NVP, NVRHO, NVCO, NVCO2, NVHC, NVH2, NVH2O, NVO2, NVN2, NMAX

```

```

COMMON/CBLK3/DMAX, DSUM, DTIM, FLOIN, FLOUT1, FLOUT2, PRESS, TIM, TLAST,
1F1A, F2A, ATOT1, ATOT2, FLOC, FLOINFU
COMMON/CGRID/DY(NY), DX(NX), RDIFY(NY), RDIFYV(NY),
1DIFX(NX), DIFXU(NX), RM(NY), YV(NY), XU(NX)
COMMON/CTURB/AK, CD1, CD2, CM, CD, EWALL, RED
COMMON/CPROP/CP, GASCON, RHOREF, VISCO, WAIR
COMMON/CGEOM/FXBC(2,10), UC, UIN(NY), CMU25
1, RINA, ROUTA, RINF, ROUTF
COMMON/OBSTACL/IARX, ITEL, KARX, KTEL, IFARX, IFTEL, IIN1, IIS1,
1KKW1, KKE1, IIN2, IIS2, UFU, RHOFU, RKE(NXYZ), DIK(NXYZ), RLU(NXYZ),
1RLV(NXYZ), RLUV(NXYZ), FIKL(NY), FIKR(NY), FIKN(NX), FIKS(NX)
COMMON/FTY/TY(NY)
DATA ZERO/1.E-10/
DATA CRIT/91.97/

```

```

C
CMU25=CM**0.25
CLW=AK/CM**0.75
TDRK=SQRT(CM)
RETURN

```

```

C
C-----
-----
ENTRY PROBS1(F, GAM, RHO, U, V, W, Q, D, DP)
C-----
-----

```

```

C
C ** CORRECT OVERALL MASS FLOW**
IF(NV.NE.NVDP) GO TO 100
FLOIN=0.0
FLOINFU=0.0
FLOUT1=0.0
DO 50 I=IARX, ITEL
IK=I+KO(2)
IKL=IK-KO(2)
DA=RDIFY(I)
50 FLOIN=FLOIN+RHO(IKL)*U(IK)*DA
DO 61 I=IFARX, IFTEL
IK=I+KO(2)
IKL=IK-KO(2)
DA=RDIFY(I)
FLOINFU=FLOINFU+RHOFU*UFU*DA
61 CONTINUE
FLOIN=FLOIN+FLOINFU
62 CONTINUE
DO 0051 I=2, L
IK=I+KO(NP1)
DA=RDIFY(I)

```

```

        IF(U(IK).LT.0.0) GO TO 0053
        FLOUT1=FLOUT1+RHO(IK)*U(IK)*DA
        GO TO 0051
0053 FLOIN=FLOIN-RHO(IK)*U(IK)*DA
0051 CONTINUE
        RATIO=FLOUT1/FLOIN
        DO 0085 I=2,L
        IK=I+KO(NP1)
        IF(U(IK).LT.0.0) GO TO 0085
        IF(RATIO.LT.0.1.OR.RATIO.GT.10.) RATIO=1.
        U(IK)=U(IK)/RATIO
0085 CONTINUE
        RETURN
C  ** SPECIFY BOUNDARY VALUES OF DEPENDANT VARIABLES AND GAMA*S
C
C  ** V VELOCITY **
C
100 IF(NV.NE.NVV) GO TO 200
C  ** Y=Y(1) AND Y=Y(LP1) PLANES **
        DO 110 K=1,NP1
        IK=2+KO(K)
        V(IK)=0.0
        IKS=IK-1
        GAM(IKS)=GAM(IK)
110 CONTINUE
C  ** X=X(1) AND X=X(NP1) PLANES
        DO 140 I=2,LP1
        IK=I+KO(2)
        IKL=IK-KO(2)
        V(IKL)=0.0
        IF(Y(I).LE.RINF.OR.Y(I).GE.ROUTF) GOTO 120
        V(IKL)=FXBC(2,NVV)
        GOTO 130
120 IF(Y(I).LE.RINA.OR.Y(I).GE.ROUTA) GOTO 130
        V(IKL)=FXBC(1,NVV)
130 IKR=I+KO(2)+KO(N)
        V(IKR)=0.0
140 CONTINUE
        RETURN
C
C  ** W VELOCITY **
C
200 IF(NV.NE.NVW) GO TO 300
C  ** Y=Y(1) AND Y=Y(LP1) PLANES **
C
C  ** U VELOCITY **
C
300 IF(NV.NE.NVU) GO TO 400
C  ** Y=Y(1) AND Y=Y(LP1) PLANES **
        DO 315 K=2,N
        IK=2+KO(K)
        IKS=IK-1
        GAM(IKS)=GAM(IK)
        U(IKS)=U(IK)
        IKN=IKS+L
        U(IKN)=0.
315 CONTINUE
C  ** X=X(1) AND X=X(NP1) PLANES
        DO 342 I=1,LP1
        IK=I+KO(2)
        U(IK)=0.0
        IF(Y(I).LE.RINF.OR.Y(I).GE.ROUTF) GOTO 340
        U(IK)=FXBC(2,NVU)
        GOTO 342
340 IF(Y(I).LE.RINA.OR.Y(I).GE.ROUTA) GOTO 342
        U(IK)=FXBC(1,NVU)

```

```

342 CONTINUE
RETURN
C ** TURBULENCE ENERGY, DISSIPATION RATE AND SCALAR VARIANCE **
C
400 IF(NV.NE.NVK.AND.NV.NE.NVD.AND.NV.NE.NVEF) GO TO 500
C ** Y=Y(1) AND Y=Y(LP1) PLANES **
DO 410 K=1, NP1
IK =2+KO(K)
IKS=IK-1
F(IKS+NFO(NV))=F(IK+NFO(NV))
GAM(IKS)=GAM(IK)
IKN =IKS+L
GAM(IKN)=0.0
IKN=IKN+NFO(NV)
F(IKN)=0.0
IF(NV.EQ.NVD) F(IKN)=F(IKN-1)
410 CONTINUE
C ** X=X(1) AND X=X(NP1) PLANES
DO 440 I=1, LP1
IKL=I+NFO(NV)
F(IKL)=0.0
IF(Y(I).LE.RINF.OR.Y(I).GE.ROUTF) GOTO 425
F(IKL)=FXBC(2, NV)
GOTO 439
425 IF(Y(I).LE.RINA.OR.Y(I).GE.ROUTA) GOTO 441
F(IKL)=FXBC(1, NV)
GO TO 439
441 IF(NV.EQ.NVD) F(IKL)=F(IKL+KO(2))
439 IKR=I+KO(NP1)
GAM(IKR)=0.0
440 CONTINUE
RETURN
C
C ** CONSERVED SCALAR AND NO MASS FRACTION
C
500 IF(NV.NE.NVF.AND.NV.NE.NVNO) GO TO 600
C ** Y=Y(1) AND Y=Y(LP1) PLANES
DO 510 K=1, NP1
IK=2+KO(K)
IKS=IK-1
GAM(IKS)=GAM(IK)
F(IKS+NFO(NV))=F(IK+NFO(NV))
IKN=IKS+L
GAM(IKN)=0.0
510 CONTINUE
C ** X=X(1) AND X=X(NP1) PLANES
DO 540 I=1, LP1
IKL=I+NFO(NV)
IF(Y(I).LE.RINF.OR.Y(I).GE.ROUTF) GO TO 525
F(IKL)=FXBC(2, NV)
GO TO 535
525 IF(Y(I).LE.RINA.OR.Y(I).GE.ROUTA) GO TO 535
F(IKL)=FXBC(1, NV)
535 IKL=I+KO(1)
GAM(IKL)=0.0
IKR=I+KO(NP1)
GAM(IKR)=0.
540 CONTINUE
RETURN
C
600 RETURN
C-----
ENTRY PROBS2(F, GAM, RHO, U, V, W, Q, D, DP)
C-----
C
C ** MONTIFICATION OF COFFICIENTS FOR SPECIFICATION OF INTERNAL

```

VALUES

C \*\* OF DEPENDANT VARIABLES

C

C \*\* DISSIPATION RATE \*\*

C

IF(NV.NE.NVD) GO TO 1100

C \*\* Y=Y(1) AND Y=Y(LP1) PLANES \*\*

C

RETURN

C

C \*\* TURBULENCE ENERGY \*\*

C

1100 IF(NV.NE.NVK) GO TO 1800

C \*\* Y=Y(1) AND Y=Y(LP1) PLANES \*\*

RETURN

C-----

1800 IF(NV.NE.NVDP) RETURN

DMAX=0.0

DSUM=0.0

DO 1810 I=2,L

DO 1810 K=2,N

IK=I+KO(K)

ASU=ABS(SU(IK))

DSUM=DSUM+ASU\*RDIFY(I)\*DIFX(K)

IF(ASU.LT.ABS(DMAX)) GO TO 1810

DMAX=SU(IK)

IDMX=I

KDMX=K

1810 CONTINUE

RETURN

C

C-----

--

ENTRY PROBS3(F,GAM,RHO,U,V,W,Q,D,DP)

C-----

--

C

C \*\* CALCULATE BOUNDARY VALUES OF DEPENDANT VARIABLES FOR CASE OF ZERO

C \*\* GRADIENT BOUNDARY CONTITION

C

IF(NV.NE.NVDP) GO TO 3000

C \*\* Y=Y(1) AND Y=Y(LP1) PLANES \*\*

DO 2010 K=1,NP1

IK=2+KO(K)

IKS=IK-1

DP(IKS)=DP(IK)

IK=L+KO(K)

IKN=IK+1

DP(IKN)=DP(IK)

2010 CONTINUE

C \*\* X=X(1) AND X=X(NP1) PLANES \*\*

DO 2030 I=1,LP1

IK=I+KO(2)

IKL=IK-KO(2)

DP(IKL)=DP(IK)

IK=I+KO(N)

IKR=IK+KO(2)

DP(IKR)=DP(IK)

2030 CONTINUE

RETURN

C

3000 IF(NV.EQ.NVU.OR.NV.EQ.NVV.OR.NV.EQ.NVW) GO TO 3020

C \*\* Y=Y(1) AND Y=Y(LP1) PLANES \*\*

```

DO 3010 K=1,NP1
  I=2+NFO(NV)
  IK=I+KO(K)
  IKS=IK-1
  F(IKS)=F(IK)
  IF(NV.EQ.NVK.OR.NV.EQ.NVFF) GO TO 3010
  IKN=IKS+L
  IK=IKN-1
  F(IKN)=F(IK)
3010 CONTINUE
C  ** X=X(1) AND X=X(NP1) PLANES **
3020 IF(NV.EQ.NVU) GO TO 3040
  DO 3030 I=1,LP1
  IK=I+KO(NP1)+NFO(NV)
  IKL=IK-KO(2)
  F(IK)=F(IKL)
4130 IF(NV.EQ.NVV.OR.NV.EQ.NVW.OR.NV.EQ.NVD.OR.
  1NV.EQ.NVFF) GO TO 3030
3029 IF((Y(I).GE.RINF.AND.Y(I).LE.ROUTF).OR.(Y(I).GE.RINA.AND.
  1Y(I).LE.ROUTA)) GO TO 3030
  IK=I+KO(2)+NFO(NV)
  IKL=IK-KO(2)
  F(IKL)=F(IK)
3030 CONTINUE
  RETURN
3040 CONTINUE
  DO 2220 I=2,L
  IK=I+KO(N)
  IKR=I+KO(NP1)
  IKL=IK-KO(2)
  RHOIK=(RHO(IK)+RHO(IKL))*0.5
  U(IKR)=U(IK)*RHOIK/RHO(IKR)
2220 CONTINUE
  RETURN
  END
C
SUBROUTINE  OUTPUT(F,U,V,GAM,RHO,P,PSI)
C
PARAMETER(NX=59,NY=59,NS=59,NXYZ=3481)
DIMENSION F(17*NXYZ),GAM(NXYZ),P(NXYZ),RHO(NXYZ)
DIMENSION U(NXYZ),V(NXYZ),W(NXYZ),DP(NXYZ),Q(NXYZ),
1D(NXYZ),TEMP(NXYZ),PSI(NXYZ)
COMMON/GENRAL/R(NY),X(NX),Y(NY),RELAX(20),RESID(20),
1TITLE(6,20),PR(20),PRT(20)
COMMON/CBLK1/ICYCL(20),IPRINT(20),KO(NX),NFO(20),
1NVORDR(20)
COMMON/CBLK2/ISTEP,KRAD,KTIM,IMAX,KMAX,L,LP1,N,NP1,
1ISTR,KSTR,ISKIP,KSKIP,NSKIP,IDMX,KDMX,IKREF,IBURN,
1ITEST,ISTOP,LSTEP,NCYCL,NE,NV,NVU,NVV,NVW,NVDP,NVK,NVD,NVF,NVFF,
1NVNO,NVT,NVP,NVRHO,NVCO,NVCO2,NVHC,NVH2,NVH2O,NVO2,NVN2,NMAX
COMMON/CBLK3/DMAX,DSUM,DTIM,FLOIN,FLOUT1,FLOUT2,PRESS,TIM,TLAST,
1F1A,F2A,ATOT1,ATOT2,FLOC,FLOINFU
COMMON/CGRID/DY(NY),DX(NX),RDIFY(NY),RDIFYV(NY),
1DIFX(NX),DIFXU(NX),RM(NY),YV(NY),XU(NX)
COMMON/CTURB/AK,CD1,CD2,CM,CD,EWALL,RED
COMMON/CPROP/CP,GASCON,RHOREF,VISCO,WAIR
COMMON/OBSTACL/IARX,ITEL,KARX,KTEL,IFARX,IFTEL,IIN1,IIS1,
1KKW1,KKE1,IIN2,IIS2,UFU,RHOFU,RKE(NXYZ),DIK(NXYZ),RLU(NXYZ),
1RLV(NXYZ),RLUV(NXYZ),FIKL(NY),FIKR(NY),FIKN(NX),FIKS(NX)
COMMON/UVRMS/URMS(NXYZ),VRMS(NXYZ),UMESO(NXYZ),VMESO(NXYZ),
1QMESO(NXYZ),DMESO(NXYZ),ARXEI1(NXYZ),ARXEI2(NXYZ),ARXEI3(NXYZ),
1ARXEI4(NXYZ),PMESO(NXYZ),ARXEI5(NXYZ),ARXEI6(NXYZ),ARXEI7(NXYZ),
1ARXEI8(NXYZ),ARXEI9(NXYZ),ARXEI10(NXYZ),QTOTAL(NXYZ)
1,PRMS1(NXYZ),UR1(NXYZ),UR2(NXYZ),VR1(NXYZ),VR2(NXYZ),COMESO

```



(NXYZ)

1, ARXEI11 (NXYZ), TMESO (NXYZ), ARXEI12 (NXYZ), FMESO (NXYZ)  
COMMON/FTY/TY (NY)  
COMMON/FDUT/FDOT (NXYZ)

C

C IF (ISTEP.LT.1400) GO TO 600

C IF (ISTEP.GT.1400) GO TO 50

IF (ISTEP.LT.1) GO TO 600

IF (ISTEP.GT.0) GO TO 50

WRITE (6, 1000) (Y(I), I=1, LP1)

WRITE (6, 1010) (R(I), I=1, LP1)

WRITE (6, 1030) (X(K), K=1, NP1)

50 CONTINUE

IF (ISTOP.GE.0) GO TO 54

IF (MOD (ISTEP, ISKIP).NE.0) GO TO 70

54 GO TO (55, 60), KTIM

55 WRITE (6, 1040) ISTEP, DMAX, IDMX, KDMX

GO TO 65

60 CONTINUE

WRITE (6, 1050) TIM, DTIM, ISTEP, DMAX, IDMX, KDMX

65 CONTINUE

WRITE (6, 1060) FLOIN, FLOUT1, DSUM

IF (ITEST.GT.0) WRITE (6, 1020) (NV, RESID (NV), NV=1, NF)

70 CONTINUE

C-----

IF (MOD (ISTEP, NSKIP).NE.0.AND.ISTOP.NE.1) GO TO 600

DO 400 NV=1, NMAX

IF (IPRINT (NV).EQ.2) GO TO 400

WRITE (6, 2020) (TITLE (I, NV), I=1, 6)

K1=1

IF (NV.EQ.NVU) K1=2

IEND=LP1

IF (NV.EQ.NVV) IEND=L

100 KL=MIN0 (K1+9\*KSKIP, NP1)

IF (NV.EQ.NVU) GO TO 101

WRITE (6, 2010) (X(K), K=K1, KL, KSKIP)

GO TO 102

101 WRITE (6, 2010) (XU(K), K=K1, KL, KSKIP)

102 CONTINUE

WRITE (6, 2030) (K, K=K1, KL, KSKIP)

WRITE (6, 2040)

DO 200 II=1, IEND, ISKIP

I=LP1+1-II

KSTART=I+KO (K1)+NFO (NV)

KEND=I+KO (KL)+NFO (NV)

KJUMP=KO (KSKIP+1)

IF (NV.EQ.NVV) GO TO 199

WRITE (6, 2050) I, Y(I), (F(K), K=KSTART, KEND, KJUMP)

GO TO 200

199 WRITE (6, 2050) I, YV(I), (F(K), K=KSTART, KEND, KJUMP)

200 CONTINUE

IF (KL.EQ.NP1) GO TO 400

K1=KL+1

GO TO 100

400 CONTINUE

WRITE (6, 2020) (TITLE (I, NVP), I=1, 6)

K1=1

410 KL=MIN0 (K1+9\*KSKIP, NP1)

WRITE (6, 2010) (X(K), K=K1, KL, KSKIP)

WRITE (6, 2030) (K, K=K1, KL, KSKIP)

WRITE (6, 2040)

DO 420 II=1, IEND, ISKIP

I=LP1+1-II

KSTART=I+KO (K1)

KEND=I+KO (KL)

KJUMP=KO (KSKIP+1)

```

        WRITE(6,2050) I, Y(I), (UMESO(K), K=KSTART, KEND, KJUMP)
420 CONTINUE
    IF(KL.EQ.NP1) GO TO 430
        KL=KL+1
        GO TO 410
430 WRITE(6,2020) (TITLE(I, NVRHO), I=1, 6)
        KL=1
440 KL=MINO(KL+9*KSKIP, NP1)
        WRITE(6,2010) (X(K), K=K1, KL, KSKIP)
        WRITE(6,2030) (K, K=K1, KL, KSKIP)
        WRITE(6,2040)
        DO 450 II=1, IEND, ISKIP
            I=LP1+1-II
            KSTART=I+KO(K1)
            KEND=I+KO(KL)
            KJUMP=KO(KSKIP+1)
        WRITE(6,2050) I, Y(I), (GAM(K), K=KSTART, KEND, KJUMP)
450 CONTINUE
    IF(KL.EQ.NP1) GO TO 500
        KL=KL+1
        GO TO 440
500 WRITE(6,2020) (TITLE(I, NVRHO), I=1, 6)
        KL=1
460 KL=MINO(KL+9*KSKIP, NP1)
        WRITE(6,2010) (X(K), K=K1, KL, KSKIP)
        WRITE(6,2030) (K, K=K1, KL, KSKIP)
        WRITE(6,2040)
        DO 470 II=1, IEND, ISKIP
            I=LP1+1-II
            KSTART=I+KO(K1)
            KEND=I+KO(KL)
            KJUMP=KO(KSKIP+1)
        WRITE(6,2050) I, Y(I), (RHO(K), K=KSTART, KEND, KJUMP)
470 CONTINUE
    IF(KL.EQ.NP1) GO TO 550
        KL=KL+1
        GO TO 460
550 WRITE(6,2020) (TITLE(I, NVRHO), I=1, 6)
        KL=1
461 KL=MINO(KL+9*KSKIP, NP1)
        WRITE(6,2010) (X(K), K=K1, KL, KSKIP)
        WRITE(6,2030) (K, K=K1, KL, KSKIP)
        WRITE(6,2040)
        DO 471 II=1, IEND, ISKIP
            I=LP1+1-II
            KSTART=I+KO(K1)
            KEND=I+KO(KL)
            KJUMP=KO(KSKIP+1)
        WRITE(6,2050) I, Y(I), (FMESO(K), K=KSTART, KEND, KJUMP)
471 CONTINUE
    IF(KL.EQ.NP1) GO TO 551
    IF(KL.EQ.NP1) GO TO 600
        KL=KL+1
        GO TO 461
551 WRITE(6,2020) (TITLE(I, NVRHO), I=1, 6)
        KL=1
462 KL=MINO(KL+9*KSKIP, NP1)
        WRITE(6,2010) (X(K), K=K1, KL, KSKIP)
        WRITE(6,2030) (K, K=K1, KL, KSKIP)
        WRITE(6,2040)
        DO 472 II=1, IEND, ISKIP
            I=LP1+1-II
            KSTART=I+KO(K1)
            KEND=I+KO(KL)
            KJUMP=KO(KSKIP+1)
        WRITE(6,2050) I, Y(I), (TMESO(K), K=KSTART, KEND, KJUMP)

```

```

472 CONTINUE
    IF(KL.EQ.NP1) GO TO 552
    K1=KL+1
    GO TO 462
552 CONTINUE
600 CONTINUE
    RETURN
1000 FORMAT(20H1THE VALUES OF Y ARE/(1P8E13.5))
1010 FORMAT(20H0THE VALUES OF R ARE/(1P8E13.5))
1020 FORMAT(1P,4(1X,6HRESID(,I2,2H)=,E10.3))
1030 FORMAT(20H0THE VALUES OF X ARE/(1P8E13.5))
1040 FORMAT('0ISTEP=',I5,5X,'DMAX=',1PE12.3,5X,'I=',I5,5X,'K=',I5)
1050 FORMAT(//'TIM=',1PE10.2,5X,'DT=',E10.2,5X,'ISTEP=',I5,5X,
1    'DMAX=',1PE12.3,5X,'I=',I5,5X,'K=',I5)
1060 FORMAT(9H FLOW IN=,1PE12.3,5X,9HFLOW OUT=,1PE12.3,5X,6HDSUM= ,
1E12.3)
2010 FORMAT(1H0,12X,3HX= ,1P10E11.3)
2020 FORMAT(/23(2H*-),5X,6A4,5X,23(2H*-))
2030 FORMAT(1H0,12X,3HK= ,I7,9I11)
2040 FORMAT(3H I,7X,1HY)
2050 FORMAT(1X,I2,2X,1P11E11.3)
2060 FORMAT(/23(2H*-),5X,24H    STREAM FUNCTION    ,5X,23(2H*-))
END
C*****
    SUBROUTINE COEFF(F,GAM,RHO,P,U,V,W,Q,D,DP,VISMIXT,PRAD)
    PARAMETER(NX=59,NY=59,NS=59,NXYZ=3481)
    DIMENSION F(17*NXYZ),GAM(NXYZ),P(NXYZ),RHO(NXYZ)
    DIMENSION U(NXYZ),V(NXYZ),W(NXYZ),DP(NXYZ),Q(NXYZ),
1D(NXYZ),TEMP(NXYZ),PSI(NXYZ),VISMIXT(NXYZ),PRAD(NXYZ)
    COMMON/CBcoef/AN(NXYZ),AS(NXYZ),AR(NXYZ),AL(NXYZ),
1SP(NXYZ),SU(NXYZ),QU(NXYZ),QV(NXYZ)
    COMMON/CBOLT/FOLD(8*NXYZ),RHOFOLD(NXYZ)
    COMMON/GENRAL/R(NY),X(NX),Y(NY),RELAX(20),RESID(20),
1TITLE(6,20),PR(20),PRT(20)
    COMMON/CBLK1/ICYCL(20),IPRINT(20),KO(NX),NFO(20),
1NVORDR(20)
    COMMON/CBLK2/ISTEP,KRAD,KTIM,IMAX,KMAX,L,LP1,N,NP1,
1ISTR,KSTR,ISKIP,KSKIP,NSKIP,IDMX,KDMX,IKREF,IBURN,
1ITEST,ISTOP,LSTEP,NCYCL,NF,NV,NVU,NVV,NVW,NVDP,NVK,NVD,NVF,NVFF,
1INVNO,NVT,NVP,NVRHO,NVCO,NVCO2,NVHC,NVH2,NVH2O,NVO2,NVN2,NMAX
COMMON/CBLK3/DMAX,DSUM,DTIM,FLOIN,FLOUT1,FLOUT2,PRESS,TIM,TLAST,
1F1A,F2A,ATOT1,ATOT2,FLOC,FLOINFU
    COMMON/CGRID/DY(NY),DX(NX),RDIFY(NY),RDIFYV(NY),
1DIFX(NX),DIFXU(NX),RM(NY),YV(NY),XU(NX)
    COMMON/CSTORE/TS(NS),YS(NS,4),GS(NS)
    COMMON/CBPECL/PUV,PKE,ISWIUV,ISWIKE
    COMMON/OBSTACL/IARX,ITEL,KARX,KTEL,IFARX,IFTEL,IIN1,IIS1,
1KKW1,KKE1,IIN2,IIS2,UFU,RHOFU,RKE(NXYZ),DIK(NXYZ),RLU(NXYZ),
1RLV(NXYZ),RLUV(NXYZ),FIKL(NY),FIKR(NY),FIKN(NX),FIKS(NX)
    COMMON/CQUICK/C1(NS),C2(NS),C3(NS),C4(NS),C5(NS),C6(NS),
1E1(NS),E2(NS),E3(NS),E4(NS),E5(NS),E6(NS),
1D1(NS),D2(NS),D3(NS),D4(NS),D5(NS),D6(NS),
1G1(NS),G2(NS),G3(NS),G4(NS),G5(NS),G6(NS)
    DIMENSION A1(NS),A2(NS)
C
C
C    ENTRY COEFF0(F,GAM,RHO,P,U,V,W,Q,D,DP,VISMIXT,PRAD)
C
    TIM=0.0
    ISTEP=0
    LP1=L+1
    NP1=N+1
    LM1=L-1
    NM1=N-1

```

```

DO 10 K=1, KMAX
10 KO(K)=(K-1)*IMAX
DO 15 I=1, NMAX
15 NFO(I)=(I-1)*IMAX*KMAX
IEND=LP1+KO(NP1)
RETURN

```

C

```
ENTRY COEFF1 (F, GAM, RHO, P, U, V, W, Q, D, DP, VISMIXT, PRAD)
```

C

```

IF(KRAD.EQ.2) GO TO 25
DO 20 I=1, LP1
RM(I)=1.0
20 R(I)=1.0
GO TO 28
25 DO 26 I=2, LP1
R(I)=Y(I)+R(1)
26 RM(I)=0.5*(R(I)+R(I-1))
RM(2)=R(1)
RM(LP1)=R(LP1)
28 DO 30 I=2, LP1
30 DY(I)=Y(I)-Y(I-1)
DO 40 K=2, NP1
40 DX(K)=X(K)-X(K-1)
DO 45 I=3, LM1
RDIFY(I)=.5*(Y(I+1)-Y(I-1))
45 RDIFYV(I)=RM(I)*DY(I)
RDIFY(2)=DY(2)+.5*DY(3)
RDIFY(L)=DY(LP1)+.5*DY(L)
DO 46 I=2, L
46 RDIFY(I)=0.5*(RM(I+1)+RM(I))*RDIFY(I)
RDIFYV(3)=.5*(R(3)+R(1))*(Y(3)-Y(1))
RDIFYV(L)=.5*(R(LM1)+R(LP1))*(Y(LP1)-Y(LM1))
DO 55 K=3, NM1
DIFX(K)=.5*(X(K+1)-X(K-1))
55 DIFXU(K)=DX(K)
DIFX(2)=.5*(X(3)+X(2))-X(1)
DIFX(N)=X(NP1)-.5*(X(N)+X(NM1))
DIFXU(3)=X(3)-X(1)
DIFXU(N)=X(NP1)-X(NM1)
YV(2)=Y(1)
DO 60 I=3, L
60 YV(I)=0.5*(Y(I)+Y(I-1))
YV(LP1)=Y(LP1)
XU(1)=0.0
XU(2)=X(1)
DO 70 K=3, N
70 XU(K)=0.5*(X(K)+X(K-1))
XU(NP1)=X(NP1)
FUYBS=.25*(RM(3)+R(3))*DY(3)/RDIFYV(3)
FUYBSO=1.-FUYBS
FUYBN=1.-.25*(RM(L)+RM(LM1))*DY(L)/RDIFYV(L)
FUYBNO=1.-FUYBN
FXBL=0.5*DX(3)/DIFXU(3)
FXBLO=1.-FXBL
FXBR=DIFX(N)/DIFXU(N)
FXBRO=1.-FXBR

```

C-----

```

DO 75 K=3, N
A1(K)=DIFX(K)/DIFX(K-1)
A2(K)=DX(K-1)/DX(K)
IF(K.EQ.3) A2(K)=2.*A2(K)
Z1=1./(1.+A1(K))
Z2=1./(1.+A2(K))
Z3=Z1*Z2
C1(K)=1.-Z3/A1(K)+A1(K)*Z3-Z2*Z2/A1(K)
C2(K)=(1.+Z2)*Z3/A1(K)

```

```
C3(K)=1.-C1(K)-C2(K)
C4(K)=-A1(K)*Z3+Z3*Z2
C5(K)=-Z3*Z2*A2(K)/A1(K)
C6(K)=1.-C4(K)-C5(K)
```

```
75 CONTINUE
```

```
C
```

```
DO 76 K=3,NP1
76 A2(K)=DX(K-1)/DX(K)
DO 77 K=3,N
E1(K)=(2.+1./A2(K))/(4.*(1.+1./A2(K)))
E2(K)=(2.+1./A2(K))/4.
E3(K)=1.-E1(K)-E2(K)
E4(K)=(2.+A2(K+1))/4.
E5(K)=(2.+A2(K+1))/(4.*(1.+A2(K+1)))
E6(K)=1.-E4(K)-E5(K)
```

```
77 CONTINUE
```

```
C
```

```
DO 78 I=3,LP1
78 A2(I)=DY(I)/DY(I-1)
DO 79 I=3,L
D1(I)=(2.+A2(I))/(4.*(1.+A2(I)))
D2(I)=(2.+A2(I))/4.
D3(I)=1.-D1(I)-D2(I)
D4(I)=(2.+1./A2(I+1))/(4.*(1.+1./A2(I+1)))
D5(I)=(2.+1./A2(I+1))/4.
D6(I)=1.-D4(I)-D5(I)
```

```
79 CONTINUE
```

```
C
```

```
DO 80 I=3,L
YDIFM=2.*RDIFY(I-1)/(RM(I)+RM(I-1))
YDIFP=2.*RDIFY(I)/(RM(I+1)+RM(I))
A1(I)=YDIFP/YDIFM
A2(I)=DY(I-1)/DY(I)
IF(I.EQ.3) A2(I)=2.*A2(I)
Z1=1./(1.+A1(I))
Z2=1./(1.+A2(I))
Z3=Z1*Z2
G1(I)=1.-Z3/A1(I)+Z3*A1(I)-Z2*Z2/A1(I)
G2(I)=(1.+Z2)*Z3/A1(I)
G3(I)=1.-G1(I)-G2(I)
G4(I)=(A1(I)+Z2)*Z3
G5(I)=-Z3*Z2*A2(I)/A1(I)
G6(I)=1.-G4(I)-G5(I)
```

```
80 CONTINUE
```

```
RETURN
```

```
C
```

```
ENTRY COEFF2(F,GAM,RHO,P,U,V,W,Q,D,DP,VISMIXT,PRAD)
```

```
C
```

```
DO 8000 NC=1,NF
NV=NVORDR(NC)
IF(ICYCL(NV).EQ.0) GO TO 8000
```

```
C
```

```
C
```

```
-----
** V VELOCITY EQUATION **
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```

```
C
```

```
C
```

```
IF(NV.NE.NVV) GO TO 2000
ISTR=3
KSTR=2
CALL TRANSP(RHO,U,V,W,Q,D,GAM,F,VISMIXT,PRAD)
CALL PROBS1(F,GAM,RHO,U,V,W,Q,D,DP)
CALL SOURCE(F,U,V,W,Q,D,RHO,GAM,P,PRAD)
DO 215 K=2,N
DO 215 I=3,L
YDIFM=2.*RDIFY(I-1)/(RM(3)+RM(2))
PFV=PUV
```

```

      IK=I+KO(K)
      IKN=IK+1
      IKS=IK-1
      IKL=IK-KO(2)
      IKR=IK+KO(2)
      IKRS=IKR-1
      IKLS=IKL-1
      FACU=.25*(RM(I)+R(I))/RM(I)
      YDIFP=2.*RDIFY(I)/(RM(I+1)+RM(I))
      IF(K.EQ.2) GO TO 85
      RHOUL=GS(I)
      T1=TS(I)
      X11=YS(I,1)
      X12=YS(I,2)
      X13=YS(I,3)
      X14=YS(I,4)
      GO TO 100
85  RHO=RHO(IKL)*U(IK)
      RHO1=RHO(IKLS)*U(IKS)
      IF(I.EQ.3.OR.I.EQ.L) GO TO 87
      RHOUL=FACU*RHO+(1.-FACU)*RHO1
      GO TO 90
87  IF(I.EQ.L) GO TO 89
      RHOUL=FUYBS*RHO+FUYBSO*RHO1
      GO TO 90
89  RHOUL=FUYBN*RHO+FUYBNO*RHO1
90  CONTINUE
      T1=0.5*(GAM(IKL)+GAM(IKLS))/DX(K)
      X11=0.
      X14=0.
      IF(T1.LT.-RHOUL) GO TO 95
      X12=1.
      X13=0.
      GO TO 100
95  X12=0.
      X13=1.
      T1=0.
100 IF(K.EQ.N) GO TO 140
      RHO=0.5*(RHO(IK)+RHO(IKR))*U(IKR)
      RHO1=0.5*(RHO(IKS)+RHO(IKRS))*U(IKRS)
      IF(I.EQ.L.OR.I.EQ.3) GO TO 105
      RHO=FACU*RHO+(1.-FACU)*RHO1
      GO TO 115
105 IF(I.EQ.L) GO TO 110
      RHO=FUYBS*RHO+FUYBSO*RHO1
      GO TO 115
110 RHO=FUYBN*RHO+FUYBNO*RHO1
115 CONTINUE
      GAMR=0.25*(GAM(IKR)+GAM(IKRS)+GAM(IKS)+GAM(IK))
      T2=GAMR/DX(K+1)
      X21=0.
      X22=0.
      X23=0.
      X24=0.
      IF(K.NE.2.AND.K.NE.(N-1)) GO TO 120
116 GXP=0.5*ABS(RHO)
      IF(T2.LT.GXP) GO TO 130
      X22=0.5
      X23=0.5
      GO TO 135
120 PX=ABS(RHO/T2)
      IF(PX.GT.PFV) GO TO 130
      IF(RHO.LT.0.) GO TO 125
      X21=E3(K+1)
      X22=E2(K+1)
      X23=E1(K+1)

```

```

      GO TO 135
125  X22=E5(K+1)
      X23=E4(K+1)
      X24=E6(K+1)
      GO TO 135
130  T2=0.
      IF(RHOU.GE.0.) X22=1.
      IF(RHOU.LT.0.) X23=1.
135  GS(I)=RHOU
      TS(I)=T2
      YS(I,1)=X21
      YS(I,2)=X22
      YS(I,3)=X23
      YS(I,4)=X24
      GO TO 150
140  RHOU=RHO(IKR)*U(IKR)
      RHOU1=RHO(IKRS)*U(IKRS)
      IF(I.EQ.3.OR.I.EQ.L) GO TO 142
      RHOU=FACU*RHOU+(1.-FACU)*RHOU1
      GO TO 144
142  IF(I.EQ.L) GO TO 143
      RHOU=FUYBS*RHOU+FUYBSO*RHOU1
      GO TO 144
143  RHOU=FUYBN*RHOU+FUYBNO*RHOU1
144  CONTINUE
      T2=0.5*(GAM(IKR)+GAM(IKRS))/DX(K+1)
      X21=0.
      X24=0.
      IF(T2.LT.RHOU) GO TO 145
      X22=0.
      X23=1.
      GO TO 150
145  X22=1.
      X23=0.
      T2=0.
150  IF(I.EQ.3) GO TO 155
      RHOVS=RHOV
      S1=S2
      Y11=Y21
      Y12=Y22
      Y13=Y23
      Y14=Y24
      GO TO 160
155  IKSS=IK-2
      RHOVS=R(1)*RHO(IKSS)*V(IKS)
      S1=2.*GAM(IKSS)*R(1)/RDIFY(I-1)
      Y11=0.
      Y14=0.
      IF(S1.LT.-RHOVS) GO TO 157
      Y12=1.
      Y13=0.
      GO TO 160
157  Y12=0.
      Y13=1.
      S1=0.
160  IF(I.EQ.L) GO TO 185
      FACV=.25*(RM(I)+R(I))*DY(I)/RDIFY(I)
      RHOV=0.5*RM(I+1)*(RHO(IK)+RHO(IKN))*V(IKN)
      RHOV1=0.5*RM(I)*(RHO(IKS)+RHO(IK))*V(IK)
      RHOV=FACV*RHOV+(1.-FACV)*RHOV1
      S2=2.*R(I)*GAM(IK)/RDIFY(I)
      Y21=0.
      Y22=0.
      Y23=0.
      Y24=0.
      IF(I.NE.3.AND.I.NE.(L-1)) GO TO 165

```

```

161 GRP=FACV*RHOV
    GR=(1.-FACV)*RHOV
    IF(S2.LT.GRP) GO TO 175
    IF(S2.LT.-GR) GO TO 175
    Y22=1.-FACV
    Y23=FACV
    GO TO 180
165 PY=ABS(RHOV/S2)
    IF(PY.GT.PFV) GO TO 175
    IF(RHOV.LT.0.) GO TO 170
    Y21=G3(I)
    Y22=G1(I)
    Y23=G2(I)
    GO TO 180
170 Y22=G4(I+1)
    Y23=G6(I+1)
    Y24=G5(I+1)
    GO TO 180
175 S2=0.
    IF(RHOV.GE.0.) Y22=1.
    IF(RHOV.LT.0.) Y23=1.
180 GO TO 195
185 RHOV=R(LP1)*RHO(IKN)*V(IKN)
    S2=2.*GAM(IKN)*R(LP1)/YDIFP
    Y21=0.
    Y24=0.
    IF(S2.LT.RHOV) GO TO 190
    Y22=0.
    Y23=1.
    GO TO 195
190 S2=0.
    Y22=1.
    Y23=0.
195 CONTINUE
    AN(IK)=(S2+Y14*RHOVS-Y23*RHOV)/RDIFYV(I)
    AS(IK)=(S1+Y12*RHOVS-Y21*RHOV)/RDIFYV(I)
    AR(IK)=(T2+X14*RHOU-LX23*RHOV)/DIFX(K)
    AL(IK)=(T1+X12*RHOU-LX21*RHOV)/DIFX(K)
    ANN=-Y24*RHOV/RDIFYV(I)
    ASS=Y11*RHOVS/RDIFYV(I)
    ARR=-X24*RHOU/DIFX(K)
    ALL=X11*RHOU/DIFX(K)
    SP(IK)=AN(IK)+AS(IK)+AR(IK)+AL(IK)-SP(IK)
    DIVG=(RHOV-RHOVS)/RDIFYV(I)+(RHOU-RHOU)/DIFX(K)
    DPDY=(P(IK)-P(IKS))/DY(I)
    SU(IK)=SU(IK)-DPDY
    IF(DIVG.LT.0.) GO TO 196
    SP(IK)=SP(IK)+DIVG
    SU(IK)=SU(IK)+DIVG*V(IK)
196 IF(KTIM.EQ.1) GO TO 200
    RDT=.5*(RHOVOLD(IK)+RHOVOLD(IKS))/DTIM
    IKNV=IK+NFO(NV)
    SU(IK)=SU(IK)+RDT*FOLD(IKNV)
    SP(IK)=SP(IK)+RDT
200 CONTINUE
    CALL ADJUST(F,NV,IK,ANN,ASS,ARR,ALL,SEXT)
    SU(IK)=SU(IK)+SEXT
    QV(IK)=RELAX(NV)/(SP(IK)*DY(I))
215 CONTINUE
    CALL PROBS2(F,GAM,RHO,U,V,W,Q,D,DP)
    CALL SWEEP(F)
    CALL PROBS3(F,GAM,RHO,U,V,W,Q,D,DP)
    GO TO 8000
2000 IF(NV.NE.NVW)GO TO 3000
C
    GO TO 8000

```



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3000 IF(NV.NE.NVU) GO TO 5000
C -----
--
C   ** U VELOCITY EQUATION **
C -----
-
ISTR=2
KSTR=3
CALL TRANSP(RHO,U,V,Q,D,GAM,F,VISMIXT,PRAD)
CALL PROBS1(F,GAM,RHO,U,V,W,Q,D,DP)
CALL SOURCE(F,U,V,W,Q,D,RHO,GAM,P,PRAD)
DO 415 I=2,L
DO 415 K=3,N
PFU=PUV
IK=I+KO(K)
IKN=IK+1
IKS=IK-1
IKL=IK-KO(2)
IKR=IK+KO(2)
IKLN=IKL+1
IKLS=IKL-1
IF(I.EQ.2) GO TO 305
RHOVS=GS(K)
S1=TS(K)
Y11=YS(K,1)
Y12=YS(K,2)
Y13=YS(K,3)
Y14=YS(K,4)
GO TO 310
305 RHOV=RHO(IKS)*V(IK)
RHOV1=RHO(IKLS)*V(IKL)
IF(K.EQ.3.OR.K.EQ.N) GO TO 306
RHOVS=0.5*R(1)*(RHOV+RHOV1)
C-----
GO TO 308
306 IF(K.EQ.N) GO TO 307
RHOVS=R(1)*(FXBL*RHOV+FXBLO*RHOV1)
GO TO 308
307 RHOVS=R(1)*(FXBR*RHOV+FXBRO*RHOV1)
308 CONTINUE
S1=0.5*(GAM(IKS)+GAM(IKLS))*R(1)/DY(I)
C-----
Y11=0.
Y14=0.
IF(S1.LT.-RHOVS) GO TO 309
Y12=1.
Y13=0.
GO TO 310
309 Y12=0.
Y13=1.
S1=0.
310 CONTINUE
IF(I.EQ.L) GO TO 340
RHOV=0.5*(RHO(IK)+RHO(IKN))*V(IKN)
RHOV1=0.5*(RHO(IKL)+RHO(IKLN))*V(IKLN)
IF(K.EQ.3.OR.K.EQ.N) GO TO 316
RHOV=0.5*RM(I+1)*(RHOV+RHOV1)
GO TO 319
316 IF(K.EQ.N) GO TO 318
RHOV=RM(I+1)*(FXBL*RHOV+FXBLO*RHOV1)
GO TO 319
318 RHOV=RM(I+1)*(FXBR*RHOV+FXBRO*RHOV1)
319 CONTINUE
GAMN=0.25*(GAM(IK)+GAM(IKL)+GAM(IKN)+GAM(IKLN))
S2=GAMN*RM(I+1)/DY(I+1)
Y21=0.

```

```

Y22=0.
Y23=0.
Y24=0.
IF(I.NE.2.AND.I.NE.(L-1)) GO TO 320
321 GRP=0.5*ABS(RHOV)
IF(S2.LT.GRP) GO TO 330
Y22=0.5
Y23=0.5
GO TO 335
320 PY=ABS(RHOV/S2)
IF(PY.GT.PFU) GO TO 330
IF(RHOV.LT.0.) GO TO 325
Y21=D3(I+1)
Y22=D2(I+1)
Y23=D1(I+1)
GO TO 335
325 Y22=D4(I+1)
Y23=D5(I+1)
Y24=D6(I+1)
GO TO 335
330 S2=0.
IF(RHOV.GE.0.) Y22=1.
IF(RHOV.LT.0.) Y23=1.
335 GS(K)=RHOV
TS(K)=S2
YS(K,1)=Y21
YS(K,2)=Y22
YS(K,3)=Y23
YS(K,4)=Y24
GO TO 350
340 RHOV=RHO(IKN)*V(IKN)
RHOV1=RHO(IKLN)*V(IKLN)
IF(K.EQ.3.OR.K.EQ.N) GO TO 342
RHOV=0.5*R(LP1)*(RHOV+RHOV1)

```

C-----

```

GO TO 344
342 IF(K.EQ.N) GO TO 343
RHOV=R(LP1)*(FXBL*RHOV+FXBLO*RHOV1)
GO TO 344
343 RHOV=R(LP1)*(FXBR*RHOV+FXBRO*RHOV1)
344 CONTINUE
S2=0.5*R(LP1)*(GAM(IKN)+GAM(IKLN))/DY(I+1)
Y21=0.
Y24=0.
IF(S2.LT.RHOV) GO TO 345
Y22=0.
Y23=1.
GO TO 350
345 Y22=1.
Y23=0.
S2=0.
350 CONTINUE

```

C-----

```

IF(K.EQ.3) GO TO 355
RHOUL=RHO
T1=T2
X11=X21
X12=X22
X13=X23
X14=X24
GO TO 357
355 IKLL=IKL-KO(2)
RHOUL=RHO(IKLL)*U(IKLL)
T1=2.*GAM(IKLL)/DIFX(K-1)
Z11=0.

```

```

X14=0.
IF(T1.LT.-RHOUL) GO TO 356
X12=1.
X13=0.
GO TO 357
356 X12=0.
X13=1.
T1=0.
357 IF(K.EQ.N) GO TO 380
FACP=DX(K)/(X(K+1)-X(K-1))
FACO=1.-FACP
RHOU=0.5*(RHO(IK)+RHO(IKL))*U(IK)
RHOUI=0.5*(RHO(IK)+RHO(IKR))*U(IKR)
RHOU=FACO*RHOU+FACP*RHOUI
T2=2.*GAM(IK)/DIFX(K)
X21=0.
X22=0.
X23=0.
X24=0.
IF(K.NE.3.AND.K.NE.(N-1)) GO TO 360
358 GXP=FACP*RHOU
GX=DX(K+1)*GXP/DX(K)
IF(T2.LT.GXP) GO TO 370
IF(T2.LT.-GX) GO TO 370
X22=FACO
X23=FACP
GO TO 375
360 PX=ABS(RHOU/T2)
IF(PX.GT.PFU) GO TO 370
IF(RHOU.LT.0.) GO TO 365
X21=C3(K)
X22=C1(K)
X23=C2(K)
GO TO 375
365 X22=C4(K+1)
X23=C6(K+1)
X24=C5(K+1)
GO TO 375
370 T2=0.
IF(RHOU.GE.0.) X22=1.
IF(RHOU.LT.0.) X23=1.
375 GO TO 390
380 RHOU=RHO(IKR)*U(IKR)
T2=2.*GAM(IKR)/DIFX(K)
X21=0.
X24=0.
IF(T2.LT.RHOU) GO TO 385
X22=0.
X23=1.
GO TO 390
385 T2=0.
X22=1.
X23=0.
390 CONTINUE
AN(IK)=(S2+Y14*RHOVS-Y23*RHOV)/RDIFY(I)
AS(IK)=(S1+Y12*RHOVS-Y21*RHOV)/RDIFY(I)
AR(IK)=(T2+X14*RHOUL-X23*RHOU)/DIFXU(K)
AL(IK)=(T1+RHOUL*X12-X21*RHOU)/DIFXU(K)
ANN=-Y24*RHOV/RDIFY(I)
ASS=Y11*RHOVS/RDIFY(I)
ARR=-X24*RHOU/DIFXU(K)
ALL=X11*RHOUL/DIFXU(K)
DIVG=(RHOV-RHOVS)/RDIFY(I)+(RHOU-RHOUL)/DIFXU(K)
SP(IK)=AN(IK)+AS(IK)+AR(IK)+AL(IK)-SP(IK)
DPDX=(P(IK)-P(IKL))/DX(K)
SU(IK)=SU(IK)-DPDX

```

```

        IF(DIVG.LT.0.) GO TO 395
        SP(IK)=SP(IK)+DIVG
        SU(IK)=SU(IK)+DIVG*U(IK)
395  IF(KTIM.EQ.1) GO TO 400
        RDT=.5*(RHOFOLD(IK)+RHOFOLD(IKL))/DTIM
        IKNV=IK+NFO(NV)
        SU(IK)=SU(IK)+RDT*FOLD(IKNV)
        SP(IK)=SP(IK)+RDT
400  CONTINUE
        CALL ADJUST(F,NV,IK,ANN,ASS,ARR,ALL,SEXT)
        SU(IK)=SU(IK)+SEXT
        QU(IK)=RELAX(NV)/(SP(IK)*DX(K))
415  CONTINUE
        CALL PROBS2(F,GAM,RHO,U,V,W,Q,D,DP)
        CALL SWEEP(F)
        CALL PROBS3(F,GAM,RHO,U,V,W,Q,D,DP)
        GO TO 8000
5000 IF(NV.NE.NVDP) GO TO 6000

```

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-----
C
C  **  MASS  CONSERVATION  EQUATION  **
C
-----

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```

        ISTR=2
        KSTR=2
        CALL PROBS1(F,GAM,RHO,U,V,W,Q,D,DP)
        DO 504 I=1,LP1
        DO 504 K=1,NP1
        IK=I+KO(K)
        DP(IK)=0.0
504  CONTINUE
        DO 570 I=2,L
        DO 570 K=2,N
        IK=I+KO(K)
        IKN=IK+1
        IKS=IK-1
        IKL=IK-KO(2)
        IKR=IK+KO(2)
        IF(I.NE.2) GO TO 505
506  AS(IK)=0.0
        GRM=R(1)*RHO(IKS)*V(IK)
        GO TO 510
505  RQVS=TS(K)
        GRM=GS(K)
        AS(IK)=RQVS/RDIFY(I)
510  IF(I.EQ.L) GO TO 515
        RRHON=.5*RM(I+1)*(RHO(IK)+RHO(IKN))
        GRP=RRHON*V(IKN)
        RQVN=RRHON*QV(IKN)
        TS(K)=RQVN
        GS(K)=GRP
        AN(IK)=RQVN/RDIFY(I)
        GO TO 540
515  GRP=R(LP1)*RHO(IKN)*V(IKN)
        AN(IK)=0.0
540  CONTINUE
        IF(K.NE.2) GO TO 545
546  AL(IK)=0.0
        GXM=RHO(IKL)*U(IK)
        GO TO 550
545  RQUL=RQUR
        GXM=GXP
        AL(IK)=RQUL/DIFX(K)
550  IF(K.EQ.N) GO TO 555
        RHOR=.5*(RHO(IK)+RHO(IKR))
        GXP=RHOR*U(IKR)

```

```

RQUR=RHOR*QU(IKR)
AR(IK)=RQUR/DIFX(K)
GO TO 560
555 GXP=RHO(IKR)*U(IKR)
    AR(IK)=0.0
C   CALCULATE MASS SOURCE
C   WARNING ** DRODT OMITTED FROM CONTINUITY EQUATION **
560 SU(IK)=-((GRP-GRM)/RDIFY(I)+(GXP-GXM)/DIFX(K))
C
C   RDT=(RHOFOLD(IK)-RHO(IK))/DTIM
C   PRINT *,I,K,RDT
C   SU(IK)=SU(IK)+RDT
C
    SP(IK)=AN(IK)+AS(IK)+AR(IK)+AL(IK)
570 CONTINUE
    CALL PROBS2(F,GAM,RHO,U,V,W,Q,D,DP)
    CALL SWEEP(F)
C   CORECT VELOSITIES TO CONSERVE MASS
    DO 650 I=2,L
    DO 650 K=2,N
    IK=I+KO(K)
    IKS=IK-1
    IKL=IK-KO(2)
    IF(I.EQ.2) GO TO 600
    V(IK)=V(IK)-QV(IK)*(DP(IK)-DP(IKS))
600 IF(K.EQ.2) GO TO 650
    U(IK)=U(IK)-QU(IK)*(DP(IK)-DP(IKL))
650 CONTINUE
    CALL PROBS3(F,GAM,RHO,U,V,W,Q,D,DP)
    DO 660 I=1,LP1
    DO 660 K=1,NP1
    IK=I+KO(K)
660 P(IK)=P(IK)+0.8*(DP(IK)-DP(IKREF))
    GO TO 8000
C *** F EQUATIONS ****
6000 CONTINUE
    ISTR=2
    KSTR=2
    CALL TRANSP(RHO,U,V,Q,D,GAM,F,VISMIXT,PRAD)
    CALL PROBS1(F,GAM,RHO,U,V,W,Q,D,DP)
    CALL SOURCE(F,U,V,W,Q,D,RHO,GAM,P,PRAD)
    DO 800 I=2,L
    DO 800 K=2,N
    IK=I+KO(K)
    IKN=IK+1
    IKS=IK-1
    IKL=IK-KO(2)
    IKR=IK+KO(2)
    IF(I.NE.2) GO TO 705
706 GRM=R(1)*RHO(IKS)*V(IK)
    TRM=AMAX1(R(1)*GAM(IKS)/DY(I),-GRM)
    GO TO 710
705 GRM=GS(K)
    TRM=TS(K)
710 IF(I.EQ.L) GO TO 715
    GRP=.25*(RHO(IK)+RHO(IKN))*RM(I+1)*V(IKN)
    TRP=AMAX1(.5*(GAM(IK)+GAM(IKN))*RM(I+1)/DY(I+1),ABS(GRP))
    GS(K)=GRP
    TS(K)=TRP
    GO TO 740
715 GRP=RHO(IKN)*R(LP1)*V(IKN)
    TRP=AMAX1(R(LP1)*GAM(IKN)/DY(I+1),GRP)
740 CONTINUE
    IF(K.NE.2) GO TO 745
741 GXM=RHO(IKL)*U(IK)
    TXM=AMAX1(GAM(IKL)/DX(K),-GXM)

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```

      GO TO 750
745  GXM=GXP
      TXM=TXP
750  IF(K.EQ.N) GO TO 755
      GXP=.25*(RHO(IK)+RHO(IKR))*U(IKR)
      TXP=AMAX1(.5*(GAM(IK)+GAM(IKR))/DX(K+1),ABS(GXP))
      GO TO 760
755  GXP=RHO(IKR)*U(IKR)
      TXP=AMAX1(GAM(IKR)/DX(K+1),GXP)
760  AN(IK)=(TRP-GRP)/RDIFY(I)
      AS(IK)=(TRM+GRM)/RDIFY(I)
      AR(IK)=(TXP-GXP)/DIFX(K)
      AL(IK)=(TXM+GXM)/DIFX(K)
      SP(IK)=AN(IK)+AS(IK)+AR(IK)+AL(IK)-SP(IK)
      IF(I.EQ.ISTR) GRM=.5*GRM
      IF(K.EQ.KSTR) GXM=.5*GXM
      IF(I.EQ.L) GRP=.5*GRP
      IF(K.EQ.N) GXP=.5*GXP
      DIVG=2.*((GRP-GRM)/RDIFY(I)+(GXP-GXM)/DIFX(K))
      IKP=IK+NFO(NV)
      IF(DIVG.LT.0.) GO TO 765
      SP(IK)=SP(IK)+DIVG
      SU(IK)=SU(IK)+DIVG*F(IKP)
765  IF(KTIM.EQ.1) GO TO 800
      RDT=RHO*FOLD(IK)/DTIM
      SU(IK)=SU(IK)+RDT*FOLD(IK+NFO(NV))
      SP(IK)=SP(IK)+RDT
800  CONTINUE
      CALL PROBS2(F,GAM,RHO,U,V,W,Q,D,DP)
      CALL SWEEP(F)
      CALL PROBS3(F,GAM,RHO,U,V,W,Q,D,DP)
8000 CONTINUE
      RETURN
      END

```

C

```

SUBROUTINE ADJUST(F,NV,IK,ANN,ASS,ARR,ALL,SEXT)

```

C

```

  PARAMETER(NX=59,NY=59,NS=59,NXYZ=3481)
  DIMENSION F(17*NXYZ)
  COMMON/CBCOEF/AN(NXYZ),AS(NXYZ),AR(NXYZ),AL(NXYZ),
  1SP(NXYZ),SU(NXYZ),QU(NXYZ),QV(NXYZ)
  COMMON/CBLK1/ICYCL(20),IPRINT(20),KO(NX),NFO(20),
  1NVORDR(20)

```

C

```

  IKP=IK+NFO(NV)
  IKPN=IKP+1
  IKPS=IKP-1
  IKPR=IKP+KO(2)
  IKPL=IKP-KO(2)
  SEXT=0.
  IF(ALL.EQ.0.) GO TO 10
  IKPLL=IKPL-KO(2)
  SEXT=SEXT+ALL*(F(IKPLL)-F(IKP))
10  IF(ARR.EQ.0.) GO TO 20
  IKPRR=IKPR+KO(2)
  SEXT=SEXT+ARR*(F(IKPRR)-F(IKP))
20  IF(ASS.EQ.0.) GO TO 30
  IKPSS=IKPS-1
  SEXT=SEXT+ASS*(F(IKPSS)-F(IKP))
30  IF(ANN.EQ.0.) GO TO 40
  IKPNN=IKPN+1
  SEXT=SEXT+ANN*(F(IKPNN)-F(IKP))
40  CONTINUE
  ANN=0.
  ASS=0.
  ARR=0.

```

```

ALL=0.
C
IF(AN(IK).GE.0.) GO TO 50
SEXT=SEXT+AN(IK)*(F(IKPN)-F(IKP))
SP(IK)=SP(IK)-AN(IK)
AN(IK)=0.
50 IF(AS(IK).GE.0.) GO TO 60
SEXT=SEXT+AS(IK)*(F(IKPS)-F(IKP))
SP(IK)=SP(IK)-AS(IK)
AS(IK)=0.
60 IF(AL(IK).GE.0.) GO TO 70
SEXT=SEXT+AL(IK)*(F(IKPL)-F(IKP))
SP(IK)=SP(IK)-AL(IK)
AL(IK)=0.
70 IF(AR(IK).GE.0.) GO TO 80
SEXT=SEXT+AR(IK)*(F(IKPR)-F(IKP))
SP(IK)=SP(IK)-AR(IK)
AR(IK)=0.
80 CONTINUE
RETURN
END
C
SUBROUTINE SWEEP(F)
C
PARAMETER(NX=59,NY=59,NS=59,NXYZ=3481)
DIMENSION A(NS),B(NS)
DIMENSION F(17*NXYZ),GAM(NXYZ)
COMMON/CBCOEF/AN(NXYZ),AS(NXYZ),AR(NXYZ),AL(NXYZ),
1SP(NXYZ),SU(NXYZ),QU(NXYZ),QV(NXYZ)
COMMON/GENRAL/R(NY),X(NX),Y(NY),RELAX(20),RESID(20),
1TITLE(6,20),PR(20),PRT(20)
COMMON/CBLK1/ICYCL(20),IPRINT(20),KO(NX),NFO(20),
1INVORDR(20)
COMMON/CBFUEL/AA,BB,RHOAIR,TEMPAD,OXYG1
COMMON/CBLK2/ISTEP,KRAD,KTIM,IMAX,KMAX,L,LP1,N,NP1,
1ISTR,KSTR,ISKIP,KSKIP,NSKIP,IDMX,KDMX,IKREF,IBURN,
1ITEST,ISTOP,LSTEP,NCYCL,NF,NV,NVU,NVV,NVW,NVDP,NVK,NVD,NVF,NVFF,
1INVNO,NVT,NVP,NVRHO,NVCO,NVCO2,NVHC,NVH2,NVH2O,NVO2,NVN2,NMAX
COMMON/CBLK3/DMAX,DSUM,DTIM,FLOIN,FLOUT1,FLOUT2,PRESS,TIM,TLAST,
1F1A,F2A,ATOT1,ATOT2,FLOC,FLOINFU
COMMON/CSTORE/TS(NS),YS(NS,4),GS(NS)
DATA ZERO/1.E-10/
C
IF(ITEST.GT.1) CALL TEST(1,F,GAM)
IF(ITEST.GT.0.AND.NV.NE.NVDP) CALL TEST(2,F,GAM)
RELAXO=1.-RELAX(NV)
DO 50 I=ISTR,L
DO 50 K=KSTR,N
IK=I+KO(K)
IF(ABS(SP(IK)).LT.ZERO) SP(IK)=0.0
IF(ABS(SU(IK)).LT.ZERO) SU(IK)=0.0
IF(ABS(AN(IK)).LT.ZERO) AN(IK)=0.0
IF(ABS(AS(IK)).LT.ZERO) AS(IK)=0.0
IF(ABS(AR(IK)).LT.ZERO) AR(IK)=0.0
IF(ABS(AL(IK)).LT.ZERO) AL(IK)=0.0
AN(IK)=AN(IK)*RELAX(NV)
AS(IK)=AS(IK)*RELAX(NV)
AL(IK)=AL(IK)*RELAX(NV)
AR(IK)=AR(IK)*RELAX(NV)
SU(IK)=RELAX(NV)*SU(IK)
IF(NV.EQ.NVDP) GO TO 50
IKP=IK+NFO(NV)
IF(ABS(F(IKP)).LT.ZERO) F(IKP)=0.0
SU(IK)=SU(IK)+RELAXO*F(IKP)*SP(IK)

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```

        IF (ABS (SU (IK)) .LT. ZERO) SU (IK) = 0.0
50 CONTINUE
    ISUM = ISTR + L
    KSUM = KSTR + N
    ISTR1 = ISTR - 1
    KSTR1 = KSTR - 1
    NCYCL = 0
    ISW = 1
    KSW = 1
C
80 NCYCL = NCYCL + 1
C    IF (NV .EQ. NVD) PRINT *, '1'
    DO 150 KK = KSTR, N
    GO TO (104, 105), KSW
104 K = KK
    GO TO 106
105 K = KSUM - KK
106 A (ISTR1) = 0.
    IKS = ISTR1 + KO (K) + NFO (NV)
    B (ISTR1) = F (IKS)
    DO 120 I = ISTR, L
    IK = I + KO (K) + NFO (NV)
    IKL = IK - KO (2)
    IKR = IK + KO (2)
    IKP = IK
    IK = IK - NFO (NV)
    IF (ABS (SP (IK)) .LT. ZERO) SP (IK) = 0.0
    IF (ABS (SU (IK)) .LT. ZERO) SU (IK) = 0.0
    IF (ABS (AN (IK)) .LT. ZERO) AN (IK) = 0.0
    IF (ABS (AS (IK)) .LT. ZERO) AS (IK) = 0.0
    IF (ABS (AR (IK)) .LT. ZERO) AR (IK) = 0.0
    IF (ABS (AL (IK)) .LT. ZERO) AL (IK) = 0.0
    IF (ABS (F (IKL)) .LT. ZERO) F (IKL) = 0.0
    IF (ABS (F (IKR)) .LT. ZERO) F (IKR) = 0.0
    IF (ABS (F (IKP)) .LT. ZERO) F (IKP) = 0.0
    IF (ABS (F (IK)) .LT. ZERO) F (IK) = 0.0
    IF (ABS (A (I)) .LT. ZERO) A (I) = 0.0
    IF (ABS (B (I)) .LT. ZERO) B (I) = 0.0
    IF (ABS (A (I - 1)) .LT. ZERO) A (I - 1) = 0.0
    IF (ABS (B (I - 1)) .LT. ZERO) B (I - 1) = 0.0
    STORE = SP (IK) - AS (IK) * A (I - 1)
    IF (ABS (STORE) .LE. ZERO) GOTO 121
    A (I) = AN (IK) / STORE
121 CONTINUE
    IF (NV .EQ. NVD .AND. B (I - 1) .LT. ZERO) B (I - 1) = 0.0
    IF (NV .EQ. NVD .AND. B (I - 1) .GT. 1. E20) B (I - 1) = 1. E20
C    IF (NV .EQ. NVD) PRINT *, I, K, AS (IK), B (I - 1), SU (IK), AL (IK),
C    1F (IKL), AR (IK), F (IKR)
    B (I) = (AS (IK) * B (I - 1) + SU (IK) + AL (IK) * F (IKL) + AR (IK) * F (IKR))
    IF (ABS (B (I)) .LE. ZERO) B (I) = 0.0
    IF (NV .EQ. NVD .AND. B (I) .LT. ZERO) B (I) = 0.0
    IF (NV .EQ. NVD .AND. B (I) .GT. 1. E20) B (I) = 1. E20
    IF (NV .EQ. NVD) B (I) = B (I) + RELAXO * F (IKP) * SP (IK)
    IF (ABS (B (I)) .LT. ZERO) B (I) = 0.0
    IF (ABS (STORE) .LE. ZERO) GOTO 122
    B (I) = B (I) / STORE
122 CONTINUE
    IF (NV .EQ. NVD .AND. B (I) .LT. ZERO) B (I) = 0.0
    IF (NV .EQ. NVD .AND. B (I) .GT. 1. E20) B (I) = 1. E20
    IF (ABS (B (I)) .LT. ZERO) B (I) = 0.0
120 CONTINUE
C    IF (NV .EQ. NVD) PRINT *, '2'
    DO 130 II = ISTR, L
    I = ISUM - II
    IK = I + KO (K) + NFO (NV)
    IKN = IK + 1

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IF(ABS(F(IKN)).LT.ZERO) F(IKN)=0.0
F(IK)=A(I)*F(IKN)+B(I)
IF(ABS(F(IK)).LT.ZERO) F(IK)=0.0
C-----
IF(NV.EQ.NVF) F(IK)=AMAX1(ZERO,AMIN1(1.0,F(IK)))
IF(NV.NE.NVD) GO TO 130
IKF=IK-NFO(NV)
FMAX=BB/(AA+BB)
ZMAX=AA*F(IKF+NFO(NVF))
IF(F(IKF+NFO(NVF)).GT.FMAX) ZMAX=BB*(1.0-F(IKF+NFO(NVF)))
F(IK)=AMAX1(ZERO,AMIN1(ZMAX,F(IK)))
C-----
130 CONTINUE
C IF(NV.EQ.NVD) PRINT *,'3'
150 CONTINUE
C IF(NV.EQ.NVD) PRINT *,'4'
DO 350 II=ISTR,L
GO TO(301,302),ISW
301 I=II
GO TO 306
302 I=ISUM-II
306 I=I+NFO(NV)
A(KSTR1)=0.0
IKL=I+KO(KSTR1)
B(KSTR1)=F(IKL)
C IF(NV.EQ.NVD) PRINT *,'5'
DO 320 KK=KSTR,N
K=KK
IK=I+KO(K)
IKN=IK+1
IKS=IK-1
IKP=IK
IK=IK-NFO(NV)
IF(ABS(F(IKN)).LT.ZERO) F(IKN)=0.0
IF(ABS(F(IKS)).LT.ZERO) F(IKS)=0.0
IF(ABS(SP(IK)).LT.ZERO) SP(IK)=0.0
IF(ABS(SU(IK)).LT.ZERO) SU(IK)=0.0
IF(ABS(AN(IK)).LT.ZERO) AN(IK)=0.0
IF(ABS(AS(IK)).LT.ZERO) AS(IK)=0.0
IF(ABS(AR(IK)).LT.ZERO) AR(IK)=0.0
IF(ABS(AL(IK)).LT.ZERO) AL(IK)=0.0
IF(ABS(F(IKL)).LT.ZERO) F(IKL)=0.0
IF(ABS(F(IKR)).LT.ZERO) F(IKR)=0.0
IF(ABS(F(IKP)).LT.ZERO) F(IKP)=0.0
IF(ABS(F(IK)).LT.ZERO) F(IK)=0.0
IF(ABS(A(K)).LT.ZERO) A(K)=0.0
IF(ABS(B(K)).LT.ZERO) B(K)=0.0
IF(ABS(A(K-1)).LT.ZERO) A(K-1)=0.0
IF(ABS(B(K-1)).LT.ZERO) B(K-1)=0.0
STORE=SP(IK)-AL(IK)*A(K-1)
IF(ABS(STORE).LE.ZERO) GOTO 321
A(K)=AR(IK)/STORE
321 CONTINUE
IF(ABS(A(K)).LT.ZERO) A(K)=0.0
IF(NV.EQ.NVD.AND.B(K-1).LT.ZERO) B(K-1)=0.0
IF(NV.EQ.NVD.AND.B(K-1).GT.1.E20) B(K-1)=1.E20
C IF(NV.EQ.NVD) PRINT *,I,K,AL(IK),B(K-1),SU(IK),AN(IK),
C 1F(IKN),AS(IK),F(IKS)
B(K)=(AL(IK)*B(K-1)+SU(IK)+AN(IK)*F(IKN)+AS(IK)*F(IKS))
IF(ABS(B(K)).LT.ZERO) B(K)=0.0
IF(NV.EQ.NVD.AND.B(K).LT.ZERO) B(K)=0.0
IF(NV.EQ.NVD.AND.B(K).GT.1.E20) B(K)=1.E20
IF(NV.EQ.NVDP) B(K)=B(K)+RELAXO*F(IKP)*SP(IK)
IF(ABS(STORE).LE.ZERO) GOTO 322
B(K)=B(K)/STORE
322 CONTINUE

```

```

IF(NV.EQ.NVD.AND.B(K).LT.ZERO) B(K)=0.0
IF(NV.EQ.NVD.AND.B(K).GT.1.E20) B(K)=1.E20
IF(ABS(B(K)).LT.ZERO) B(K)=0.0
320 CONTINUE
C   IF(NV.EQ.NVD) PRINT *, '6'
DO 330 KK=KSTR,N
K=KSUM-KK
IK=I+KO(K)
IKR=IK+KO(2)
IF(ABS(F(IKR)).LT.ZERO) F(IKR)=0.0
F(IK)=A(K)*F(IKR)+B(K)
IF(ABS(F(IK)).LT.ZERO) F(IK)=0.0
C-----
IF(NV.EQ.NVF) F(IK)=AMAX1(ZERO,AMIN1(1.0,F(IK)))
IF(NV.NE.NVD) GO TO 330
IKF=IK-NFO(NV)
FMAX=BB/(AA+BB)
ZMAX=AA*F(IKF+NFO(NVF))
IF(F(IKF+NFO(NVF)).GT.FMAX) ZMAX=BB*(1.0-F(IKF+NFO(NVF)))
F(IK)=AMAX1(ZERO,AMIN1(ZMAX,F(IK)))
C-----
330 CONTINUE
C   IF(NV.EQ.NVD) PRINT *, '7'
350 CONTINUE
C   IF(NV.EQ.NVD) PRINT *, '8'
IF(NCYCL.LT.ICYCL(NV)) GO TO 80
IF(ITEST.GT.0.AND.NV.EQ.NVDP) CALL TEST(2,F,GAM)
RETURN
END
C
SUBROUTINE SOURCE(F,U,V,W,Q,D,RHO,GAM,P,PRAD)
PARAMETER(NX=59,NY=59,NS=59,NXYZ=3481)
DIMENSION F(17*NXYZ),GAM(NXYZ),P(NXYZ),RHO(NXYZ)
DIMENSION U(NXYZ),V(NXYZ),W(NXYZ),DP(NXYZ),Q(NXYZ),
1D(NXYZ),TEMP(NXYZ),PSI(NXYZ),PRAD(NXYZ)
COMMON/CBCOEF/AN(NXYZ),AS(NXYZ),AR(NXYZ),AL(NXYZ),
1SP(NXYZ),SU(NXYZ),QU(NXYZ),QV(NXYZ)
COMMON/GENERAL/R(NY),X(NX),Y(NY),RELAX(20),RESID(20),
1TITLE(6,20),PR(20),PRT(20)
COMMON/CBLK1/ICYCL(20),IPRINT(20),KO(NX),NFO(20),
1NVORDR(20)
COMMON/CBLK2/ISTEP,KRAD,KTIM,IMAX,KMAX,L,LP1,N,NP1,
1ISTR,KSTR,ISKIP,KSKIP,NSKIP,IDMX,KDMX,IKREF,IBURN,
1ITEST,ISTOP,LSTEP,NCYCL,NE,NV,NVU,NVV,NVW,NVDP,NVK,NVD,NVF,NVFF,
1NVNO,NVT,NVP,NVRHO,NVCO,NVCO2,NVHC,NVH2,NVH2O,NVO2,NVN2,NMAX
COMMON/CBLK3/DMAX,DSUM,DTIM,FLOIN,FLOUT1,FLOUT2,PRESS,TIM,TLAST,
1F1A,F2A,ATOT1,ATOT2,FLOC,FLOINFU
COMMON/CGRID/DY(NY),DX(NX),RDIFY(NY),RDIFYV(NY),
1DIFX(NX),DIFXU(NX),RM(NY),YV(NY),XU(NX)
COMMON/CTURB/AK,CD1,CD2,CM,CD,EWALL,RED
COMMON/CPROP/CP,GASCON,RHOREF,VISCO,WAIR
COMMON/OBSTACL/IARX,ITEL,KARX,KTEL,IFARX,IFTEL,IIN1,IIS1,
1KKW1,KKE1,IIN2,IIS2,UFU,RHOFU,RKE(NXYZ),DIK(NXYZ),RLU(NXYZ),
1RLV(NXYZ),RLUV(NXYZ),FIKL(NY),FIKR(NY),FIKN(NX),FIKS(NX)
COMMON/UVRMS/URMS(NXYZ),VRMS(NXYZ),UMESO(NXYZ),VMESO(NXYZ),
1QMESO(NXYZ),DMESO(NXYZ),ARXEI1(NXYZ),ARXEI2(NXYZ),ARXEI3(NXYZ),
1ARXEI4(NXYZ),PMESO(NXYZ),ARXEI5(NXYZ),ARXEI6(NXYZ),ARXEI7(NXYZ),
1,ARXEI8(NXYZ),ARXEI9(NXYZ),ARXEI10(NXYZ),QTOTAL(NXYZ)
1,PRMS1(NXYZ),UR1(NXYZ),UR2(NXYZ),VR1(NXYZ),VR2(NXYZ),COMESO
(NXYZ)
1,ARXEI11(NXYZ),TMESO(NXYZ),ARXEI12(NXYZ),FMESO(NXYZ)
COMMON/COEMFF/EMUTFF(NXYZ)
COMMON/FDUT/FDOT(NXYZ)
COMMON/FIII/FII(NXYZ),FLLL(NXYZ)

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DATA ZERO/1.E-10/
C
IF(NV.NE.NVV) GO TO 1000
C
DO 190 I=ISTR,L
DO 190 K=KSTR,N
IK=I+KO(K)
IKN=IK+1
IKS=IK-1
IKL=IK-KO(2)
IKR=IK+KO(2)
IKRS=IKR-1
IKLS=IKL-1
IF(K.NE.KSTR) GO TO 150
151 GMDUM=.5*(GAM(IKL)+GAM(IKLS))*(U(IK)-U(IKS))
GO TO 160
150 GMDUM=GMDUP
160 IF(K.EQ.N) GO TO 170
GMDUP=.25*(GAM(IK)+GAM(IKR)+GAM(IKRS)+GAM(IKS))*
1 (U(IKR)-U(IKRS))
GO TO 180
170 GMDUP=.5*(GAM(IKR)+GAM(IKRS))*(U(IKR)-U(IKRS))
180 SU(IK)=(GMDUP-GMDUM)/(DIFX(K)*DY(I))
GRAV=9.81
RHOV=.5*(RHO(IK)+RHO(IKS))
RHOM=RHOV-RHOREF
SU(IK)=SU(IK)-RHOM*GRAV
IF(KRAD.EQ.1) GO TO 190
SP(IK)=- (GAM(IK)+GAM(IKS))/RM(I)**2
WAV=.5*(R(I)*W(IK)+R(I-1)*W(IKS))/RM(I)
SU(IK)=SU(IK)+.5*(RHO(IK)+RHO(IKS))*WAV**2/RM(I)
190 CONTINUE
C
1000 IF(NV.NE.NVW) GO TO 2000
C
DO 290 I=ISTR,L
DO 290 K=KSTR,N
IK=I+KO(K)
SU(IK)=0.
SP(IK)=0.
290 CONTINUE
C
2000 IF(NV.NE.NVU) GO TO 3000
C
DO 390 K=KSTR,N
DO 390 I=ISTR,L
RP=.5*(RM(I+1)+RM(I))
IK=I+KO(K)
IKN=IK+1
IKS=IK-1
IKL=IK-KO(2)
IKR=IK+KO(2)
IKLN=IKL+1
IKLS=IKL-1
SU(IK)=0.0
SP(IK)=0.0
IF(I.NE.ISTR) GO TO 310
309 RGMDV=.5*(GAM(IKS)+GAM(IKLS))*R(1)*(V(IK)-V(IKL))
GO TO 320
310 RGMDV=RGMDVP
320 IF(I.EQ.L) GO TO 330
RGMDVP=.25*(GAM(IK)+GAM(IKN)+GAM(IKLN)+GAM(IKL))*RM(I+1)*
1 (V(IKN)-V(IKLN))
GO TO 340
330 RGMDVP=.5*(GAM(IKN)+GAM(IKLN))*R(LP1)*(V(IKN)-V(IKLN))
C-----

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340 SU(IK)=(RGMDVP-RGMDV)/(RDIFY(I)*DX(K))
390 CONTINUE
C
3000 IF(NV.NE.NVK) GO TO 4000
C
COOOOOOOOOOOOOOOOOOOOOOOOOOOOO
C
DO 650 I=2,L
RP=.5*(RM(I)+RM(I+1))
DIFY=RDIFY(I)/RP
YDIF=Y(I+1)-Y(I-1)
DO 650 K=2,N
XDIF=X(K+1)-X(K-1)
IK=I+KO(K)
IKP=IK+NFO(NVK)
IF(F(IKP).GT.ZERO.AND.I.GE.IIN2) GO TO 1402
IF(F(IKP).GT.ZERO.AND.I.GT.IIS1.AND.I.LT.KKW1.AND.K.LE.IIS2)
1 GO TO 1403
IF(F(IKP).GT.ZERO) GO TO 1601
SU(IK)=0.
SP(IK)=0.
GO TO 650
1402 CONTINUE
DYW=Y(LP1)-Y(I)
UUU=ABS(U(IK))
UUU=SQRT(GAM(IK)*UUU/DYW/RHO(IK))
RYY=SQRT(UUU)*DYW*RHO(IK)/GAM(IK)
FMM=1.-EXP(-RYY*RYY/625.)
DDD=SQRT(DIFX(K)*RDIFY(I))
DDD=AMIN1(DDD,0.92*DYW)
GOTO 1600
1403 CONTINUE
DXW=X(K)
VVV=ABS(V(IK))
VVV=SQRT(GAM(IK)*VVV/DXW/RHO(IK))
RYY=SQRT(VVV)*DXW*RHO(IK)/GAM(IK)
FMM=1.-EXP(-RYY*RYY/625.)
DDD=SQRT(DIFX(K)*RDIFY(I))
DDD=AMIN1(DDD,0.92*DXW)
GOTO 1600
1601 CONTINUE
FMM=1.
DDD=SQRT(DIFX(K)*RDIFY(I))
C-----
1600 CONTINUE
C-----
IKN=IK+1
IKS=IK-1
IKL=IK-KO(2)
IKR=IK+KO(2)
IKRN=IKR+1
IKLN=IKL+1
IKRS=IKR-1
DVDY=(V(IKN)-V(IK))/DIFY
DUDX=(U(IKR)-U(IK))/DIFX(K)
DVDX=.5*(V(IKR)+V(IKRN)-V(IKL)-V(IKLN))/XDIF
DUDY=.5*(U(IKN)+U(IKRN)-U(IKS)-U(IKRS))/YDIF
IF(R(I-1).LE.0.) GO TO 2404
DWBRDY=(W(IKN)/R(I+1)-W(IKS)/R(I-1))/YDIF
GO TO 2406
2404 DWBRDY=(W(IKN)/R(I+1)-W(IK)/R(I))/YDIF
2406 DWDX=(W(IKR)-W(IKL))/XDIF
SU(IK)=DVDY**2+DUDX**2+DVDX*DUDY
SP(IK)=(RM(I+1)*V(IKN)-RM(I)*V(IK))/RDIFY(I)+DUDX
IF(KRAD.EQ.1) GO TO 2408
FACR=(R(I)-RM(I))/(RM(I+1)-RM(I))

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VAV=(1.-FACR)*V(IK)+FACR*V(IKN)
SU(IK)=SU(IK)+(VAV/R(I))**2
2408 SU(IK)=2.*SU(IK)+(R(I)*DWBRDY)**2+DUDY**2+DVDX**2+DWDX**2
RLUV(IK)=RLUV(IK)*FMM
IF(RLUV(IK).LT.0.09) RLUV(IK)=0.09
EMUT=RHO(IK)*RLUV(IK)*DDD*SQRT(F(IKP))
SU(IK)=EMUT*SU(IK)
SP(IK)=-.666667*(RHO(IK)+EMUT*SP(IK)/F(IKP))*SP(IK)
IF(SP(IK).LT.0.) GO TO 2410
SU(IK)=SU(IK)+SP(IK)*F(IKP)
SP(IK)=0.
2410 CONTINUE
DDE=0.92*F(IKP)**1.5/DDD
SP(IK)=SP(IK)-RHO(IK)*DDE/F(IKP)
COOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
650 CONTINUE
C
4000 IF(NV.NE.NVF) GO TO 5000
C
DO 550 I=ISTR,L
DO 550 K=KSTR,N
IK=I+KO(K)
SU(IK)=0.
SP(IK)=0.
550 CONTINUE
C
5000 IF(NV.NE.NVD) GO TO 6000
DO 5001 I=ISTR,L
DO 5001 K=KSTR,N
IK=I+KO(K)
IKP=IK+NFO(NV)
DDD=SQRT(DIFX(K)*RDIFY(I))
FLDF=SQRT(F(IK+NFO(NVK)))/DDD
FLDF=1./(FLDF+1.E-10)
FLLL(IK)=-1.E-3/FLDF
FLLL(IK)=EXP(FLLL(IK))
C PRINT *,I,K,F(IK+NFO(NVF)),FLLL,EXP(FLLL)
FDOTIK=ABS(FDOT(IK))
FDOTIK=1./(FDOTIK+1.E-10)
C PRINT *,FII(IK),F(IK+NFO(NVF)),FDOTIK,FLDF,F(IK+NFO(NVT))
FII(IK)=0.
IF(F(IK+NFO(NVF)).GT.0.325.OR.F(IK+NFO(NVF)).LT.0.0177) GOTO
4504
CC IF(F(IK+NFO(NVF)).LT.0.35.AND.F(IK+NFO(NVF)).GT.0.025) GOTO
5003
C-----
CC DFDX=(F(IK+NFO(NVF))-F(IKL+NFO(NVF)))/DX(K)
CC DFDY=(F(IK+NFO(NVF))-F(IKS+NFO(NVF)))/DY(I)
CC FLDF=2.*VISCO/PRAD(IK)*(DFDX**2+DFDY**2)
CC PRINT *,I,K,FDOTIK,FLDF
C-----
CC PRINT *,FII(IK),F(IK+NFO(NVF)),FDOTIK,FLDF,F(IK+NFO(NVT))
IF(FDOTIK.GT.FLDF) GO TO 5003
4504 IF(FDOT(IK).LT.0.0) GO TO 5002
C-----
SU(IK)=RHO(IK)*FDOT(IK)
GO TO 5001
5002 SMA=0.0
IF(F(IKP).EQ.0.0) SMA=1.E-10
SP(IK)=RHO(IK)*FDOT(IK)/(F(IKP)+SMA)
GO TO 5001
5003 CONTINUE
FII(IK)=2.
C PRINT *,FII(IK),F(IK+NFO(NVF)),FDOTIK,FLDF,F(IK+NFO(NVT))
FDOT(IK)=0.0
SU(IK)=RHO(IK)*FDOT(IK)

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5001 CONTINUE
C
6000 IF(NV.NE.NVNO) GO TO 7000
C
      DO 750 I=ISTR,L
      DO 750 K=KSTR,N
      IK=I+KO(K)
750 SP(IK)=0.
C
7000 CONTINUE
C
      IF(ITEST.GT.1) CALL TEST(3,F,GAM)
      RETURN
      END
C
      SUBROUTINE  TRANSP(RHO,U,V,Q,D,GAM,F,VISMIXT,PRAD)
C
      PARAMETER(NX=59,NY=59,NS=59,NXYZ=3481)
      DIMENSION F(17*NXYZ),GAM(NXYZ),P(NXYZ),RHO(NXYZ)
      DIMENSION U(NXYZ),V(NXYZ),W(NXYZ),DP(NXYZ),Q(NXYZ),
1D(NXYZ),VISMIXT(NXYZ),PRAD(NXYZ)
      COMMON/GENRAL/R(NY),X(NX),Y(NY),RELAX(20),RESID(20),
1TITLE(6,20),PR(20),PRT(20)
      COMMON/CBLK1/ICYCL(20),IPRINT(20),KO(NX),NFO(20),
1NVORDR(20)
      COMMON/CBLK2/ISTEP,KRAD,KTIM,IMAX,KMAX,L,LP1,N,NP1,
1ISTR,KSTR,ISKIP,KSKIP,NSKIP,IDMX,KDMX,IKREF,IBURN,
1ITEST,ISTOP,LSTEP,NCYCL,NF,NV,NVU,NVV,NVW,NVDP,NVK,NVD,NVE,NVEF,
1NVNO,NVT,NVP,NVRHO,NVCO,NVCO2,NVHC,NVH2,NVH2O,NVO2,NVN2,NMAX
COMMON/CBLK3/DMAX,DSUM,DTIM,FLOIN,FLOUT1,FLOUT2,PRESS,TIM,TLAST,
1F1A,F2A,ATOT1,ATOT2,FLOC,FLOINFU
      COMMON/CGRID/DY(NY),DX(NX),RDIFY(NY),RDIFYV(NY),
1DIFX(NX),DIFXU(NX),RM(NY),YV(NY),XU(NX)
      COMMON/CTURB/AK,CD1,CD2,CM,CD,EWALL,RED
      COMMON/CPROP/CP,GASCON,RHOREF,VISCO,WAIR
      COMMON/OBSTACL/IARX,ITEL,KARX,KTEL,IFARK,IFTEL,IIN1,IIS1,
1KKW1,KKE1,IIN2,IIS2,UFU,RHOFU,RKE(NXYZ),DIK(NXYZ),RLU(NXYZ),
1RLV(NXYZ),RLUV(NXYZ),FIKL(NY),FIKR(NY),FIKN(NX),FIKS(NX)
      COMMON/UVRMS/URMS(NXYZ),VRMS(NXYZ),UMESO(NXYZ),VMESO(NXYZ),
1QMESO(NXYZ),DMESO(NXYZ),ARXEI1(NXYZ),ARXEI2(NXYZ),ARXEI3(NXYZ),
1ARXEI4(NXYZ),PMESO(NXYZ),ARXEI5(NXYZ),ARXEI6(NXYZ),ARXEI7(NXYZ)
1,ARXEI8(NXYZ),ARXEI9(NXYZ),ARXEI10(NXYZ),QTOTAL(NXYZ)
1,PRMS1(NXYZ),UR1(NXYZ),UR2(NXYZ),VR1(NXYZ),VR2(NXYZ),COMESO
(NXYZ)
1,ARXEI11(NXYZ),TMESO(NXYZ),ARXEI12(NXYZ),FMESO(NXYZ)
      DATA ZERO/1.E-10/
C
      IF(NV.NE.NVV.AND.NV.NE.NVU.AND.NV.NE.NVW) GO TO 100
      DO 5000 I=2,LP1
      DO 5000 K=1,NP1
      IK=I+KO(K)
      GAM(IK)=VISCO+VISMIXT(IK)
      IF(I.EQ.1.OR.I.EQ.LP1.OR.K.EQ.1.OR.K.EQ.NP1) GOTO 50
      IF(I.EQ.L) GO TO 50
      IF(K.EQ.2) GO TO 50
      IF(F(IK+NFO(NVK)).LE.ZERO) GOTO 50
      IF(I.GE.IIN2) GOTO 53
      IF(I.GT.IIS1.AND.I.LT.KKW1.AND.K.LE.IIS2) GOTO 403
      GO TO 601
53 CONTINUE
      DYW=Y(LP1)-Y(I)
      UUU=ABS(U(IK))
      UUU=SQRT(GAM(IK)*UUU/DYW/RHO(IK))
      RYY=SQRT(UUU)*DYW*RHO(IK)/GAM(IK)

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      FMM=1.-EXP(-RYY*RYY/625.)
      DDD=SQRT(DIFX(K)*RDIFY(I))
      DDD=AMIN1(DDD,0.92*DYW)
      GOTO 600
403  CONTINUE
      DXW=X(K)
      VVV=ABS(V(IK))
      VVV=SQRT(GAM(IK)*VVV/DXW/RHO(IK))
      RYY=SQRT(VVV)*DXW*RHO(IK)/GAM(IK)
      FMM=1.-EXP(-RYY*RYY/625.)
      DDD=SQRT(DIFX(K)*RDIFY(I))
      DDD=AMIN1(DDD,0.92*DXW)
      GOTO 600
601  CONTINUE
      FMM=1.
      DDD=SQRT(DIFX(K)*RDIFY(I))
600  CONTINUE
C-----
      RLUV(IK)=RLUV(IK)*FMM
      IF(RLUV(IK).LT.0.09) RLUV(IK)=0.09
      GAM(IK)=GAM(IK)+RHO(IK)*RLUV(IK)*DDD*SQRT(F(IK+NFO(NVK)))
C-----
      GO TO 5000
      50  CONTINUE
      GAM(IK)=VISCO
5000  CONTINUE
      RETURN
      100 IF(NV.NE.NVD) GO TO 200
      RETURN
      200 IF(NV.NE.NVK.AND.NV.NE.NVD.AND.NV.NE.NVF) GO TO 300
      DO 1151 I=2,LP1
      DO 1151 K=1,NP1
      IK=I+KO(K)
      IKP=IK+NFO(NVK)
      GAM(IK)=VISCO+VISMIXT(IK)/PRAD(IK)
      IF(I.EQ.1.OR.I.EQ.LP1.OR.K.EQ.1.OR.K.EQ.NP1) GOTO 1150
      IF(I.EQ.L) GO TO 1150
      IF(K.EQ.2) GO TO 1150
      IF(F(IK+NFO(NVK)).LE.ZERO) GO TO 1150
      IF(I.GE.IIN2) GO TO 1153
      IF(I.GT.IIS1.AND.I.LT.KKW1.AND.K.LE.IIS2) GO TO 2403
      GO TO 2601
1153  CONTINUE
      DYW=Y(LP1)-Y(I)
      UUU=ABS(U(IK))
      UUU=SQRT(GAM(IK)*UUU/DYW/RHO(IK))
      RYY=SQRT(UUU)*DYW*RHO(IK)/GAM(IK)
      FMM=1.-EXP(-RYY*RYY/625.)
      DDD=SQRT(DIFX(K)*RDIFY(I))
      DDD=AMIN1(DDD,0.92*DYW)
      GOTO 2600
2403  CONTINUE
      DXW=X(K)
      VVV=ABS(V(IK))
      VVV=SQRT(GAM(IK)*VVV/DXW/RHO(IK))
      RYY=SQRT(VVV)*DXW*RHO(IK)/GAM(IK)
      FMM=1.-EXP(-RYY*RYY/625.)
      DDD=SQRT(DIFX(K)*RDIFY(I))
      DDD=AMIN1(DDD,0.92*DXW)
      GOTO 2600
2601  CONTINUE
      FMM=1.
      DDD=SQRT(DIFX(K)*RDIFY(I))
2600  CONTINUE
C-----
      RLUV(IK)=RLUV(IK)*FMM

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      IF (RLUV(IK) .LT. 0.09) RLUV(IK)=0.09
      GAM(IK)=GAM(IK)+RHO(IK)*RLUV(IK)*DDD*SQRT(F(IK+NFO(NVK)))
C-----
      GO TO 1151
1150 CONTINUE
      GAM(IK)=VISCO
1151 CONTINUE
      300 CONTINUE
      RETURN
      END
C
      SUBROUTINE THERMP(RHO, F, TEMP, VISMIXT, PRAD)
      PARAMETER(NX=59, NY=59, NS=59, NXYZ=3481)
      DIMENSION F(17*NXYZ), GAM(NXYZ), P(NXYZ), RHO(NXYZ)
      DIMENSION U(NXYZ), V(NXYZ), W(NXYZ), DP(NXYZ), Q(NXYZ),
1D(NXYZ), TEMP(NXYZ), PSI(NXYZ), VISMIXT(NXYZ), PRAD(NXYZ)
      COMMON/CBCOEF/AN(NXYZ), AS(NXYZ), AR(NXYZ), AL(NXYZ),
1SP(NXYZ), SU(NXYZ), QU(NXYZ), QV(NXYZ)
      COMMON/GENRAL/R(NY), X(NX), Y(NY), RELAX(20), RESID(20),
1TITLE(6,20), PR(20), PRT(20)
      COMMON/CBLK1/ICYCL(20), IPRINT(20), KO(NX), NFO(20),
1NVORDR(20)
      COMMON/CBLK2/ISTEP, KRAD, KTIM, IMAX, KMAX, L, LP1, N, NP1,
1ISTR, KSTR, ISKIP, KSKIP, NSKIP, IDMX, KDMX, IKREF, IBURN,
1ITEST, ISTOP, LSTEP, NCYCL, NF, NV, NVU, NVV, NVW, NVDP, NVK, NVD, NVF, NVFF,
1INVNO, NVT, NVP, NVRHO, NVCO, NVCO2, NVHC, NVH2, NVH2O, NVO2, NVN2, NMAX
COMMON/CBLK3/DMAX, DSUM, DTIM, FLOIN, FLOUT1, FLOUT2, PRESS, TIM, TLAST,
1F1A, F2A, ATOT1, ATOT2, FLOC, FLOINFU
      COMMON/CTURB/AK, CD1, CD2, CM, CD, EWALL, RED
      COMMON/CPROP/CP, GASCON, RHOREF, VISCO, WAIR
      COMMON/CBFUEL/AA, BB, RHOAIR, TEMPAD, OXYG1
      COMMON/FDUT/FDOT(NXYZ)
      COMMON/FIII/FII(NXYZ), FLLL(NXYZ)
C
      DATA ZERO/1.E-10/
C
      61 FORMAT(F9.6, 1X, E12.6, 1X, E12.6, 1X, E12.6)
C
      DO 1010 I=1, LP1
      DO 1010 K=1, NP1
      IK=I+KO(K)
      IKCO=IK+NFO(NVCO)
      IKCO2=IK+NFO(NVCO2)
      IKHC=IK+NFO(NVHC)
      IKH2O=IK+NFO(NVH2O)
      IKO2=IK+NFO(NVO2)
      IKN2=IK+NFO(NVN2)
C
      RHOLD=RHO(IK)
C
      IKP=IK+NFO(NVF)
C-----
C      FS1=AMAX1(ZERO, AMIN1(1.0, F(IKP)))
C      IKF=IK+NFO(NVD)
C      FMAX=BB/(AA+BB)
C      ZMAX=AA*FS1
C      IF(FS1.GT.FMAX) ZMAX=BB*(1.0-FS1)
C      FS2=AMAX1(ZERO, AMIN1(ZMAX, F(IKF)))
C-----
      FS1=F(IK+NFO(NVF))
      FS2=F(IK+NFO(NVD))
C-----
      CALL PARTEQ(0, FS1, FS2, RHO(IK))
      CALL PARTEQ(1, FS1, FS2, TEMP(IK))

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CALL PARTEQ(2,FS1,FS2,F(IKHC))
CALL PARTEQ(3,FS1,FS2,F(IKO2))
CALL PARTEQ(4,FS1,FS2,F(IKCO))
CALL PARTEQ(5,FS1,FS2,F(IKCO2))
CALL PARTEQ(6,FS1,FS2,F(IKH2O))
CALL PARTEQ(7,FS1,FS2,FDOT(IK))
F(IKN2)=(1.-FS1)*0.79114
IF(FII(IK).GE.2.) THEN
RHOIK=1.1716-FS1*(1.1716-6.5155E-01)
RHO(IK)=RHOIK+(RHO(IK)-RHOIK)*FLLL(IK)
TEMPIK=300+FS1*(300.-300.)
TEMP(IK)=TEMPIK+(TEMP(IK)-TEMPIK)*FLLL(IK)
FIKO2=(1-FS1)*0.20886
F(IKO2)=FIKO2+(F(IKO2)-FIKO2)*FLLL(IK)
FIKHC=FS1
F(IKHC)=FIKHC+(F(IKHC)-FIKHC)*FLLL(IK)
FIKN2=(1-FS1)*0.79114
F(IKN2)=FIKN2+(F(IKN2)-FIKN2)*FLLL(IK)
FIKCO=0.
F(IKCO)=FIKCO+(F(IKCO)-FIKCO)*FLLL(IK)
FIKCO2=0.
F(IKCO2)=FIKCO2+(F(IKCO2)-FIKCO2)*FLLL(IK)
FIKH2O=0.
F(IKH2O)=FIKH2O+(F(IKH2O)-FIKH2O)*FLLL(IK)
CSUMN=F(IKCO)+F(IKCO2)+F(IKHC)+F(IKH2O)+F(IKO2)+F(IKN2)+1.E-10
CFCO=F(IKCO)/CSUMN
CFCO2=F(IKCO2)/CSUMN
CFHC=F(IKHC)/CSUMN
CFH2O=F(IKH2O)/CSUMN
CFO2=F(IKO2)/CSUMN
CFN2=F(IKN2)/CSUMN
ENDIF

```

```

C-----
C   IF(FII(IK).LT.1.) THEN
C   CALL PARTEQ(0,FS1,FS2,RHO(IK))
C   CALL PARTEQ(1,FS1,FS2,TEMP(IK))
C   CALL PARTEQ(2,FS1,FS2,F(IKHC))
C   CALL PARTEQ(3,FS1,FS2,F(IKO2))
C   CALL PARTEQ(4,FS1,FS2,F(IKCO))
C   CALL PARTEQ(5,FS1,FS2,F(IKCO2))
C   CALL PARTEQ(6,FS1,FS2,F(IKH2O))
C   CALL PARTEQ(7,FS1,FS2,FDOT(IK))
C   F(IKN2)=(1.-FS1)*0.79114
C   ELSE
C   RHO(IK)=1.1716-FS1*(1.1716-6.5155E-01)
C   TEMP(IK)=300+FS1*(300.-300.)
C   F(IKO2)=(1-FS1)*0.20886
C   F(IKHC)=FS1
C   F(IKN2)=(1-FS1)*0.79114
C   CSUMN=F(IKO2)+F(IKHC)+F(IKN2)
C   F(IKO2)=F(IKO2)/CSUMN
C   F(IKHC)=F(IKHC)/CSUMN
C   F(IKN2)=F(IKN2)/CSUMN
C   F(IKCO)=0.
C   F(IKCO2)=0.
C   F(IKH2O)=0.
C   CSUMN=F(IKCO)+F(IKCO2)+F(IKHC)+F(IKH2O)+F(IKO2)+F(IKN2)+1.E-10
C   CFCO=F(IKCO)/CSUMN
C   CFCO2=F(IKCO2)/CSUMN
C   CFHC=F(IKHC)/CSUMN
C   CFH2O=F(IKH2O)/CSUMN
C   CFO2=F(IKO2)/CSUMN
C   CFN2=F(IKN2)/CSUMN
C   ENDIF
C-----
C   IF(I.EQ.39.AND.K.EQ.33) WRITE(17,61) FS1,TEMP(IK),FS2

```

```

C      IF(I.EQ.39.AND.K.EQ.37) WRITE(18,61) FS1,TEMP(IK),FS2
C      IF(I.EQ.39.AND.K.EQ.40) WRITE(19,61) FS1,TEMP(IK),FS2
C      IF(I.EQ.39.AND.K.EQ.42) WRITE(48,61) FS1,TEMP(IK),FS2
C      IF(I.EQ.39.AND.K.EQ.46) WRITE(49,61) FS1,TEMP(IK),FS2
C      IF(I.EQ.39.AND.K.EQ.49) WRITE(50,61) FS1,TEMP(IK),FS2
C-----
C      IF(I.EQ.60.AND.K.EQ.39) PRINT *,FS1,TEMP(IK),FS2,DSUM
C-----

      CSUMN=F(IKCO)+F(IKCO2)+F(IKHC)+F(IKH2O)+F(IKO2)+F(IKN2)+1.E-10
      CFCO=F(IKCO)/CSUMN
      CFCO2=F(IKCO2)/CSUMN
      CFHC=F(IKHC)/CSUMN
      CFH2O=F(IKH2O)/CSUMN
      CFO2=F(IKO2)/CSUMN
      CFN2=F(IKN2)/CSUMN

C
      IF(K.GE.45.AND.K.LE.46.AND.I.GE.17.AND.I.LE.33) THEN
      WRITE(17,61) FS1,TEMP(IK)
      WRITE(19,61) CFHC,CFCO
      END IF
      IF(K.GE.49.AND.K.LE.50.AND.I.GE.15.AND.I.LE.31) THEN
      WRITE(18,61) FS1,TEMP(IK)
      WRITE(19,61) CFHC,CFCO
      END IF

C
      TEMPE=TEMP(IK)
      CPCO=0.338-117.5/TEMPE+38200./TEMPE**2
      CPCO2=0.368-148.4/TEMPE+32000./TEMPE**2
      CPHC=0.114+4.53E-3*TEMPE-3.63E-7*TEMPE**2
C      CPH2=2.855+2.867E-4*TEMPE+9.92/TEMPE**0.5
      CPH2O=1.456+1.344E-4*TEMPE+2.36E-7*TEMPE**2
      CPO2=0.36-5.375/TEMPE**0.5+47.8/TEMPE
      CPN2=0.338-123.8/TEMPE+41400./TEMPE**2
      CPMIX=CFCO*CPCO+CFCO2*CPCO2+CFHC*CPHC+CFH2O*CPH2O+
      1CFO2*CPO2+CFN2*CPN2

C-----
      CTTT=(TEMPE/491.6)**1.5
      CMMIX=CFCO*0.1657*CTTT*(491.6+245.)/(TEMPE+245.)+
      1CFCO2*0.137*CTTT*(491.6+400.)/(TEMPE+400.)+
      1CFHC*0.218*CTTT*(491.6-30.)/(TEMPE-30.)+
      1CFH2O*0.329*CTTT*(491.6+30.9)/(TEMPE+30.9)+
      1CFO2*0.1919*CTTT*(491.6+250.)/(TEMPE+250.)+
      1CFN2*0.01663*CTTT*(491.6+192.)/(TEMPE+192.)
      VISMIXT(IK)=CMMIX*0.0001
      IF(VISMIXT(IK).LT.5.E-4) VISMIXT(IK)=5.E-4
      CKM=CFCO*0.01342*CTTT*(491.6+320.)/(TEMPE+320.)+
      1CFCO2*0.008407*CTTT*(491.6+320.)/(TEMPE+320.)+
      1CFHC*0.184*CTTT*(491.6+320.)/(TEMPE+320.)+
      1CFH2O*0.1415*CTTT*(491.6+320.)/(TEMPE+320.)+
      1CFO2*0.01419*CTTT*(491.6+320.)/(TEMPE+320.)+
      1CFN2*0.014*CTTT*(491.6+320.)/(TEMPE+320.)
      PRAD(IK)=0.25*CPMIX*CMMIX/(CKM+1.E-10)
      IF(PRAD(IK).LE.0.3) PRAD(IK)=0.3
      IF(PRAD(IK).GE.0.7) PRAD(IK)=0.7

C
      RHO(IK)=RELAX(NVRHO)*RHO(IK)+(1.-RELAX(NVRHO))*RHOLD
1010 CONTINUE
      RETURN
      END

C
      SUBROUTINE PARTEQ(KVA,XBA,YBA,VA)
      COMMON/CBEQUI/YTEQ(41,41,6),FDCO2(41,41),RHOG(41,41),
      1FS(41),ZS(41),NFS,NZS
      COMMON/CBFUEL/AA,BB,RHOAIR,TEMPAD,OXYG1
      DIMENSION FINT(41,41)

```

C

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VA=0.0
IF(XBA.LE.0.0) GO TO 1005
XBAR=XBA+YBA/BB
YBAR=YBA/(AA*XBA)
GO TO 1006
1005 XBAR=0.0
YBAR=0.0
1006 CONTINUE
IF(YBAR.LT.ZS(1)) YBAR=ZS(1)
DO 1007 J=2,NZS
JJ=J
IF(YBAR.LE.ZS(J)) GO TO 1008
1007 CONTINUE
YBAR=ZS(NZS)
1008 CONTINUE
IF(XBAR.LT.FS(1)) XBAR=FS(1)
DO 1010 I=2,NFS
II=I
IF(XBAR.LE.FS(I)) GO TO 1011
1010 CONTINUE
XBAR=FS(NFS)
1011 FAC=(YBAR-ZS(JJ-1))/(ZS(JJ)-ZS(JJ-1))
DO 1015 I=1,NFS
DO 1015 J=1,NZS
IF(KVA.EQ.7) GO TO 1014
IF(FS(I).EQ.0.0) GO TO 1013
IF(KVA.EQ.0) FINT(I,J)=RHOG(I,J)
IF(KVA.EQ.1) FINT(I,J)=YTEQ(I,J,KVA)
IF(KVA.GT.1.AND.KVA.LT.7) FINT(I,J)=YTEQ(I,J,KVA)
GO TO 1015
1013 IF(KVA.EQ.0) FINT(I,J)=RHOAIR
IF(KVA.EQ.1) FINT(I,J)=TEMPAD
IF(KVA.EQ.3) FINT(I,J)=OXYG1
IF(KVA.EQ.2.OR.KVA.GT.3) FINT(I,J)=0.0
GO TO 1015
1014 FINT(I,J)=FDCO2(I,J)
1015 CONTINUE
XJ1=FINT(II-1,JJ-1)+FAC*(FINT(II-1,JJ)-FINT(II-1,JJ-1))
XJ=FINT(II,JJ-1)+FAC*(FINT(II,JJ)-FINT(II,JJ-1))
VA=XJ1+((XBAR-FS(II-1))/(FS(II)-FS(II-1)))*(XJ-XJ1)
RETURN
END

```

C

```

SUBROUTINE TEST(IC,F,GAM)
PARAMETER(NX=59,NY=59,NS=59,NXYZ=3481)
DIMENSION F(17*NXYZ),GAM(NXYZ),P(NXYZ),RHO(NXYZ)
DIMENSION U(NXYZ),V(NXYZ),W(NXYZ),DP(NXYZ),Q(NXYZ),
1D(NXYZ),TEMP(NXYZ),PSI(NXYZ)
COMMON/CBCOEF/AN(NXYZ),AS(NXYZ),AR(NXYZ),AL(NXYZ),
1SP(NXYZ),SU(NXYZ),QU(NXYZ),QV(NXYZ)
COMMON/GENRAL/R(NY),X(NX),Y(NY),RELAX(20),RESID(20),
1TITLE(6,20),PR(20),PRT(20)
COMMON/CBLK1/ICYCL(20),IPRINT(20),KO(NX),NEO(20),
1NVORDR(20)
COMMON/CBLK2/ISTEP,KRAD,KTIM,IMAX,KMAX,L,LP1,N,NP1,
1ISTR,KSTR,ISKIP,KSKIP,NSKIP,IDMX,KDMX,IKREF,IBURN,
1ITEST,ISTOP,LSTEP,NCYCL,NF,NV,NVU,NVV,NVW,NVDP,NVK,NVD,NVE,NVEF,
1NVNO,NVT,NVP,NVRHO,NVCO,NVCO2,NVHC,NVH2,NVH2O,NVO2,NVN2,NMAX
COMMON/CBLK3/DMAX,DSUM,DTIM,FLOIN,FLOUT1,FLOUT2,PRESS,TIM,TLAST,
1F1A,F2A,ATOT1,ATOT2,FLOC,FLOINFU
COMMON/CGRID/DY(NY),DX(NX),RDIFY(NY),RDIFYV(NY),
1DIFX(NX),DIFXU(NX),RM(NY),YV(NY),XU(NX)
COMMON/CTURB/AK,CD1,CD2,CM,CD,EWALL,RED

```

```
COMMON/CPROP/CP,GASCON,RHOREF,VISCO,WAIR
DATA ANL,ASL,ARL,ALL,SUL/2HAN,2HAS,2HAR,2HAL,2HSU/
DATA SPL,GML/2HSP,4HGAMA/
DATA ZERO/1.E-10/
```

```
C
GO TO (1000,2000,3000),IC
C
1000 WRITE(6,1500) NV,ISTEP
      KSTR1=KSTR-1
      ISTR1=ISTR-1
      I11=2
      IEND=LP1-ISTR1
      KLAST=N
      DO 1020 ID=1,7
      K1=KSTR
      GO TO (100,102,104,106,108,110,112),ID
100 WRITE(6,1504) ANL
      GO TO 1010
102 WRITE(6,1504) ASL
      GO TO 1010
104 WRITE(6,1504) ARL
      GO TO 1010
106 WRITE (6,1504)ALL
      GO TO 1010
108 WRITE(6,1504) SUL
      GO TO 1010
110 WRITE(6,1504) SPL
      GO TO 1010
112 K1=KSTR1
      WRITE(6,1510) (TITLE(I,NV),I=1,6)
      I11=1
      IEND=LP1+1-ISTR1
      KLAST=NP1
1010 KL=MIN0(K1+9,KLAST)
      WRITE (6,1506) (K,K=K1,KL)
      DO 1015 II=I11,IEND
      I=LP1-II+1
      KSTART=I+KO(K1)
      KEND=I+KO(KL)
      KSKIPO=KO(2)
      GO TO (120,122,124,126,128,130,132),ID
120 WRITE(6,1508) I,(AN(K),K=KSTART,KEND,KSKIPO)
      GO TO 1015
122 WRITE(6,1508) I,(AS(K),K=KSTART,KEND,KSKIPO)
      GO TO 1015
124 WRITE(6,1508) I,(AR(K),K=KSTART,KEND,KSKIPO)
      GO TO 1015
126 WRITE(6,1508) I,(AL(K),K=KSTART,KEND,KSKIPO)
128 WRITE(6,1508) I,(SU(K),K=KSTART,KEND,KSKIPO)
      GO TO 1015
130 WRITE(6,1508) I,(SP(K),K=KSTART,KEND,KSKIPO)
132 KSTART=KSTART+NFO(NV)
      KEND=KEND+NFO(NV)
      WRITE (6,1508) I,(F(K),K=KSTART,KEND,KSKIPO)
1015 CONTINUE
      IF(KL.EQ.KLAST) GO TO 1020
      K1=KL+1
      GO TO 1010
1020 CONTINUE
1500 FORMAT(14H1 VARIABLE NV=,I3,5X,6HISTEP=,I5)
1504 FORMAT(/28(2H*-),5X,A4,5X,28(2H*-))
1506 FORMAT(4H0 I=,I7,9I11)
1508 FORMAT(1X,I2,2X,1P11E11.3)
1510 FORMAT(/23(2H*-),5X,6A4,5X,23(2H*-))
RETURN
```

C

```

2000 CONTINUE
CALCULATE MAXIMUM RESIDUE
  FMAX=-1.E20
  FMIN=1.E20
  RESID(NV)=0.
  DO 2100 I=ISTR,L
  DO 2100 K=KSTR,N
  IK=I+NFO(NV)
  IKP=IK+KO(K)
  IKN=IKP+1
  IKS=IKP-1
  IKR=IKP+KO(2)
  IKL=IKP-KO(2)
  IK=IKP-NFO(NV)
  FMIN=AMIN1(FMIN,F(IKP))
  FMAX=AMAX1(FMAX,F(IKP))
  IF(ABS(SP(IK)).LT.ZERO) SP(IK)=0.0
  IF(ABS(SU(IK)).LT.ZERO) SU(IK)=0.0
  IF(ABS(AN(IK)).LT.ZERO) AN(IK)=0.0
  IF(ABS(AS(IK)).LT.ZERO) AS(IK)=0.0
  IF(ABS(AR(IK)).LT.ZERO) AR(IK)=0.0
  IF(ABS(AL(IK)).LT.ZERO) AL(IK)=0.0
  IF(ABS(F(IKP)).LT.ZERO) F(IKP)=0.0
  IF(ABS(F(IKN)).LT.ZERO) F(IKN)=0.0
  IF(ABS(F(IKS)).LT.ZERO) F(IKS)=0.0
  IF(ABS(F(IKR)).LT.ZERO) F(IKR)=0.0
  IF(ABS(F(IKL)).LT.ZERO) F(IKL)=0.0
  IF(NV.EQ.NVDP) GO TO 2050
C   IF(NV.EQ.NVD) PRINT *,'1'
  IF(ABS(F(IKN)).LE.1.E-20) GOTO 2101
  IF(ABS(F(IKR)).LE.1.E-20) GOTO 2101
  IF(ABS(F(IKL)).LE.1.E-20) GOTO 2101
  IF(ABS(F(IKP)).LE.1.E-20) GOTO 2101
  IF(ABS(SU(IK)).LE.1.E-20) GOTO 2101
  IF(ABS(SP(IK)).LE.1.E-10) GOTO 2101
  IF(ABS(F(IKN)).LE.1.E-20) GOTO 2101
  RES=(AN(IK)*F(IKN)+AS(IK)*F(IKS)+AR(IK)*F(IKR)+
1    AL(IK)*F(IKL)+SU(IK))/SP(IK)-F(IKP)
C   IF(NV.EQ.NVD) PRINT *,'2'
  GOTO 2102
2101 RES=0.0
2102 CONTINUE
  GO TO 2100
C   PRINT *,'3'
2050 RES=(AN(IK)*F(IKN)+AS(IK)*F(IKS)+AR(IK)*F(IKR)+
1    AL(IK)*F(IKL)+SU(IK))/RELAX(NV)-SP(IK)*F(IKP)
C   PRINT *,'4'
  IF(ABS(RES).LT.ZERO) RES=0.0
2100 RESID(NV)=AMAX1(RESID(NV),ABS(RES))
C   PRINT *,'5'
  IF(NV.NE.NVDP) RESID(NV)=RESID(NV)/(FMAX-FMIN+1.E-10)
C   PRINT *,'6'
  RETURN
C
3000 CONTINUE
  WRITE(6,1500) NV,ISTEP
  DO 3025 ID=1,2
  IF(ID.NE.1) GO TO 3005
  WRITE(6,1504) SUL
  GO TO 3006
3005 WRITE(6,1504) SPL
3006 CONTINUE
  K1=KSTR
  IEND=LP1+1-ISTR
3010 KL=MIN0(K1+9,N)
  WRITE(6,1506) (K,K=K1,KL)

```

```
DO 3020 II=2, IEND
I=LP1-II+1
KSTART=I+KO(K1)
KEND=I+KO(KL)
IF(ID.NE.1) GO TO 3015
WRITE(6,1508) I, (SU(K), K=KSTART, KEND, KSKIPO)
GO TO 3020
3015 WRITE (6,1508) I, (SP(K), K=KSTART, KEND, KSKIPO)
3020 CONTINUE
IF(KL.EQ.N) GO TO 3025
K1=KL+1
GO TO 3010
3025 CONTINUE
WRITE (6,1504) GML
K1=1
3035 KL=MINO(K1+9, NP1)
WRITE(6,1506) (K, K=K1, KL)
DO 3040 II=1, LP1
I=LP1+1-II
KSTART=I+KO(K1)
KEND=I+KO(KL)
3040 WRITE(6,1508) I, (GAM(K), K=KSTART, KEND, KSKIPO)
IF(KL.EQ.NP1) GO TO 3045
K1=KL+1
GO TO 3035
3045 CONTINUE
RETURN
END
```

# ΕΞΑΓΩΓΗ ΑΠΟΤΕΛΕΣΜΑΤΩΝ

U	VELOCITY	(ΤΑΧΥΤΗΤΑ)
V	VELOCITY	(ΤΑΧΥΤΗΤΑ)
DP	PRESSURE	(ΠΙΕΣΗ)
K	TURBULENCE	(ΣΤΡΟΒΙΛΙΣΜΟΣ)
D	DISSIPATION RATE	(ΑΝΑΛΟΓΙΑ ΔΙΑΛΥΣΗΣ)
	MIXTURE FRACTION	(ΚΛΑΣΜΑ ΜΙΓΜΑΤΟΣ)
	TEMPERATURE	(ΘΕΡΜΟΚΡΑΣΙΑ)
	CARBONMONOXIDE	(ΜΟΝΟΞΕΙΔΙΟ ΤΟΥ ΑΝΘΡΑΚΑ)
	CARBONDIOXIDE	(ΔΙΟΞΕΙΔΙΟ ΤΟΥ ΑΝΘΡΑΚΑ )

0	1						
17	58	58	85				
0.00000	0.00010	0.00020	0.00040	0.00060	0.00080	0.00100	0.00120
0.00140							
0.00150	0.00170	0.00190	0.00220	0.00260	0.00310	0.00370	0.00450
0.00550							
0.00670	0.00800	0.00900	0.01000	0.01100	0.01200	0.01300	0.01400
0.01500							
0.01600	0.01700	0.01800	0.01850	0.01950	0.02000	0.02200	0.02400
0.02600							
0.02800	0.03000	0.03200	0.03400	0.03600	0.03800	0.04000	0.04200
0.04400							
0.04600	0.04900	0.05200	0.05400	0.05600	0.05800	0.06000	0.06200
0.06400							
0.06600	0.06800	0.07000	0.07200	0.07600			
0.00000	0.00010	0.00020	0.00030	0.00040	0.00050	0.00060	0.00070
0.00080							
0.00090	0.00100	0.00110	0.00120	0.00130	0.00140	0.00150	0.00160
0.00170							
0.00180	0.00190	0.00200	0.00220	0.00240	0.00260	0.00280	0.00300
0.00330							
0.00360	0.00390	0.00420	0.00450	0.00480	0.00520	0.00560	0.00600
0.00650							
0.00700	0.00750	0.00800	0.00850	0.00900	0.00950	0.01000	0.01500
0.02000							
0.03000	0.04000	0.05500	0.06000	0.07500	0.08000	0.09500	0.11000
0.12500							
0.13500	0.14500	0.15500	0.16500	0.17500			
0.00000	0.00000	0.00159	0.01905	0.07600	0.07600	0.17500	

58 1 1 10 32 59

2

0.100000E-020.100000E-020.101226E+00  
0.200000E+020.100000E-020.178748E+020.178563E+02  
0.177857E+020.101226E+00

3

0.200000E-020.100000E-020.917006E-01  
0.400000E+020.200000E-020.182866E+020.182699E+02  
0.179168E+020.917006E-01

4

0.300000E-020.100000E-020.686662E-01  
0.600000E+020.300000E-020.181043E+020.180244E+02  
0.177369E+020.686662E-01

5

0.400000E-020.100000E-020.605368E-01  
0.800000E+020.400000E-020.173470E+020.173289E+02  
0.175392E+020.605368E-01

6

0.500000E-020.100000E-020.259393E-01  
0.100000E+030.500000E-020.182284E+020.182222E+02  
0.180544E+020.259393E-01

7

0.600000E-020.100000E-020.232376E-01  
0.120000E+030.600000E-020.183369E+020.183311E+02  
0.180568E+020.232376E-01

8

0.700000E-020.100000E-020.142870E-01  
0.140000E+030.700000E-020.177210E+020.177235E+02  
0.177486E+020.142870E-01

9

0.800000E-020.100000E-020.128675E-01  
0.160000E+030.800000E-020.179703E+020.179414E+02  
0.178332E+020.128675E-01

10

0.900000E-020.100000E-020.567314E-02  
0.180000E+030.900000E-020.180190E+020.180124E+02  
0.179279E+020.567314E-02



11  
0.100000E-010.100000E-020.520440E-02  
0.200000E+030.100000E-010.180418E+020.180334E+02  
0.179174E+020.520440E-02

12  
0.110000E-010.100000E-020.349158E-02  
0.220000E+030.110000E-010.179908E+020.179823E+02  
0.178807E+020.349158E-02

13  
0.120000E-010.100000E-020.354715E-02  
0.240000E+030.120000E-010.179600E+020.179478E+02  
0.178660E+020.354715E-02

14  
0.130000E-010.100000E-020.166099E-02  
0.260000E+030.130000E-010.179921E+020.179819E+02  
0.178919E+020.166099E-02

15  
0.140000E-010.100000E-020.208165E-02  
0.280000E+030.140000E-010.180172E+020.180072E+02  
0.179036E+020.208165E-02

16  
0.150000E-010.100000E-020.893668E-03  
0.300000E+030.150000E-010.179908E+020.179816E+02  
0.178875E+020.893668E-03

17  
0.160000E-010.100000E-020.122808E-02  
0.320000E+030.160000E-010.179835E+020.179734E+02  
0.178840E+020.122808E-02

18  
0.170000E-010.100000E-020.777924E-03  
0.340000E+030.170000E-010.179972E+020.179871E+02  
0.178927E+020.777924E-03

19  
0.180000E-010.100000E-020.760273E-03  
0.360000E+030.180000E-010.179950E+020.179854E+02  
0.178927E+020.760273E-03

20  
0.190000E-010.100000E-020.568008E-03  
0.380000E+030.190000E-010.179942E+020.179846E+02  
0.178920E+020.568008E-03

21  
0.200000E-010.100000E-020.110658E-02  
0.400000E+030.200000E-010.179933E+020.179834E+02  
0.178913E+020.110658E-02

22  
0.210000E-010.100000E-020.924743E-03  
0.420000E+030.210000E-010.179920E+020.179823E+02  
0.178921E+020.924743E-03

23  
0.220000E-010.100000E-020.811950E-03  
0.440000E+030.220000E-010.179942E+020.179852E+02  
0.178948E+020.811950E-03

24  
0.230000E-010.100000E-020.927911E-03  
0.460000E+030.230000E-010.179957E+020.179864E+02  
0.178953E+020.927911E-03

25  
0.240000E-010.100000E-020.104258E-02  
0.480000E+030.240000E-010.179926E+020.179833E+02  
0.178940E+020.104258E-02

26  
0.250000E-010.100000E-020.919756E-03  
0.500000E+030.250000E-010.179923E+020.179830E+02  
0.178952E+020.919756E-03

27  
0.260000E-010.100000E-020.140787E-02

0.520000E+030.260000E-010.179951E+020.179858E+02  
0.178972E+020.140787E-02  
28  
0.270000E-010.100000E-020.192649E-02  
0.540000E+030.270000E-010.179950E+020.179856E+02  
0.178976E+020.192649E-02  
29  
0.280000E-010.100000E-020.671305E-03  
0.560000E+030.280000E-010.179941E+020.179852E+02  
0.178987E+020.671305E-03  
30  
0.290000E-010.100000E-020.891491E-03  
0.580000E+030.290000E-010.179957E+020.179872E+02  
0.179004E+020.891491E-03  
31  
0.300000E-010.100000E-020.559172E-03  
0.600000E+030.300000E-010.179927E+020.179838E+02  
0.178982E+020.559172E-03  
32  
0.310000E-010.100000E-020.116904E-02  
0.620000E+030.310000E-010.179919E+020.179825E+02  
0.178981E+020.116904E-02  
33  
0.320000E-010.100000E-020.167776E-02  
0.640000E+030.320000E-010.179951E+020.179855E+02  
0.179003E+020.167776E-02  
34  
0.330000E-010.100000E-020.127377E-02  
0.660000E+030.330000E-010.179951E+020.179864E+02  
0.179026E+020.127377E-02  
35  
0.340000E-010.100000E-020.236797E-02  
0.680000E+030.340000E-010.179945E+020.179864E+02  
0.179039E+020.236797E-02  
36  
0.350000E-010.100000E-020.136134E-02  
0.700000E+030.350000E-010.179940E+020.179853E+02  
0.179030E+020.136134E-02  
37  
0.360000E-010.100000E-020.223958E-02  
0.720000E+030.360000E-010.179925E+020.179836E+02  
0.179028E+020.223958E-02  
38  
0.370000E-010.100000E-020.157601E-02  
0.740000E+030.370000E-010.179946E+020.179857E+02  
0.179046E+020.157601E-02  
39  
0.380000E-010.100000E-020.819622E-03  
0.760000E+030.380000E-010.179952E+020.179863E+02  
0.179051E+020.819622E-03  
40  
0.390000E-010.100000E-020.766649E-03  
0.780000E+030.390000E-010.179939E+020.179854E+02  
0.179055E+020.766649E-03  
41  
0.400000E-010.100000E-020.725607E-03  
0.800000E+030.400000E-010.179946E+020.179863E+02  
0.179065E+020.725607E-03  
42  
0.410000E-010.100000E-020.224167E-02  
0.820000E+030.410000E-010.179963E+020.179882E+02  
0.179081E+020.224167E-02  
43  
0.420000E-010.100000E-020.374591E-02  
0.840000E+030.420000E-010.179934E+020.179872E+02  
0.179104E+020.374591E-02

44

0.430000E-010.100000E-020.139346E-02  
0.860000E+030.430000E-010.179932E+020.179863E+02  
0.179097E+020.139346E-02

45

0.440000E-010.100000E-020.243043E-02  
0.880000E+030.440000E-010.179923E+020.179838E+02  
0.179078E+020.243043E-02

46

0.450000E-010.100000E-020.246967E-02  
0.900000E+030.450000E-010.179949E+020.179854E+02  
0.179093E+020.246967E-02

47

0.460000E-010.100000E-020.115823E-02  
0.920000E+030.460000E-010.179961E+020.179873E+02  
0.179108E+020.115823E-02

48

0.470000E-010.100000E-020.108285E-02  
0.940000E+030.470000E-010.179953E+020.179871E+02  
0.179111E+020.108285E-02

49

0.480000E-010.100000E-020.975336E-03  
0.960000E+030.480000E-010.179928E+020.179853E+02  
0.179113E+020.975336E-03

50

0.490000E-010.100000E-020.213239E-02  
0.980000E+030.490000E-010.179952E+020.179882E+02  
0.179137E+020.213239E-02

51

0.500000E-010.100000E-020.977233E-03  
0.100000E+040.500000E-010.179952E+020.179882E+02  
0.179144E+020.977233E-03

52

0.510000E-010.100000E-020.157822E-02  
0.102000E+040.510000E-010.179931E+020.179851E+02  
0.179127E+020.157822E-02

53

0.520000E-010.100000E-020.111927E-02  
0.104000E+040.520000E-010.179933E+020.179847E+02  
0.179129E+020.111927E-02

54

0.530000E-010.100000E-020.587770E-03  
0.106000E+040.530000E-010.179953E+020.179874E+02  
0.179154E+020.587770E-03

55

0.540000E-010.100000E-020.103607E-02  
0.108000E+040.540000E-010.179963E+020.179890E+02  
0.179170E+020.103607E-02

56

0.550000E-010.100000E-020.881700E-03  
0.110000E+040.550000E-010.179946E+020.179874E+02  
0.179161E+020.881700E-03

57

0.560000E-010.100000E-020.836688E-03  
0.112000E+040.560000E-010.179928E+020.179855E+02  
0.179160E+020.836688E-03

58

0.570000E-010.100000E-020.189974E-02  
0.114000E+040.570000E-010.179948E+020.179881E+02  
0.179181E+020.189974E-02

59

0.580000E-010.100000E-020.116570E-02  
0.116000E+040.580000E-010.179951E+020.179882E+02  
0.179178E+020.116570E-02

60

0.590000E-010.100000E-020.574802E-03

0.118000E+040.590000E-010.179936E+020.179864E+02  
0.179173E+020.574802E-03

61

0.600000E-010.100000E-020.105379E-02  
0.120000E+040.600000E-010.179940E+020.179866E+02  
0.179182E+020.105379E-02

62

0.610000E-010.100000E-020.763973E-03  
0.122000E+040.610000E-010.179958E+020.179883E+02  
0.179197E+020.763973E-03

63

0.620000E-010.100000E-020.445778E-03  
0.124000E+040.620000E-010.179954E+020.179883E+02  
0.179197E+020.445778E-03

64

0.629999E-010.100000E-020.926722E-03  
0.126000E+040.629999E-010.179940E+020.179870E+02  
0.179194E+020.926722E-03

65

0.640000E-010.100000E-020.217272E-02  
0.128000E+040.640000E-010.179949E+020.179881E+02  
0.179207E+020.217272E-02

66

0.650000E-010.100000E-020.227917E-02  
0.130000E+040.650000E-010.179951E+020.179884E+02  
0.179214E+020.227917E-02

67

0.660000E-010.100000E-020.127670E-02  
0.132000E+040.660000E-010.179939E+020.179875E+02  
0.179217E+020.127670E-02

68

0.670000E-010.100000E-020.522604E-03  
0.134000E+040.670000E-010.179952E+020.179885E+02  
0.179222E+020.522604E-03

69

0.680000E-010.100000E-020.908713E-03  
0.136000E+040.680000E-010.179957E+020.179891E+02  
0.179228E+020.908713E-03

70

0.690000E-010.100000E-020.229179E-02  
0.138000E+040.690000E-010.179963E+020.179891E+02  
0.179222E+020.229179E-02

71

0.700000E-010.100000E-020.168043E-02  
0.140000E+040.700000E-010.179920E+020.179853E+02  
0.179204E+020.168043E-02

72

0.710000E-010.100000E-020.922372E-03  
0.142000E+040.710000E-010.179938E+020.179871E+02  
0.179222E+020.922372E-03

73

0.720000E-010.100000E-020.109799E-02  
0.144000E+040.720000E-010.179968E+020.179904E+02  
0.179247E+020.109799E-02

74

0.730000E-010.100000E-020.430564E-03  
0.146000E+040.730000E-010.179964E+020.179894E+02  
0.179238E+020.430564E-03

75

0.740000E-010.100000E-020.470078E-03  
0.148000E+040.740000E-010.179932E+020.179864E+02  
0.179221E+020.470078E-03

76

0.750000E-010.100000E-020.478706E-03  
0.150000E+040.750000E-010.179952E+020.179881E+02  
0.179231E+020.478706E-03

77

0.760000E-010.100000E-020.437532E-03  
0.152000E+040.760000E-010.179947E+020.179881E+02  
0.179237E+020.437532E-03

78

0.770000E-010.100000E-020.462688E-03  
0.154000E+040.770000E-010.179957E+020.179892E+02  
0.179245E+020.462688E-03

79

0.780000E-010.100000E-020.563182E-03  
0.156000E+040.780000E-010.179955E+020.179888E+02  
0.179244E+020.563182E-03

80

0.790000E-010.100000E-020.850134E-03  
0.158000E+040.790000E-010.179943E+020.179871E+02  
0.179235E+020.850134E-03

81

0.800000E-010.100000E-020.469001E-03  
0.160000E+040.800000E-010.179941E+020.179869E+02  
0.179239E+020.469001E-03

82

0.810000E-010.100000E-020.394987E-03  
0.162000E+040.810000E-010.179965E+020.179893E+02  
0.179254E+020.394987E-03

83

0.820000E-010.100000E-020.333676E-03  
0.164000E+040.820000E-010.179960E+020.179892E+02  
0.179257E+020.333676E-03

84

0.830000E-010.100000E-020.257713E-03  
0.166000E+040.830000E-010.179950E+020.179881E+02  
0.179252E+020.257713E-03

85

0.840000E-010.100000E-020.264949E-03  
0.168000E+040.840000E-010.179939E+020.179871E+02  
0.179250E+020.264949E-03

86

0.850000E-010.100000E-020.200111E-03  
0.170000E+040.850000E-010.179957E+020.179889E+02  
0.179264E+020.200111E-03

87

0.860000E-010.100000E-020.312366E-03  
0.172000E+040.860000E-010.179962E+020.179894E+02  
0.179267E+020.312366E-03

88

0.870000E-010.100000E-020.618833E-03  
0.174000E+040.870000E-010.179940E+020.179878E+02  
0.179268E+020.618833E-03

89

0.880000E-010.100000E-020.937297E-03  
0.176000E+040.880000E-010.179966E+020.179901E+02  
0.179281E+020.937297E-03

90

0.890000E-010.100000E-020.871336E-03  
0.178000E+040.890000E-010.179954E+020.179887E+02  
0.179275E+020.871336E-03

91

0.900000E-010.100000E-020.104977E-02  
0.180000E+040.900000E-010.179953E+020.179886E+02  
0.179272E+020.104977E-02

92

0.910000E-010.100000E-020.676272E-03  
0.182000E+040.910000E-010.179937E+020.179871E+02  
0.179265E+020.676272E-03

93

0.920000E-010.100000E-020.848059E-03

0.184000E+040.920000E-010.179966E+020.179898E+02  
0.179284E+020.848059E-03  
94  
0.930000E-010.100000E-020.414286E-03  
0.186000E+040.930000E-010.179964E+020.179895E+02  
0.179278E+020.414286E-03  
95  
0.940000E-010.100000E-020.328956E-03  
0.188000E+040.940000E-010.179946E+020.179877E+02  
0.179269E+020.328956E-03  
96  
0.950000E-010.100000E-020.379851E-03  
0.190000E+040.950000E-010.179952E+020.179887E+02  
0.179276E+020.379851E-03  
97  
0.960000E-010.100000E-020.240648E-03  
0.192000E+040.960000E-010.179962E+020.179896E+02  
0.179282E+020.240648E-03  
98  
0.970000E-010.100000E-020.172162E-02  
0.194000E+040.970000E-010.179951E+020.179887E+02  
0.179276E+020.172162E-02  
99  
0.980000E-010.100000E-020.116285E-02  
0.196000E+040.980000E-010.179943E+020.179876E+02  
0.179273E+020.116285E-02  
100  
0.990000E-010.100000E-020.131297E-02  
0.198000E+040.990000E-010.179956E+020.179895E+02  
0.179293E+020.131297E-02  
101  
0.100000E+000.100000E-020.111943E-02  
0.200000E+040.100000E+000.179959E+020.179899E+02  
0.179302E+020.111943E-02  
102  
0.101000E+000.100000E-020.290629E-03  
0.202000E+040.101000E+000.179959E+020.179892E+02  
0.179293E+020.290629E-03  
103  
0.102000E+000.100000E-020.163673E-02  
0.204000E+040.102000E+000.179966E+020.179898E+02  
0.179293E+020.163673E-02  
104  
0.103000E+000.100000E-020.993234E-03  
0.206000E+040.103000E+000.179942E+020.179875E+02  
0.179276E+020.993234E-03  
105  
0.104000E+000.100000E-020.502762E-03  
0.208000E+040.104000E+000.179948E+020.179888E+02  
0.179291E+020.502762E-03  
106  
0.105000E+000.100000E-020.464264E-03  
0.210000E+040.105000E+000.179958E+020.179897E+02  
0.179300E+020.464264E-03  
107  
0.106000E+000.100000E-020.504106E-03  
0.212000E+040.106000E+000.179966E+020.179903E+02  
0.179304E+020.504106E-03  
108  
0.107000E+000.100000E-020.352526E-03  
0.214000E+040.107000E+000.179941E+020.179878E+02  
0.179286E+020.352526E-03  
109  
0.108000E+000.100000E-020.359154E-03  
0.216000E+040.108000E+000.179943E+020.179882E+02  
0.179297E+020.359154E-03

110  
0.109000E+000.100000E-020.987986E-03  
0.218000E+040.109000E+000.179983E+020.179920E+02  
0.179313E+020.987986E-03  
111  
0.110000E+000.100000E-020.452775E-03  
0.220000E+040.110000E+000.179954E+020.179888E+02  
0.179290E+020.452775E-03  
112  
0.111000E+000.100000E-020.388990E-03  
0.222000E+040.111000E+000.179927E+020.179864E+02  
0.179278E+020.388990E-03  
113  
0.112000E+000.100000E-020.215155E-03  
0.224000E+040.112000E+000.179959E+020.179895E+02  
0.179297E+020.215155E-03  
114  
0.113000E+000.100000E-020.257466E-03  
0.226000E+040.113000E+000.179971E+020.179906E+02  
0.179301E+020.257466E-03  
115  
0.114000E+000.100000E-020.420667E-03  
0.228000E+040.114000E+000.179944E+020.179879E+02  
0.179286E+020.420667E-03  
116  
0.115000E+000.100000E-020.249649E-03  
0.230000E+040.115000E+000.179953E+020.179887E+02  
0.179292E+020.249649E-03  
117  
0.116000E+000.100000E-020.221603E-03  
0.232000E+040.116000E+000.179957E+020.179892E+02  
0.179293E+020.221603E-03  
118  
0.117000E+000.100000E-020.317349E-03  
0.234000E+040.117000E+000.179950E+020.179885E+02  
0.179293E+020.317349E-03  
119  
0.118000E+000.100000E-020.249331E-03  
0.236000E+040.118000E+000.179967E+020.179901E+02  
0.179303E+020.249331E-03  
120  
0.119000E+000.100000E-020.373368E-03  
0.238000E+040.119000E+000.179968E+020.179901E+02  
0.179299E+020.373368E-03  
121  
0.120000E+000.100000E-020.267860E-03  
0.240000E+040.120000E+000.179936E+020.179872E+02  
0.179286E+020.267860E-03  
122  
0.121000E+000.100000E-020.129647E-03  
0.242000E+040.121000E+000.179957E+020.179892E+02  
0.179299E+020.129647E-03  
123  
0.122000E+000.100000E-020.220582E-03  
0.244000E+040.122000E+000.179963E+020.179901E+02  
0.179305E+020.220582E-03  
124  
0.123000E+000.100000E-020.193069E-03  
0.246000E+040.123000E+000.179958E+020.179894E+02  
0.179301E+020.193069E-03  
125  
0.124000E+000.100000E-020.221976E-03  
0.248000E+040.124000E+000.179953E+020.179888E+02  
0.179297E+020.221976E-03  
126  
0.125000E+000.100000E-020.141062E-03

0.250000E+040.125000E+000.179950E+020.179886E+02  
0.179296E+020.141062E-03  
127  
0.126000E+000.100000E-020.158349E-03  
0.252000E+040.126000E+000.179962E+020.179898E+02  
0.179305E+020.158349E-03  
128  
0.127000E+000.100000E-020.265308E-03  
0.254000E+040.127000E+000.179967E+020.179900E+02  
0.179301E+020.265308E-03  
129  
0.128000E+000.100000E-020.193054E-03  
0.256000E+040.128000E+000.179942E+020.179879E+02  
0.179291E+020.193054E-03  
130  
0.129000E+000.100000E-020.247007E-03  
0.258000E+040.129000E+000.179957E+020.179893E+02  
0.179300E+020.247007E-03  
131  
0.130000E+000.100000E-020.229798E-03  
0.260000E+040.130000E+000.179956E+020.179893E+02  
0.179303E+020.229798E-03  
132  
0.131000E+000.100000E-020.159231E-03  
0.262000E+040.131000E+000.179960E+020.179898E+02  
0.179308E+020.159231E-03  
133  
0.132000E+000.100000E-020.192351E-03  
0.264000E+040.132000E+000.179957E+020.179894E+02  
0.179305E+020.192351E-03  
134  
0.133000E+000.100000E-020.249156E-03  
0.266000E+040.133000E+000.179955E+020.179890E+02  
0.179305E+020.249156E-03  
135  
0.134000E+000.100000E-020.256375E-03  
0.268000E+040.134000E+000.179953E+020.179889E+02  
0.179303E+020.256375E-03  
136  
0.135000E+000.100000E-020.328422E-03  
0.270000E+040.135000E+000.179960E+020.179899E+02  
0.179312E+020.328422E-03  
137  
0.136000E+000.100000E-020.249512E-03  
0.272000E+040.136000E+000.179961E+020.179897E+02  
0.179311E+020.249512E-03  
138  
0.137000E+000.100000E-020.300129E-03  
0.274000E+040.137000E+000.179949E+020.179884E+02  
0.179306E+020.300129E-03  
139  
0.138000E+000.100000E-020.521536E-03  
0.276000E+040.138000E+000.179940E+020.179882E+02  
0.179311E+020.521536E-03  
140  
0.139000E+000.100000E-020.376495E-03  
0.278000E+040.139000E+000.179977E+020.179915E+02  
0.179330E+020.376495E-03  
141  
0.140000E+000.100000E-020.338585E-03  
0.280000E+040.140000E+000.179965E+020.179902E+02  
0.179319E+020.338585E-03  
142  
0.141000E+000.100000E-020.283807E-03  
0.282000E+040.141000E+000.179945E+020.179881E+02  
0.179303E+020.283807E-03



143  
0.142000E+000.100000E-020.282961E-03  
0.284000E+040.142000E+000.179939E+020.179877E+02  
0.179306E+020.282961E-03  
144  
0.143000E+000.100000E-020.305177E-03  
0.286000E+040.143000E+000.179969E+020.179907E+02  
0.179323E+020.305177E-03  
145  
0.144000E+000.100000E-020.292730E-03  
0.288000E+040.144000E+000.179962E+020.179902E+02  
0.179319E+020.292730E-03  
146  
0.145000E+000.100000E-020.129107E-02  
0.290000E+040.145000E+000.179956E+020.179892E+02  
0.179313E+020.129107E-02  
147  
0.146000E+000.100000E-020.112244E-02  
0.292000E+040.146000E+000.179957E+020.179886E+02  
0.179303E+020.112244E-02  
148  
0.147000E+000.100000E-020.468269E-03  
0.294000E+040.147000E+000.179948E+020.179886E+02  
0.179304E+020.468269E-03  
149  
0.148000E+000.100000E-020.427695E-03  
0.296000E+040.148000E+000.179955E+020.179895E+02  
0.179316E+020.427695E-03  
150  
0.149000E+000.100000E-020.264020E-03  
0.298000E+040.149000E+000.179970E+020.179907E+02  
0.179321E+020.264020E-03  
151  
0.150000E+000.100000E-020.187927E-03  
0.300000E+040.150000E+000.179950E+020.179887E+02  
0.179310E+020.187927E-03  
152  
0.151000E+000.100000E-020.211317E-03  
0.302000E+040.151000E+000.179951E+020.179888E+02  
0.179311E+020.211317E-03  
153  
0.152000E+000.100000E-020.174000E-03  
0.304000E+040.152000E+000.179963E+020.179901E+02  
0.179318E+020.174000E-03  
154  
0.153000E+000.100000E-020.171851E-03  
0.306000E+040.153000E+000.179954E+020.179892E+02  
0.179312E+020.171851E-03  
155  
0.154000E+000.100000E-020.157037E-03  
0.308000E+040.154000E+000.179954E+020.179891E+02  
0.179313E+020.157037E-03  
156  
0.155000E+000.100000E-020.164085E-03  
0.310000E+040.155000E+000.179957E+020.179895E+02  
0.179315E+020.164085E-03  
157  
0.156000E+000.100000E-020.235443E-03  
0.312000E+040.156000E+000.179960E+020.179897E+02  
0.179317E+020.235443E-03  
158  
0.157000E+000.100000E-020.194213E-03  
0.314000E+040.157000E+000.179951E+020.179888E+02  
0.179312E+020.194213E-03  
159  
0.158000E+000.100000E-020.171354E-03

0.316000E+040.158000E+000.179958E+020.179894E+02  
0.179316E+020.171354E-03  
160  
0.159000E+000.100000E-020.167141E-03  
0.318000E+040.159000E+000.179964E+020.179901E+02  
0.179318E+020.167141E-03  
161  
0.160000E+000.100000E-020.148606E-03  
0.320000E+040.160000E+000.179952E+020.179888E+02  
0.179311E+020.148606E-03  
162  
0.161000E+000.100000E-020.105972E-03  
0.322000E+040.161000E+000.179953E+020.179891E+02  
0.179313E+020.105972E-03  
163  
0.162000E+000.100000E-020.180339E-03  
0.324000E+040.162000E+000.179958E+020.179896E+02  
0.179316E+020.180339E-03  
164  
0.163000E+000.100000E-020.206079E-03  
0.326000E+040.163000E+000.179957E+020.179896E+02  
0.179319E+020.206079E-03  
165  
0.164000E+000.100000E-020.186378E-03  
0.328000E+040.164000E+000.179961E+020.179897E+02  
0.179316E+020.186378E-03  
166  
0.165000E+000.100000E-020.151362E-03  
0.330000E+040.165000E+000.179952E+020.179889E+02  
0.179313E+020.151362E-03  
167  
0.166000E+000.100000E-020.996606E-04  
0.332000E+040.166000E+000.179956E+020.179893E+02  
0.179315E+020.996606E-04  
168  
0.167000E+000.100000E-020.195437E-03  
0.334000E+040.167000E+000.179960E+020.179898E+02  
0.179319E+020.195437E-03  
169  
0.168000E+000.100000E-020.133979E-03  
0.336000E+040.168000E+000.179953E+020.179892E+02  
0.179316E+020.133979E-03  
170  
0.169000E+000.100000E-020.759152E-04  
0.338000E+040.169000E+000.179959E+020.179896E+02  
0.179317E+020.759152E-04  
171  
0.170000E+000.100000E-020.930428E-04  
0.340000E+040.170000E+000.179954E+020.179892E+02  
0.179316E+020.930428E-04  
172  
0.171000E+000.100000E-020.193965E-03  
0.342000E+040.171000E+000.179961E+020.179897E+02  
0.179317E+020.193965E-03  
173  
0.172000E+000.100000E-020.118336E-03  
0.344000E+040.172000E+000.179952E+020.179890E+02  
0.179313E+020.118336E-03  
174  
0.173000E+000.100000E-020.197574E-03  
0.346000E+040.173000E+000.179951E+020.179890E+02  
0.179314E+020.197574E-03  
175  
0.174000E+000.100000E-020.239241E-03  
0.348000E+040.174000E+000.179962E+020.179900E+02  
0.179321E+020.239241E-03

176  
0.175000E+000.100000E-020.252040E-03  
0.350000E+040.175000E+000.179965E+020.179901E+02  
0.179321E+020.252040E-03  
177  
0.176000E+000.100000E-020.329934E-03  
0.352000E+040.176000E+000.179951E+020.179887E+02  
0.179312E+020.329934E-03  
178  
0.177000E+000.100000E-020.286998E-03  
0.354000E+040.177000E+000.179952E+020.179889E+02  
0.179312E+020.286998E-03  
179  
0.178000E+000.100000E-020.223715E-03  
0.356000E+040.178000E+000.179954E+020.179893E+02  
0.179316E+020.223715E-03  
180  
0.179000E+000.100000E-020.207490E-03  
0.358000E+040.179000E+000.179962E+020.179901E+02  
0.179322E+020.207490E-03  
181  
0.180000E+000.100000E-020.268831E-03  
0.360000E+040.180000E+000.179963E+020.179899E+02  
0.179319E+020.268831E-03  
182  
0.181000E+000.100000E-020.291606E-03  
0.362000E+040.181000E+000.179939E+020.179878E+02  
0.179309E+020.291606E-03  
183  
0.182000E+000.100000E-020.252561E-03  
0.364000E+040.182000E+000.179960E+020.179897E+02  
0.179321E+020.252561E-03  
184  
0.183000E+000.100000E-020.260538E-03  
0.366000E+040.183000E+000.179970E+020.179908E+02  
0.179325E+020.260538E-03  
185  
0.184000E+000.100000E-020.391215E-03  
0.368000E+040.184000E+000.179958E+020.179893E+02  
0.179315E+020.391215E-03  
186  
0.185000E+000.100000E-020.325582E-03  
0.370000E+040.185000E+000.179941E+020.179879E+02  
0.179307E+020.325582E-03  
187  
0.186000E+000.100000E-020.311263E-03  
0.372000E+040.186000E+000.179954E+020.179892E+02  
0.179317E+020.311263E-03  
188  
0.187000E+000.100000E-020.310420E-03  
0.374000E+040.187000E+000.179969E+020.179909E+02  
0.179328E+020.310420E-03  
189  
0.188000E+000.100000E-020.253562E-03  
0.376000E+040.188000E+000.179960E+020.179897E+02  
0.179318E+020.253562E-03  
190  
0.189000E+000.100000E-020.482330E-03  
0.378000E+040.189000E+000.179952E+020.179887E+02  
0.179313E+020.482330E-03  
191  
0.190000E+000.100000E-020.329672E-03  
0.380000E+040.190000E+000.179949E+020.179885E+02  
0.179310E+020.329672E-03  
192  
0.191000E+000.100000E-020.273332E-03

0.382000E+040.191000E+000.179955E+020.179894E+02  
0.179319E+020.273332E-03  
193  
0.192000E+000.100000E-020.294144E-03  
0.384000E+040.192000E+000.179967E+020.179906E+02  
0.179325E+020.294144E-03  
194  
0.193000E+000.100000E-020.233077E-03  
0.386000E+040.193000E+000.179961E+020.179898E+02  
0.179319E+020.233077E-03  
195  
0.194000E+000.100000E-020.301593E-03  
0.388000E+040.194000E+000.179943E+020.179880E+02  
0.179309E+020.301593E-03  
196  
0.195000E+000.100000E-020.203576E-03  
0.390000E+040.195000E+000.179958E+020.179896E+02  
0.179319E+020.203576E-03  
197  
0.196000E+000.100000E-020.308808E-03  
0.392000E+040.196000E+000.179972E+020.179908E+02  
0.179325E+020.308808E-03  
198  
0.197000E+000.100000E-020.313461E-03  
0.394000E+040.197000E+000.179948E+020.179884E+02  
0.179309E+020.313461E-03  
199  
0.198000E+000.100000E-020.320170E-03  
0.396000E+040.198000E+000.179943E+020.179881E+02  
0.179309E+020.320170E-03  
200  
0.199000E+000.100000E-020.286640E-03  
0.398000E+040.199000E+000.179968E+020.179907E+02  
0.179326E+020.286640E-03  
201  
0.200000E+000.100000E-020.255343E-03  
0.400000E+040.200000E+000.179963E+020.179901E+02  
0.179321E+020.255343E-03  
202  
0.201000E+000.100000E-020.388560E-03  
0.402000E+040.201000E+000.179954E+020.179889E+02  
0.179312E+020.388560E-03  
203  
0.202000E+000.100000E-020.249412E-03  
0.404000E+040.202000E+000.179951E+020.179887E+02  
0.179312E+020.249412E-03  
204  
0.203000E+000.100000E-020.337036E-03  
0.406000E+040.203000E+000.179956E+020.179893E+02  
0.179315E+020.337036E-03  
205  
0.204000E+000.100000E-020.246543E-03  
0.408000E+040.204000E+000.179958E+020.179897E+02  
0.179320E+020.246543E-03  
206  
0.205000E+000.100000E-020.200027E-03  
0.410000E+040.205000E+000.179959E+020.179897E+02  
0.179319E+020.200027E-03  
207  
0.206000E+000.100000E-020.200858E-03  
0.412000E+040.206000E+000.179955E+020.179892E+02  
0.179318E+020.200858E-03  
208  
0.207000E+000.100000E-020.629037E-03  
0.414000E+040.207000E+000.179971E+020.179905E+02  
0.179321E+020.629037E-03

209  
0.208000E+000.100000E-020.434586E-03  
0.416000E+040.208000E+000.179944E+020.179879E+02  
0.179305E+020.434586E-03  
210  
0.209000E+000.100000E-020.340724E-03  
0.418000E+040.209000E+000.179943E+020.179882E+02  
0.179311E+020.340724E-03  
211  
0.210000E+000.100000E-020.399517E-03  
0.420000E+040.210000E+000.179970E+020.179910E+02  
0.179327E+020.399517E-03  
212  
0.211000E+000.100000E-020.237412E-03  
0.422000E+040.211000E+000.179967E+020.179904E+02  
0.179323E+020.237412E-03  
213  
0.212000E+000.100000E-020.302385E-03  
0.424000E+040.212000E+000.179950E+020.179886E+02  
0.179310E+020.302385E-03  
214  
0.213000E+000.100000E-020.228756E-03  
0.426000E+040.213000E+000.179951E+020.179887E+02  
0.179311E+020.228756E-03  
215  
0.214000E+000.100000E-020.171459E-03  
0.428000E+040.214000E+000.179956E+020.179895E+02  
0.179317E+020.171459E-03  
216  
0.215000E+000.100000E-020.204776E-03  
0.430000E+040.215000E+000.179960E+020.179899E+02  
0.179321E+020.204776E-03  
217  
0.216000E+000.100000E-020.110983E-03  
0.432000E+040.216000E+000.179961E+020.179898E+02  
0.179319E+020.110983E-03  
218  
0.217000E+000.100000E-020.131933E-03  
0.434000E+040.217000E+000.179950E+020.179887E+02  
0.179311E+020.131933E-03  
219  
0.218000E+000.100000E-020.294574E-03  
0.436000E+040.218000E+000.179956E+020.179893E+02  
0.179316E+020.294574E-03  
220  
0.219000E+000.100000E-020.186366E-03  
0.438000E+040.219000E+000.179960E+020.179897E+02  
0.179317E+020.186366E-03  
221  
0.220000E+000.100000E-020.198874E-03  
0.440000E+040.220000E+000.179958E+020.179895E+02  
0.179317E+020.198874E-03  
222  
0.221000E+000.100000E-020.218769E-03  
0.442000E+040.221000E+000.179960E+020.179896E+02  
0.179315E+020.218769E-03  
223  
0.222000E+000.100000E-020.210662E-03  
0.444000E+040.222000E+000.179950E+020.179887E+02  
0.179310E+020.210662E-03  
224  
0.223000E+000.100000E-020.158522E-03  
0.446000E+040.223000E+000.179954E+020.179892E+02  
0.179317E+020.158522E-03  
225  
0.224000E+000.100000E-020.436647E-03

0.448000E+040.224000E+000.179973E+020.179909E+02  
0.179323E+020.436647E-03  
226  
0.225000E+000.100000E-020.295286E-03  
0.450000E+040.225000E+000.179943E+020.179881E+02  
0.179307E+020.295286E-03  
227  
0.226000E+000.100000E-020.308823E-03  
0.452000E+040.226000E+000.179949E+020.179887E+02  
0.179313E+020.308823E-03  
228  
0.227000E+000.100000E-020.353269E-03  
0.454000E+040.227000E+000.179972E+020.179910E+02  
0.179327E+020.353269E-03  
229  
0.228000E+000.100000E-020.294582E-03  
0.456000E+040.228000E+000.179957E+020.179894E+02  
0.179316E+020.294582E-03  
230  
0.229000E+000.100000E-020.293300E-03  
0.458000E+040.229000E+000.179945E+020.179882E+02  
0.179308E+020.293300E-03  
231  
0.230000E+000.100000E-020.320191E-03  
0.460000E+040.230000E+000.179959E+020.179895E+02  
0.179315E+020.320191E-03  
232  
0.231000E+000.100000E-020.320567E-03  
0.462000E+040.231000E+000.179965E+020.179903E+02  
0.179322E+020.320567E-03  
233  
0.232000E+000.100000E-020.164978E-03  
0.464000E+040.232000E+000.179951E+020.179889E+02  
0.179312E+020.164978E-03  
234  
0.233000E+000.100000E-020.172918E-03  
0.466000E+040.233000E+000.179950E+020.179889E+02  
0.179315E+020.172918E-03  
235  
0.234000E+000.100000E-020.438439E-03  
0.468000E+040.234000E+000.179974E+020.179909E+02  
0.179324E+020.438439E-03  
236  
0.235000E+000.100000E-020.246358E-03  
0.470000E+040.235000E+000.179950E+020.179887E+02  
0.179309E+020.246358E-03  
237  
0.236000E+000.100000E-020.263947E-03  
0.472000E+040.236000E+000.179943E+020.179881E+02  
0.179308E+020.263947E-03  
238  
0.237000E+000.100000E-020.207417E-03  
0.474000E+040.237000E+000.179964E+020.179903E+02  
0.179321E+020.207417E-03  
239  
0.238000E+000.100000E-020.255396E-03  
0.476000E+040.238000E+000.179967E+020.179904E+02  
0.179323E+020.255396E-03  
240  
0.239000E+000.100000E-020.415977E-03  
0.478000E+040.239000E+000.179957E+020.179892E+02  
0.179312E+020.415977E-03  
241  
0.240000E+000.100000E-020.334480E-03  
0.480000E+040.240000E+000.179946E+020.179882E+02  
0.179306E+020.334480E-03

242  
0.241000E+000.100000E-020.361817E-03  
0.482000E+040.241000E+000.179948E+020.179887E+02  
0.179313E+020.361817E-03  
243  
0.242000E+000.100000E-020.339124E-03  
0.484000E+040.242000E+000.179971E+020.179910E+02  
0.179328E+020.339124E-03  
244  
0.243000E+000.100000E-020.411734E-03  
0.486000E+040.243000E+000.179972E+020.179907E+02  
0.179321E+020.411734E-03  
245  
0.244000E+000.100000E-020.333668E-03  
0.488000E+040.244000E+000.179936E+020.179871E+02  
0.179300E+020.333668E-03  
246  
0.245000E+000.100000E-020.218463E-03  
0.490000E+040.245000E+000.179948E+020.179886E+02  
0.179311E+020.218463E-03  
247  
0.246000E+000.100000E-020.304027E-03  
0.492000E+040.246000E+000.179969E+020.179909E+02  
0.179325E+020.304027E-03  
248  
0.247000E+000.100000E-020.277808E-03  
0.494000E+040.247000E+000.179966E+020.179902E+02  
0.179322E+020.277808E-03  
249  
0.248000E+000.100000E-020.286452E-03  
0.496000E+040.248000E+000.179952E+020.179887E+02  
0.179308E+020.286452E-03  
250  
0.249000E+000.100000E-020.266713E-03  
0.498000E+040.249000E+000.179943E+020.179880E+02  
0.179307E+020.266713E-03  
251  
0.250000E+000.100000E-020.235216E-03  
0.500000E+040.250000E+000.179967E+020.179904E+02  
0.179323E+020.235216E-03  
252  
0.251000E+000.100000E-020.139914E-03  
0.502000E+040.251000E+000.179963E+020.179901E+02  
0.179320E+020.139914E-03  
253  
0.252000E+000.100000E-020.205939E-03  
0.504000E+040.252000E+000.179951E+020.179888E+02  
0.179312E+020.205939E-03  
254  
0.253000E+000.100000E-020.213413E-03  
0.506000E+040.253000E+000.179955E+020.179891E+02  
0.179312E+020.213413E-03  
255  
0.254000E+000.100000E-020.139322E-03  
0.508000E+040.254000E+000.179954E+020.179891E+02  
0.179314E+020.139322E-03  
256  
0.255000E+000.100000E-020.226543E-03  
0.510000E+040.255000E+000.179958E+020.179896E+02  
0.179318E+020.226543E-03  
257  
0.256000E+000.100000E-020.180003E-03  
0.512000E+040.256000E+000.179964E+020.179900E+02  
0.179319E+020.180003E-03  
258  
0.257000E+000.100000E-020.150370E-03

0.514000E+040.257000E+000.179952E+020.179889E+02  
0.179313E+020.150370E-03  
259  
0.258000E+000.100000E-020.228876E-03  
0.516000E+040.258000E+000.179956E+020.179892E+02  
0.179312E+020.228876E-03  
260  
0.259000E+000.100000E-020.141670E-03  
0.518000E+040.259000E+000.179955E+020.179893E+02  
0.179315E+020.141670E-03  
261  
0.260000E+000.100000E-020.130828E-03  
0.520000E+040.260000E+000.179957E+020.179894E+02  
0.179316E+020.130828E-03  
262  
0.261000E+000.100000E-020.330932E-03  
0.522000E+040.261000E+000.179964E+020.179901E+02  
0.179321E+020.330932E-03  
263  
0.262000E+000.100000E-020.227081E-03  
0.524000E+040.262000E+000.179954E+020.179890E+02  
0.179311E+020.227081E-03  
264  
0.263000E+000.100000E-020.182995E-03  
0.526000E+040.263000E+000.179949E+020.179886E+02  
0.179312E+020.182995E-03  
265  
0.264000E+000.100000E-020.137394E-03  
0.528000E+040.264000E+000.179965E+020.179902E+02  
0.179319E+020.137394E-03  
266  
0.265000E+000.100000E-020.193274E-03  
0.530000E+040.265000E+000.179957E+020.179895E+02  
0.179315E+020.193274E-03  
267  
0.266000E+000.100000E-020.169385E-03  
0.532000E+040.266000E+000.179949E+020.179887E+02  
0.179313E+020.169385E-03  
268  
0.267000E+000.100000E-020.203269E-03  
0.534000E+040.267000E+000.179959E+020.179897E+02  
0.179318E+020.203269E-03  
269  
0.268000E+000.100000E-020.181037E-03  
0.536000E+040.268000E+000.179960E+020.179897E+02  
0.179320E+020.181037E-03  
270  
0.269000E+000.100000E-020.293977E-03  
0.538000E+040.269000E+000.179966E+020.179900E+02  
0.179316E+020.293977E-03  
271  
0.270000E+000.100000E-020.212888E-03  
0.540000E+040.270000E+000.179945E+020.179882E+02  
0.179308E+020.212888E-03  
272  
0.271000E+000.100000E-020.256924E-03  
0.542000E+040.271000E+000.179953E+020.179890E+02  
0.179312E+020.256924E-03  
273  
0.272000E+000.100000E-020.234599E-03  
0.544000E+040.272000E+000.179959E+020.179898E+02  
0.179319E+020.234599E-03  
274  
0.273000E+000.100000E-020.310775E-03  
0.546000E+040.273000E+000.179963E+020.179901E+02  
0.179322E+020.310775E-03



275  
0.274000E+000.100000E-020.205999E-03  
0.548000E+040.274000E+000.179953E+020.179890E+02  
0.179313E+020.205999E-03  
276  
0.275000E+000.100000E-020.179576E-03  
0.550000E+040.275000E+000.179947E+020.179885E+02  
0.179312E+020.179576E-03  
277  
0.276000E+000.100000E-020.239026E-03  
0.552000E+040.276000E+000.179968E+020.179906E+02  
0.179324E+020.239026E-03  
278  
0.277000E+000.100000E-020.339844E-03  
0.554000E+040.277000E+000.179966E+020.179902E+02  
0.179319E+020.339844E-03  
279  
0.278000E+000.100000E-020.346955E-03  
0.556000E+040.278000E+000.179942E+020.179877E+02  
0.179303E+020.346955E-03  
280  
0.279000E+000.100000E-020.183438E-03  
0.558000E+040.279000E+000.179955E+020.179892E+02  
0.179313E+020.183438E-03  
281  
0.280000E+000.100000E-020.180612E-03  
0.560000E+040.280000E+000.179965E+020.179904E+02  
0.179321E+020.180612E-03  
282  
0.281000E+000.100000E-020.141312E-03  
0.562000E+040.281000E+000.179953E+020.179891E+02  
0.179315E+020.141312E-03  
283  
0.282000E+000.100000E-020.211013E-03  
0.564000E+040.282000E+000.179952E+020.179890E+02  
0.179315E+020.211013E-03  
284  
0.283000E+000.100000E-020.148516E-03  
0.566000E+040.283000E+000.179963E+020.179899E+02  
0.179319E+020.148516E-03  
285  
0.284000E+000.100000E-020.243489E-03  
0.568000E+040.284000E+000.179960E+020.179896E+02  
0.179317E+020.243489E-03  
286  
0.285000E+000.100000E-020.176549E-03  
0.570000E+040.285000E+000.179952E+020.179889E+02  
0.179311E+020.176549E-03  
287  
0.286000E+000.100000E-020.199007E-03  
0.572000E+040.286000E+000.179951E+020.179889E+02  
0.179313E+020.199007E-03  
288  
0.287000E+000.100000E-020.180896E-03  
0.574000E+040.287000E+000.179963E+020.179902E+02  
0.179321E+020.180896E-03  
289  
0.288000E+000.100000E-020.165245E-03  
0.576000E+040.288000E+000.179960E+020.179897E+02  
0.179316E+020.165245E-03  
290  
0.289000E+000.100000E-020.245170E-03  
0.578000E+040.289000E+000.179951E+020.179888E+02  
0.179313E+020.245170E-03  
291  
0.290000E+000.100000E-020.207179E-03

0.580000E+040.290000E+000.179962E+020.179898E+02  
0.179317E+020.207179E-03  
292  
0.291000E+000.100000E-020.199209E-03  
0.582000E+040.291000E+000.179954E+020.179891E+02  
0.179313E+020.199209E-03  
293  
0.292000E+000.100000E-020.178829E-03  
0.584000E+040.292000E+000.179952E+020.179889E+02  
0.179312E+020.178829E-03  
294  
0.293000E+000.100000E-020.321209E-03  
0.586000E+040.293000E+000.179953E+020.179892E+02  
0.179315E+020.321209E-03  
295  
0.294000E+000.100000E-020.240130E-03  
0.588000E+040.294000E+000.179961E+020.179900E+02  
0.179322E+020.240130E-03  
296  
0.295000E+000.100000E-020.252165E-03  
0.590000E+040.295000E+000.179962E+020.179899E+02  
0.179320E+020.252165E-03  
297  
0.296000E+000.100000E-020.471243E-03  
0.592000E+040.296000E+000.179959E+020.179894E+02  
0.179316E+020.471243E-03  
298  
0.297000E+000.100000E-020.380889E-03  
0.594000E+040.297000E+000.179956E+020.179891E+02  
0.179309E+020.380889E-03  
299  
0.298000E+000.100000E-020.346639E-03  
0.596000E+040.298000E+000.179943E+020.179882E+02  
0.179307E+020.346639E-03  
300  
0.299000E+000.100000E-020.269220E-03  
0.598000E+040.299000E+000.179965E+020.179904E+02  
0.179323E+020.269220E-03  
301  
0.300000E+000.100000E-020.151842E-03  
0.600000E+040.300000E+000.179961E+020.179900E+02  
0.179319E+020.151842E-03  
302  
0.301000E+000.100000E-020.220751E-03  
0.602000E+040.301000E+000.179949E+020.179888E+02  
0.179315E+020.220751E-03  
303  
0.302000E+000.100000E-020.326815E-03  
0.604000E+040.302000E+000.179963E+020.179898E+02  
0.179317E+020.326815E-03  
304  
0.303000E+000.100000E-020.253041E-03  
0.606000E+040.303000E+000.179952E+020.179889E+02  
0.179312E+020.253041E-03  
305  
0.304000E+000.100000E-020.177084E-03  
0.608000E+040.304000E+000.179953E+020.179890E+02  
0.179314E+020.177084E-03  
306  
0.305000E+000.100000E-020.190681E-03  
0.610000E+040.305000E+000.179964E+020.179902E+02  
0.179320E+020.190681E-03  
307  
0.306000E+000.100000E-020.100334E-03  
0.612000E+040.306000E+000.179958E+020.179895E+02  
0.179316E+020.100334E-03

308  
0.307000E+000.100000E-020.206100E-03  
0.614000E+040.307000E+000.179952E+020.179889E+02  
0.179312E+020.206100E-03  
309  
0.308000E+000.100000E-020.210501E-03  
0.616000E+040.308000E+000.179958E+020.179895E+02  
0.179317E+020.210501E-03  
310  
0.309000E+000.100000E-020.253861E-03  
0.618000E+040.309000E+000.179960E+020.179897E+02  
0.179317E+020.253861E-03  
311  
0.310000E+000.100000E-020.273279E-03  
0.620000E+040.310000E+000.179948E+020.179887E+02  
0.179312E+020.273279E-03  
312  
0.311000E+000.100000E-020.261631E-03  
0.622000E+040.311000E+000.179959E+020.179897E+02  
0.179317E+020.261631E-03  
313  
0.312000E+000.100000E-020.200597E-03  
0.624000E+040.312000E+000.179957E+020.179895E+02  
0.179318E+020.200597E-03  
314  
0.313000E+000.100000E-020.425360E-03  
0.626000E+040.313000E+000.179963E+020.179899E+02  
0.179320E+020.425360E-03  
315  
0.314000E+000.100000E-020.288117E-03  
0.628000E+040.314000E+000.179953E+020.179889E+02  
0.179312E+020.288117E-03  
316  
0.314999E+000.100000E-020.286627E-03  
0.630000E+040.314999E+000.179949E+020.179886E+02  
0.179312E+020.286627E-03  
317  
0.315999E+000.100000E-020.234381E-03  
0.632000E+040.315999E+000.179971E+020.179908E+02  
0.179323E+020.234381E-03  
318  
0.316999E+000.100000E-020.256629E-03  
0.634000E+040.316999E+000.179960E+020.179897E+02  
0.179315E+020.256629E-03  
319  
0.317999E+000.100000E-020.251993E-03  
0.636000E+040.317999E+000.179941E+020.179878E+02  
0.179305E+020.251993E-03  
320  
0.318999E+000.100000E-020.257728E-03  
0.638000E+040.318999E+000.179951E+020.179890E+02  
0.179314E+020.257728E-03  
321  
0.319999E+000.100000E-020.285155E-03  
0.640000E+040.319999E+000.179967E+020.179906E+02  
0.179326E+020.285155E-03  
322  
0.320999E+000.100000E-020.250769E-03  
0.642000E+040.320999E+000.179966E+020.179902E+02  
0.179321E+020.250769E-03  
323  
0.321999E+000.100000E-020.227547E-03  
0.644000E+040.321999E+000.179944E+020.179880E+02  
0.179308E+020.227547E-03  
324  
0.322999E+000.100000E-020.151986E-03

0.646000E+040.322999E+000.179953E+020.179890E+02  
0.179314E+020.151986E-03  
325  
0.323999E+000.100000E-020.126694E-03  
0.648000E+040.323999E+000.179966E+020.179904E+02  
0.179321E+020.126694E-03  
326  
0.324999E+000.100000E-020.234169E-03  
0.650000E+040.324999E+000.179961E+020.179898E+02  
0.179317E+020.234169E-03  
327  
0.325999E+000.100000E-020.196217E-03  
0.652000E+040.325999E+000.179949E+020.179886E+02  
0.179309E+020.196217E-03  
328  
0.326999E+000.100000E-020.172836E-03  
0.654000E+040.326999E+000.179949E+020.179888E+02  
0.179313E+020.172836E-03  
329  
0.327999E+000.100000E-020.176931E-03  
0.656000E+040.327999E+000.179962E+020.179900E+02  
0.179321E+020.176931E-03  
330  
0.328999E+000.100000E-020.152687E-03  
0.658000E+040.328999E+000.179961E+020.179899E+02  
0.179320E+020.152687E-03  
331  
0.329999E+000.100000E-020.184402E-03  
0.660000E+040.329999E+000.179957E+020.179892E+02  
0.179314E+020.184402E-03  
332  
0.330999E+000.100000E-020.213611E-03  
0.662000E+040.330999E+000.179946E+020.179883E+02  
0.179309E+020.213611E-03  
333  
0.331999E+000.100000E-020.191413E-03  
0.664000E+040.331999E+000.179957E+020.179895E+02  
0.179318E+020.191413E-03  
334  
0.332999E+000.100000E-020.207257E-03  
0.666000E+040.332999E+000.179968E+020.179906E+02  
0.179323E+020.207257E-03  
335  
0.333999E+000.100000E-020.264929E-03  
0.668000E+040.333999E+000.179960E+020.179895E+02  
0.179315E+020.264929E-03  
336  
0.334999E+000.100000E-020.300643E-03  
0.670000E+040.334999E+000.179944E+020.179881E+02  
0.179306E+020.300643E-03  
337  
0.335999E+000.100000E-020.138679E-03  
0.672000E+040.335999E+000.179957E+020.179895E+02  
0.179317E+020.138679E-03  
338  
0.336999E+000.100000E-020.329049E-03  
0.674000E+040.336999E+000.179969E+020.179907E+02  
0.179324E+020.329049E-03  
339  
0.337999E+000.100000E-020.247695E-03  
0.676000E+040.337999E+000.179952E+020.179889E+02  
0.179312E+020.247695E-03  
340  
0.338999E+000.100000E-020.388714E-03  
0.678000E+040.338999E+000.179941E+020.179879E+02  
0.179308E+020.388714E-03

341  
0.339999E+000.100000E-020.271335E-03  
0.680000E+040.339999E+000.179967E+020.179905E+02  
0.179324E+020.271335E-03  
342  
0.340999E+000.100000E-020.238508E-03  
0.682000E+040.340999E+000.179964E+020.179901E+02  
0.179321E+020.238508E-03  
343  
0.341999E+000.100000E-020.231979E-03  
0.684000E+040.341999E+000.179951E+020.179888E+02  
0.179313E+020.231979E-03  
344  
0.342999E+000.100000E-020.275873E-03  
0.686000E+040.342999E+000.179960E+020.179895E+02  
0.179314E+020.275873E-03  
345  
0.343999E+000.100000E-020.247585E-03  
0.688000E+040.343999E+000.179950E+020.179888E+02  
0.179310E+020.247585E-03  
346  
0.344999E+000.100000E-020.199726E-03  
0.690000E+040.344999E+000.179957E+020.179896E+02  
0.179318E+020.199726E-03  
347  
0.345999E+000.100000E-020.176708E-03  
0.692000E+040.345999E+000.179965E+020.179903E+02  
0.179321E+020.176708E-03  
348  
0.346999E+000.100000E-020.358296E-03  
0.694000E+040.346999E+000.179959E+020.179895E+02  
0.179314E+020.358296E-03  
349  
0.347999E+000.100000E-020.425477E-03  
0.696000E+040.347999E+000.179936E+020.179875E+02  
0.179303E+020.425477E-03  
350  
0.348999E+000.100000E-020.259931E-03  
0.698000E+040.348999E+000.179962E+020.179900E+02  
0.179322E+020.259931E-03  
351  
0.349999E+000.100000E-020.265176E-03  
0.700000E+040.349999E+000.179972E+020.179910E+02  
0.179325E+020.265176E-03  
352  
0.350999E+000.100000E-020.214472E-03  
0.702000E+040.350999E+000.179943E+020.179881E+02  
0.179310E+020.214472E-03  
353  
0.351999E+000.100000E-020.215295E-03  
0.704000E+040.351999E+000.179958E+020.179894E+02  
0.179316E+020.215295E-03  
354  
0.352999E+000.100000E-020.304645E-03  
0.706000E+040.352999E+000.179968E+020.179903E+02  
0.179319E+020.304645E-03  
355  
0.353999E+000.100000E-020.171529E-03  
0.708000E+040.353999E+000.179946E+020.179884E+02  
0.179308E+020.171529E-03  
356  
0.354999E+000.100000E-020.155977E-03  
0.710000E+040.354999E+000.179957E+020.179894E+02  
0.179315E+020.155977E-03  
357  
0.355999E+000.100000E-020.195570E-03

0.712000E+040.355999E+000.179961E+020.179899E+02  
0.179318E+020.195570E-03  
358  
0.356999E+000.100000E-020.147155E-03  
0.714000E+040.356999E+000.179953E+020.179892E+02  
0.179315E+020.147155E-03  
359  
0.357999E+000.100000E-020.162840E-03  
0.716000E+040.357999E+000.179956E+020.179893E+02  
0.179317E+020.162840E-03  
360  
0.358999E+000.100000E-020.209753E-03  
0.718000E+040.358999E+000.179965E+020.179900E+02  
0.179319E+020.209753E-03  
361  
0.359999E+000.100000E-020.233479E-03  
0.720000E+040.359999E+000.179952E+020.179888E+02  
0.179310E+020.233479E-03  
362  
0.360999E+000.100000E-020.194325E-03  
0.722000E+040.360999E+000.179950E+020.179887E+02  
0.179311E+020.194325E-03  
363  
0.361999E+000.100000E-020.342882E-03  
0.724000E+040.361999E+000.179953E+020.179893E+02  
0.179316E+020.342882E-03  
364  
0.362999E+000.100000E-020.236009E-03  
0.726000E+040.362999E+000.179967E+020.179905E+02  
0.179324E+020.236009E-03  
365  
0.363999E+000.100000E-020.211935E-03  
0.728000E+040.363999E+000.179964E+020.179900E+02  
0.179317E+020.211935E-03  
366  
0.364999E+000.100000E-020.320272E-03  
0.730000E+040.364999E+000.179950E+020.179886E+02  
0.179309E+020.320272E-03  
367  
0.365999E+000.100000E-020.240761E-03  
0.732000E+040.365999E+000.179948E+020.179885E+02  
0.179309E+020.240761E-03  
368  
0.366999E+000.100000E-020.219250E-03  
0.734000E+040.366999E+000.179958E+020.179897E+02  
0.179319E+020.219250E-03  
369  
0.367999E+000.100000E-020.301050E-03  
0.736000E+040.367999E+000.179962E+020.179901E+02  
0.179320E+020.301050E-03  
370  
0.368999E+000.100000E-020.244076E-03  
0.738000E+040.368999E+000.179957E+020.179893E+02  
0.179316E+020.244076E-03  
371  
0.369999E+000.100000E-020.192589E-03  
0.740000E+040.369999E+000.179949E+020.179886E+02  
0.179311E+020.192589E-03  
372  
0.370999E+000.100000E-020.217200E-03  
0.742000E+040.370999E+000.179961E+020.179898E+02  
0.179318E+020.217200E-03  
373  
0.371999E+000.100000E-020.515690E-03  
0.744000E+040.371999E+000.179966E+020.179902E+02  
0.179321E+020.515690E-03

374

0.372999E+000.100000E-020.304079E-03  
0.746000E+040.372999E+000.179951E+020.179888E+02  
0.179309E+020.304079E-03

375

0.373999E+000.100000E-020.352923E-03  
0.748000E+040.373999E+000.179947E+020.179884E+02  
0.179309E+020.352923E-03

376

0.374999E+000.100000E-020.254244E-03  
0.750000E+040.374999E+000.179965E+020.179903E+02  
0.179320E+020.254244E-03

377

0.375999E+000.100000E-020.216029E-03  
0.752000E+040.375999E+000.179959E+020.179898E+02  
0.179319E+020.216029E-03

378

0.376999E+000.100000E-020.196707E-03  
0.754000E+040.376999E+000.179951E+020.179888E+02  
0.179313E+020.196707E-03

379

0.377999E+000.100000E-020.148471E-03  
0.756000E+040.377999E+000.179956E+020.179893E+02  
0.179316E+020.148471E-03

380

0.378999E+000.100000E-020.212955E-03  
0.758000E+040.378999E+000.179963E+020.179900E+02  
0.179319E+020.212955E-03

381

0.379999E+000.100000E-020.285744E-03  
0.760000E+040.379999E+000.179948E+020.179886E+02  
0.179311E+020.285744E-03

382

0.380999E+000.100000E-020.248364E-03  
0.762000E+040.380999E+000.179952E+020.179889E+02  
0.179314E+020.248364E-03

383

0.381999E+000.100000E-020.244865E-03  
0.764000E+040.381999E+000.179967E+020.179904E+02  
0.179322E+020.244865E-03

384

0.382999E+000.100000E-020.292048E-03  
0.766000E+040.382999E+000.179965E+020.179900E+02  
0.179318E+020.292048E-03

385

0.383999E+000.100000E-020.232728E-03  
0.768000E+040.383999E+000.179945E+020.179881E+02  
0.179306E+020.232728E-03

386

0.384999E+000.100000E-020.190907E-03  
0.770000E+040.384999E+000.179955E+020.179892E+02  
0.179314E+020.190907E-03

387

0.385999E+000.100000E-020.211115E-03  
0.772000E+040.385999E+000.179962E+020.179901E+02  
0.179319E+020.211115E-03

388

0.386999E+000.100000E-020.250740E-03  
0.774000E+040.386999E+000.179961E+020.179899E+02  
0.179318E+020.250740E-03

389

0.387999E+000.100000E-020.211799E-03  
0.776000E+040.387999E+000.179950E+020.179888E+02  
0.179311E+020.211799E-03

390

0.388999E+000.100000E-020.130449E-03

0.778000E+040.388999E+000.179952E+020.179889E+02  
0.179314E+020.130449E-03  
391  
0.389999E+000.100000E-020.219363E-03  
0.780000E+040.389999E+000.179961E+020.179900E+02  
0.179319E+020.219363E-03  
392  
0.390999E+000.100000E-020.350917E-03  
0.782000E+040.390999E+000.179962E+020.179898E+02  
0.179318E+020.350917E-03  
393  
0.391998E+000.100000E-020.313909E-03  
0.784000E+040.391998E+000.179945E+020.179883E+02  
0.179308E+020.313909E-03  
394  
0.392998E+000.100000E-020.236545E-03  
0.786000E+040.392998E+000.179960E+020.179896E+02  
0.179316E+020.236545E-03  
395  
0.393998E+000.100000E-020.238896E-03  
0.788000E+040.393998E+000.179959E+020.179898E+02  
0.179318E+020.238896E-03  
396  
0.394998E+000.100000E-020.138618E-03  
0.790000E+040.394998E+000.179957E+020.179894E+02  
0.179316E+020.138618E-03  
397  
0.395998E+000.100000E-020.267601E-03  
0.792000E+040.395998E+000.179959E+020.179895E+02  
0.179317E+020.267601E-03  
398  
0.396998E+000.100000E-020.405607E-03  
0.794000E+040.396998E+000.179961E+020.179897E+02  
0.179315E+020.405607E-03  
399  
0.397998E+000.100000E-020.340455E-03  
0.796000E+040.397998E+000.179946E+020.179884E+02  
0.179309E+020.340455E-03  
400  
0.398998E+000.100000E-020.213249E-03  
0.798000E+040.398998E+000.179956E+020.179895E+02  
0.179316E+020.213249E-03  
401  
0.399998E+000.100000E-020.209664E-03  
0.800000E+040.399998E+000.179962E+020.179901E+02  
0.179322E+020.209664E-03  
402  
0.400998E+000.100000E-020.195288E-03  
0.802000E+040.400998E+000.179962E+020.179898E+02  
0.179317E+020.195288E-03  
403  
0.401998E+000.100000E-020.204897E-03  
0.804000E+040.401998E+000.179947E+020.179883E+02  
0.179308E+020.204897E-03  
404  
0.402998E+000.100000E-020.180076E-03  
0.806000E+040.402998E+000.179954E+020.179891E+02  
0.179315E+020.180076E-03  
405  
0.403998E+000.100000E-020.187472E-03  
0.808000E+040.403998E+000.179965E+020.179904E+02  
0.179323E+020.187472E-03  
406  
0.404998E+000.100000E-020.349019E-03  
0.810000E+040.404998E+000.179964E+020.179900E+02  
0.179318E+020.349019E-03



407  
0.405998E+000.100000E-020.300661E-03  
0.812000E+040.405998E+000.179940E+020.179877E+02  
0.179306E+020.300661E-03  
408  
0.406998E+000.100000E-020.218129E-03  
0.814000E+040.406998E+000.179955E+020.179893E+02  
0.179316E+020.218129E-03  
409  
0.407998E+000.100000E-020.264171E-03  
0.816000E+040.407998E+000.179968E+020.179906E+02  
0.179325E+020.264171E-03  
410  
0.408998E+000.100000E-020.232766E-03  
0.818000E+040.408998E+000.179962E+020.179899E+02  
0.179318E+020.232766E-03  
411  
0.409998E+000.100000E-020.293106E-03  
0.820000E+040.409998E+000.179947E+020.179883E+02  
0.179308E+020.293106E-03  
412  
0.410998E+000.100000E-020.222276E-03  
0.822000E+040.410998E+000.179955E+020.179891E+02  
0.179314E+020.222276E-03  
413  
0.411998E+000.100000E-020.177949E-03  
0.824000E+040.411998E+000.179960E+020.179898E+02  
0.179317E+020.177949E-03  
414  
0.412998E+000.100000E-020.288611E-03  
0.826000E+040.412998E+000.179962E+020.179899E+02  
0.179319E+020.288611E-03  
415  
0.413998E+000.100000E-020.244328E-03  
0.828000E+040.413998E+000.179951E+020.179888E+02  
0.179310E+020.244328E-03  
416  
0.414998E+000.100000E-020.170601E-03  
0.830000E+040.414998E+000.179951E+020.179889E+02  
0.179314E+020.170601E-03  
417  
0.415998E+000.100000E-020.315814E-03  
0.832000E+040.415998E+000.179969E+020.179906E+02  
0.179323E+020.315814E-03  
418  
0.416998E+000.100000E-020.183114E-03  
0.834000E+040.416998E+000.179955E+020.179891E+02  
0.179312E+020.183114E-03  
419  
0.417998E+000.100000E-020.453676E-03  
0.836000E+040.417998E+000.179937E+020.179877E+02  
0.179308E+020.453676E-03  
420  
0.418998E+000.100000E-020.260915E-03  
0.838000E+040.418998E+000.179973E+020.179910E+02  
0.179325E+020.260915E-03  
421  
0.419998E+000.100000E-020.244789E-03  
0.840000E+040.419998E+000.179963E+020.179900E+02  
0.179319E+020.244789E-03  
422  
0.420998E+000.100000E-020.250705E-03  
0.842000E+040.420998E+000.179947E+020.179884E+02  
0.179309E+020.250705E-03  
423  
0.421998E+000.100000E-020.219982E-03

0.844000E+040.421998E+000.179950E+020.179888E+02  
0.179313E+020.219982E-03  
424  
0.422998E+000.100000E-020.179488E-03  
0.846000E+040.422998E+000.179964E+020.179903E+02  
0.179324E+020.179488E-03  
425  
0.423998E+000.100000E-020.342324E-03  
0.848000E+040.423998E+000.179969E+020.179905E+02  
0.179322E+020.342324E-03  
426  
0.424998E+000.100000E-020.293046E-03  
0.850000E+040.424998E+000.179947E+020.179883E+02  
0.179307E+020.293046E-03  
427  
0.425998E+000.100000E-020.298243E-03  
0.852000E+040.425998E+000.179943E+020.179880E+02  
0.179308E+020.298243E-03  
428  
0.426998E+000.100000E-020.256685E-03  
0.854000E+040.426998E+000.179965E+020.179904E+02  
0.179324E+020.256685E-03  
429  
0.427998E+000.100000E-020.276454E-03  
0.856000E+040.427998E+000.179971E+020.179908E+02  
0.179324E+020.276454E-03  
430  
0.428998E+000.100000E-020.238091E-03  
0.858000E+040.428998E+000.179945E+020.179882E+02  
0.179307E+020.238091E-03  
431  
0.429998E+000.100000E-020.224517E-03  
0.860000E+040.429998E+000.179950E+020.179886E+02  
0.179311E+020.224517E-03  
432  
0.430998E+000.100000E-020.186632E-03  
0.862000E+040.430998E+000.179964E+020.179902E+02  
0.179322E+020.186632E-03  
433  
0.431998E+000.100000E-020.241591E-03  
0.864000E+040.431998E+000.179963E+020.179900E+02  
0.179320E+020.241591E-03  
434  
0.432998E+000.100000E-020.178337E-03  
0.866000E+040.432998E+000.179952E+020.179889E+02  
0.179311E+020.178337E-03  
435  
0.433998E+000.100000E-020.236983E-03  
0.868000E+040.433998E+000.179947E+020.179885E+02  
0.179311E+020.236983E-03  
436  
0.434998E+000.100000E-020.187381E-03  
0.870000E+040.434998E+000.179967E+020.179904E+02  
0.179322E+020.187381E-03  
437  
0.435998E+000.100000E-020.141055E-03  
0.872000E+040.435998E+000.179958E+020.179896E+02  
0.179316E+020.141055E-03  
438  
0.436998E+000.100000E-020.158644E-03  
0.874000E+040.436998E+000.179948E+020.179886E+02  
0.179312E+020.158644E-03  
439  
0.437998E+000.100000E-020.159502E-03  
0.876000E+040.437998E+000.179961E+020.179898E+02  
0.179319E+020.159502E-03

440  
0.438998E+000.100000E-020.243548E-03  
0.878000E+040.438998E+000.179963E+020.179900E+02  
0.179319E+020.243548E-03  
441  
0.439998E+000.100000E-020.336175E-03  
0.880000E+040.439998E+000.179948E+020.179885E+02  
0.179309E+020.336175E-03  
442  
0.440998E+000.100000E-020.248127E-03  
0.882000E+040.440998E+000.179954E+020.179892E+02  
0.179315E+020.248127E-03  
443  
0.441998E+000.100000E-020.199167E-03  
0.884000E+040.441998E+000.179960E+020.179898E+02  
0.179320E+020.199167E-03  
444  
0.442998E+000.100000E-020.500060E-03  
0.886000E+040.442998E+000.179966E+020.179903E+02  
0.179322E+020.500060E-03  
445  
0.443998E+000.100000E-020.338310E-03  
0.888000E+040.443998E+000.179949E+020.179886E+02  
0.179308E+020.338310E-03  
446  
0.444998E+000.100000E-020.229411E-03  
0.890000E+040.444998E+000.179947E+020.179884E+02  
0.179311E+020.229411E-03  
447  
0.445998E+000.100000E-020.240894E-03  
0.892000E+040.445998E+000.179964E+020.179903E+02  
0.179323E+020.240894E-03  
448  
0.446998E+000.100000E-020.188477E-03  
0.894000E+040.446998E+000.179962E+020.179900E+02  
0.179320E+020.188477E-03  
449  
0.447998E+000.100000E-020.175010E-03  
0.896000E+040.447998E+000.179948E+020.179886E+02  
0.179313E+020.175010E-03  
450  
0.448998E+000.100000E-020.340165E-03  
0.898000E+040.448998E+000.179965E+020.179900E+02  
0.179320E+020.340165E-03  
451  
0.449998E+000.100000E-020.303010E-03  
0.900000E+040.449998E+000.179960E+020.179895E+02  
0.179315E+020.303010E-03  
452  
0.450998E+000.100000E-020.205873E-03  
0.902000E+040.450998E+000.179946E+020.179883E+02  
0.179309E+020.205873E-03  
453  
0.451998E+000.100000E-020.142881E-03  
0.904000E+040.451998E+000.179956E+020.179896E+02  
0.179319E+020.142881E-03  
454  
0.452998E+000.100000E-020.168108E-03  
0.906000E+040.452998E+000.179969E+020.179907E+02  
0.179323E+020.168108E-03  
455  
0.453998E+000.100000E-020.318612E-03  
0.908000E+040.453998E+000.179954E+020.179890E+02  
0.179313E+020.318612E-03  
456  
0.454998E+000.100000E-020.279757E-03

0.910000E+040.454998E+000.179947E+020.179884E+02  
0.179308E+020.279757E-03  
457  
0.455998E+000.100000E-020.309150E-03  
0.912000E+040.455998E+000.179952E+020.179891E+02  
0.179315E+020.309150E-03  
458  
0.456998E+000.100000E-020.269036E-03  
0.914000E+040.456998E+000.179967E+020.179905E+02  
0.179324E+020.269036E-03  
459  
0.457998E+000.100000E-020.179380E-03  
0.916000E+040.457998E+000.179960E+020.179897E+02  
0.179318E+020.179380E-03  
460  
0.458998E+000.100000E-020.228402E-03  
0.918000E+040.458998E+000.179952E+020.179889E+02  
0.179313E+020.228402E-03  
461  
0.459998E+000.100000E-020.244342E-03  
0.920000E+040.459998E+000.179958E+020.179893E+02  
0.179313E+020.244342E-03  
462  
0.460998E+000.100000E-020.192464E-03  
0.922000E+040.460998E+000.179950E+020.179889E+02  
0.179313E+020.192464E-03  
463  
0.461998E+000.100000E-020.268488E-03  
0.924000E+040.461998E+000.179967E+020.179904E+02  
0.179322E+020.268488E-03  
464  
0.462998E+000.100000E-020.146889E-03  
0.926000E+040.462998E+000.179954E+020.179892E+02  
0.179314E+020.146889E-03  
465  
0.463998E+000.100000E-020.230534E-03  
0.928000E+040.463998E+000.179947E+020.179885E+02  
0.179311E+020.230534E-03  
466  
0.464998E+000.100000E-020.136474E-03  
0.930000E+040.464998E+000.179964E+020.179902E+02  
0.179321E+020.136474E-03  
467  
0.465998E+000.100000E-020.212444E-03  
0.932000E+040.465998E+000.179957E+020.179895E+02  
0.179318E+020.212444E-03  
468  
0.466998E+000.100000E-020.186899E-03  
0.934000E+040.466998E+000.179957E+020.179894E+02  
0.179316E+020.186899E-03  
469  
0.467998E+000.100000E-020.221213E-03  
0.936000E+040.467998E+000.179953E+020.179891E+02  
0.179313E+020.221213E-03  
470  
0.468998E+000.100000E-020.164135E-03  
0.938000E+040.468998E+000.179959E+020.179895E+02  
0.179316E+020.164135E-03  
471  
0.469997E+000.100000E-020.178484E-03  
0.940000E+040.469997E+000.179957E+020.179895E+02  
0.179317E+020.178484E-03  
472  
0.470997E+000.100000E-020.269834E-03  
0.942000E+040.470997E+000.179961E+020.179897E+02  
0.179317E+020.269834E-03

473

0.471997E+000.100000E-020.198363E-03  
0.944000E+040.471997E+000.179951E+020.179888E+02  
0.179312E+020.198363E-03

474

0.472997E+000.100000E-020.195925E-03  
0.946000E+040.472997E+000.179961E+020.179898E+02  
0.179317E+020.195925E-03

475

0.473997E+000.100000E-020.266209E-03  
0.948000E+040.473997E+000.179953E+020.179892E+02  
0.179313E+020.266209E-03

476

0.474997E+000.100000E-020.255208E-03  
0.950000E+040.474997E+000.179948E+020.179886E+02  
0.179312E+020.255208E-03

477

0.475997E+000.100000E-020.360351E-03  
0.952000E+040.475997E+000.179956E+020.179896E+02  
0.179321E+020.360351E-03

478

0.476997E+000.100000E-020.345905E-03  
0.954000E+040.476997E+000.179978E+020.179913E+02  
0.179326E+020.345905E-03

479

0.477997E+000.100000E-020.342691E-03  
0.956000E+040.477997E+000.179948E+020.179882E+02  
0.179307E+020.342691E-03

480

0.478997E+000.100000E-020.240680E-03  
0.958000E+040.478997E+000.179950E+020.179885E+02  
0.179310E+020.240680E-03

481

0.479997E+000.100000E-020.152937E-03  
0.960000E+040.479997E+000.179958E+020.179898E+02  
0.179317E+020.152937E-03

482

0.480997E+000.100000E-020.133781E-03  
0.962000E+040.480997E+000.179959E+020.179898E+02  
0.179319E+020.133781E-03

483

0.481997E+000.100000E-020.255294E-03  
0.964000E+040.481997E+000.179958E+020.179896E+02  
0.179318E+020.255294E-03

484

0.482997E+000.100000E-020.277747E-03  
0.966000E+040.482997E+000.179960E+020.179894E+02  
0.179313E+020.277747E-03

485

0.483997E+000.100000E-020.423284E-03  
0.968000E+040.483997E+000.179936E+020.179875E+02  
0.179306E+020.423284E-03

486

0.484997E+000.100000E-020.353436E-03  
0.970000E+040.484997E+000.179963E+020.179902E+02  
0.179324E+020.353436E-03

487

0.485997E+000.100000E-020.296176E-03  
0.972000E+040.485997E+000.179976E+020.179913E+02  
0.179327E+020.296176E-03

488

0.486997E+000.100000E-020.611429E-03  
0.974000E+040.486997E+000.179959E+020.179892E+02  
0.179312E+020.611429E-03

489

0.487997E+000.100000E-020.463846E-03

0.976000E+040.487997E+000.179937E+020.179873E+02  
0.179300E+020.463846E-03  
490  
0.488997E+000.100000E-020.386189E-03  
0.978000E+040.488997E+000.179950E+020.179888E+02  
0.179313E+020.386189E-03  
491  
0.489997E+000.100000E-020.375736E-03  
0.980000E+040.489997E+000.179972E+020.179913E+02  
0.179330E+020.375736E-03  
492  
0.490997E+000.100000E-020.318527E-03  
0.982000E+040.490997E+000.179970E+020.179906E+02  
0.179321E+020.318527E-03  
493  
0.491997E+000.100000E-020.404262E-03  
0.984000E+040.491997E+000.179931E+020.179869E+02  
0.179301E+020.404262E-03  
494  
0.492997E+000.100000E-020.214684E-03  
0.986000E+040.492997E+000.179954E+020.179891E+02  
0.179315E+020.214684E-03  
495  
0.493997E+000.100000E-020.325505E-03  
0.988000E+040.493997E+000.179976E+020.179912E+02  
0.179328E+020.325505E-03  
496  
0.494997E+000.100000E-020.268096E-03  
0.990000E+040.494997E+000.179958E+020.179894E+02  
0.179315E+020.268096E-03  
497  
0.495997E+000.100000E-020.294473E-03  
0.992000E+040.495997E+000.179950E+020.179885E+02  
0.179307E+020.294473E-03  
498  
0.496997E+000.100000E-020.140232E-03  
0.994000E+040.496997E+000.179953E+020.179891E+02  
0.179312E+020.140232E-03  
499  
0.497997E+000.100000E-020.303468E-03  
0.996000E+040.497997E+000.179951E+020.179891E+02  
0.179316E+020.303468E-03  
500  
0.498997E+000.100000E-020.235710E-03  
0.998000E+040.498997E+000.179968E+020.179906E+02  
0.179325E+020.235710E-03  
501  
0.499997E+000.100000E-020.345429E-03  
0.100000E+050.499997E+000.179963E+020.179899E+02  
0.179318E+020.345429E-03  
502  
0.500997E+000.100000E-020.314849E-03  
0.100200E+050.500997E+000.179945E+020.179881E+02  
0.179306E+020.314849E-03  
503  
0.501997E+000.100000E-020.210587E-03  
0.100400E+050.501997E+000.179952E+020.179889E+02  
0.179312E+020.210587E-03  
504  
0.502997E+000.100000E-020.268313E-03  
0.100600E+050.502997E+000.179959E+020.179899E+02  
0.179320E+020.268313E-03  
505  
0.503997E+000.100000E-020.230066E-03  
0.100800E+050.503997E+000.179967E+020.179904E+02  
0.179323E+020.230066E-03

506  
0.504997E+000.100000E-020.183087E-03  
0.101000E+050.504997E+000.179950E+020.179887E+02  
0.179311E+020.183087E-03  
507  
0.505997E+000.100000E-020.267619E-03  
0.101200E+050.505997E+000.179952E+020.179887E+02  
0.179312E+020.267619E-03  
508  
0.506997E+000.100000E-020.253065E-03  
0.101400E+050.506997E+000.179970E+020.179907E+02  
0.179321E+020.253065E-03  
509  
0.507997E+000.100000E-020.228932E-03  
0.101600E+050.507997E+000.179954E+020.179891E+02  
0.179311E+020.228932E-03  
510  
0.508997E+000.100000E-020.214214E-03  
0.101800E+050.508997E+000.179941E+020.179880E+02  
0.179307E+020.214214E-03  
511  
0.509997E+000.100000E-020.371229E-03  
0.102000E+050.509997E+000.179958E+020.179898E+02  
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512  
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587  
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0.179320E+020.292444E-03  
588  
0.586996E+000.100000E-020.222474E-03

**Τ.Ε.Ι. ΠΑΤΡΑΣ  
ΒΙΒΛΙΟΘΗΚΗ**

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611

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0.179309E+020.234886E-03  
624  
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0.124600E+050.622996E+000.179954E+020.179892E+02  
0.179316E+020.131741E-03  
625  
0.623996E+000.100000E-020.188497E-03  
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626  
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0.179318E+020.258589E-03  
627  
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0.125200E+050.625996E+000.179945E+020.179881E+02  
0.179306E+020.301423E-03  
628  
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0.179313E+020.222335E-03  
629  
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0.125600E+050.627995E+000.179965E+020.179904E+02  
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630  
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0.179323E+020.453722E-03  
631  
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0.179304E+020.401210E-03  
632  
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0.179305E+020.381808E-03  
633  
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0.179326E+020.314600E-03  
634  
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0.179321E+020.165156E-03  
635  
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0.179308E+020.149186E-03  
636  
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0.127000E+050.634995E+000.179959E+020.179895E+02  
0.179316E+020.249508E-03  
637  
0.635995E+000.100000E-020.207685E-03  
0.127200E+050.635995E+000.179957E+020.179895E+02  
0.179315E+020.207685E-03

638  
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641  
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642  
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643  
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644  
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647  
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649  
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650  
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0.179313E+020.235842E-03  
651  
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0.179319E+020.226361E-03  
652  
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653  
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0.179313E+020.131262E-03  
654  
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655  
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656  
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0.179311E+020.221621E-03  
657  
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0.179321E+020.150966E-03  
658  
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0.131400E+050.656995E+000.179962E+020.179899E+02  
0.179319E+020.246243E-03  
659  
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0.179309E+020.185536E-03  
660  
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661  
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0.179314E+020.207973E-03  
662  
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0.179313E+020.316463E-03  
663  
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664  
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0.179319E+020.350013E-03  
665  
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666  
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0.133000E+050.664995E+000.179958E+020.179895E+02  
0.179315E+020.177792E-03  
667  
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0.179315E+020.275718E-03  
668  
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0.133400E+050.666995E+000.179957E+020.179894E+02  
0.179316E+020.181258E-03  
669  
0.667995E+000.100000E-020.158067E-03  
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0.179314E+020.158067E-03  
670  
0.668995E+000.100000E-020.162191E-03  
0.133800E+050.668995E+000.179950E+020.179888E+02  
0.179314E+020.162191E-03



671

0.669995E+000.100000E-020.157516E-03  
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0.179320E+020.157516E-03

672

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0.134200E+050.670995E+000.179966E+020.179902E+02  
0.179320E+020.260069E-03

673

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0.134400E+050.671995E+000.179950E+020.179885E+02  
0.179309E+020.246557E-03

674

0.672995E+000.100000E-020.200139E-03  
0.134600E+050.672995E+000.179947E+020.179885E+02  
0.179311E+020.200139E-03

675

0.673995E+000.100000E-020.204676E-03  
0.134800E+050.673995E+000.179965E+020.179903E+02  
0.179321E+020.204676E-03

676

0.674995E+000.100000E-020.157235E-03  
0.135000E+050.674995E+000.179962E+020.179901E+02  
0.179320E+020.157235E-03

677

0.675995E+000.100000E-020.297900E-03  
0.135200E+050.675995E+000.179961E+020.179896E+02  
0.179314E+020.297900E-03

678

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0.135400E+050.676995E+000.179942E+020.179879E+02  
0.179304E+020.340581E-03

679

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0.135600E+050.677995E+000.179949E+020.179887E+02  
0.179313E+020.301472E-03

680

0.678995E+000.100000E-020.324101E-03  
0.135800E+050.678995E+000.179971E+020.179911E+02  
0.179329E+020.324101E-03

681

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0.136000E+050.679995E+000.179970E+020.179906E+02  
0.179320E+020.379227E-03

682

0.680995E+000.100000E-020.395190E-03  
0.136200E+050.680995E+000.179935E+020.179871E+02  
0.179300E+020.395190E-03

683

0.681995E+000.100000E-020.247961E-03  
0.136400E+050.681995E+000.179953E+020.179889E+02  
0.179313E+020.247961E-03

684

0.682995E+000.100000E-020.276585E-03  
0.136600E+050.682995E+000.179976E+020.179913E+02  
0.179326E+020.276585E-03

685

0.683995E+000.100000E-020.144748E-03  
0.136800E+050.683995E+000.179953E+020.179891E+02  
0.179313E+020.144748E-03

686

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0.179309E+020.160977E-03

687

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688  
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689  
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690  
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691  
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692  
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693  
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694  
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695  
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696  
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0.179316E+020.251792E-03  
697  
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0.179309E+020.262725E-03  
698  
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0.179311E+020.179252E-03  
699  
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700  
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701  
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702  
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0.179312E+020.190687E-03  
703  
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0.179315E+020.138814E-03

704  
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705  
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0.140800E+050.703995E+000.179965E+020.179903E+02  
0.179322E+020.290139E-03  
706  
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0.179312E+020.258531E-03  
707  
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0.179311E+020.240242E-03  
708  
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709  
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0.179320E+020.247911E-03  
710  
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711  
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0.179314E+020.139698E-03  
712  
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0.179318E+020.175681E-03  
713  
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0.179317E+020.251899E-03  
714  
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0.179313E+020.199683E-03  
715  
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0.179320E+020.193026E-03  
716  
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717  
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718  
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0.179325E+020.206758E-03  
720  
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0.179319E+020.209767E-03  
721  
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0.179311E+020.181881E-03  
722  
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0.144200E+050.720994E+000.179955E+020.179892E+02  
0.179315E+020.128555E-03  
723  
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724  
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725  
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726  
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727  
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728  
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729  
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730  
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731  
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0.179315E+020.288568E-03  
732  
0.730994E+000.100000E-020.337698E-03  
0.146200E+050.730994E+000.179958E+020.179898E+02  
0.179320E+020.337698E-03  
733  
0.731994E+000.100000E-020.328986E-03  
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0.179324E+020.328986E-03  
734  
0.732994E+000.100000E-020.311555E-03  
0.146600E+050.732994E+000.179960E+020.179895E+02  
0.179314E+020.311555E-03  
735  
0.733994E+000.100000E-020.288605E-03  
0.146800E+050.733994E+000.179945E+020.179880E+02  
0.179308E+020.288605E-03  
736  
0.734994E+000.100000E-020.235012E-03  
0.147000E+050.734994E+000.179963E+020.179900E+02  
0.179317E+020.235012E-03

737

0.735994E+000.100000E-020.192856E-03  
0.147200E+050.735994E+000.179960E+020.179898E+02  
0.179318E+020.192856E-03

738

0.736994E+000.100000E-020.408871E-03  
0.147400E+050.736994E+000.179961E+020.179897E+02  
0.179317E+020.408871E-03

739

0.737994E+000.100000E-020.333494E-03  
0.147600E+050.737994E+000.179952E+020.179888E+02  
0.179309E+020.333494E-03

740

0.738994E+000.100000E-020.258265E-03  
0.147800E+050.738994E+000.179949E+020.179887E+02  
0.179312E+020.258265E-03

741

0.739994E+000.100000E-020.243822E-03  
0.148000E+050.739994E+000.179963E+020.179902E+02  
0.179320E+020.243822E-03

742

0.740994E+000.100000E-020.192546E-03  
0.148200E+050.740994E+000.179956E+020.179893E+02  
0.179315E+020.192546E-03

743

0.741994E+000.100000E-020.226250E-03  
0.148400E+050.741994E+000.179946E+020.179885E+02  
0.179314E+020.226250E-03

744

0.742994E+000.100000E-020.298014E-03  
0.148600E+050.742994E+000.179978E+020.179912E+02  
0.179325E+020.298014E-03

745

0.743994E+000.100000E-020.197175E-03  
0.148800E+050.743994E+000.179952E+020.179888E+02  
0.179310E+020.197175E-03

746

0.744994E+000.100000E-020.197840E-03  
0.149000E+050.744994E+000.179945E+020.179882E+02  
0.179308E+020.197840E-03

747

0.745994E+000.100000E-020.132494E-03  
0.149200E+050.745994E+000.179962E+020.179900E+02  
0.179319E+020.132494E-03

748

0.746994E+000.100000E-020.153859E-03  
0.149400E+050.746994E+000.179962E+020.179899E+02  
0.179318E+020.153859E-03

749

0.747994E+000.100000E-020.133946E-03  
0.149600E+050.747994E+000.179949E+020.179888E+02  
0.179313E+020.133946E-03

750

0.748994E+000.100000E-020.154052E-03  
0.149800E+050.748994E+000.179962E+020.179899E+02  
0.179317E+020.154052E-03

TIM= 7.49E-01 DT= 1.00E-03 ISTEP=14999 DMAX= -2.972E-  
01 I= 11 K= 3  
FLOW IN= 5.715E-02 FLOW OUT= 5.715E-02 DSUM= 1.156E-  
04

RESID( 1)= 1.220E-04 RESID( 2)= 1.048E-04 RESID( 3)= 1.969E-01 RESID  
( 4)= 0.000E+00  
RESID( 5)= 2.411E-04 RESID( 6)= 4.746E+01 RESID( 7)= 2.107E-04 RESID  
( 8)= 0.000E+00

TIM= 7.49E-01 DT= 1.00E-03 ISTEP=14999 DMAX= -2.426E-01  
 I= 11 K= 3  
 FLOW IN= 5.715E-02 FLOW OUT= 5.715E-02 DSUM= 1.173E-04  
 RESID( 1)= 1.239E-04 RESID( 2)= 8.839E-05 RESID( 3)= 1.465E-01 RESID( 4)= 0.000E+00  
 RESID( 5)= 2.282E-04 RESID( 6)= 4.746E+01 RESID( 7)= 2.375E-04 RESID( 8)= 0.000E+00

TIM= 7.49E-01 DT= 1.00E-03 ISTEP=14999 DMAX= -2.426E-01  
 I= 11 K= 3  
 FLOW IN= 5.715E-02 FLOW OUT= 5.715E-02 DSUM= 1.173E-04  
 RESID( 1)= 1.239E-04 RESID( 2)= 8.839E-05 RESID( 3)= 1.465E-01 RESID( 4)= 0.000E+00  
 RESID( 5)= 2.282E-04 RESID( 6)= 4.746E+01 RESID( 7)= 2.375E-04 RESID( 8)= 0.000E+00

\*\*\*\*\* U VELOCITY \*\*\*\*\*  
 \*\*\*\*\*  
 0 X= 0.000E+00 1.500E-04 2.500E-04 3.500E-04 4.500E-04  
 04 5.500E-04 6.500E-04 7.500E-04 8.500E-04 9.500E-04  
 0 K= 2 3 4 5 6  
 7 8 9 10 11  
 I Y  
 59 7.600E-02 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00  
 00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00  
 58 7.200E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 57 7.000E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 56 6.800E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 55 6.600E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 54 6.400E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 53 6.200E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 52 6.000E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 51 5.800E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 50 5.600E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 49 5.400E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 48 5.200E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 47 4.900E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 46 4.600E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 45 4.400E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 44 4.200E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 43 4.000E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 42 3.800E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 41 3.600E-02 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01  
 01 1.800E+01 1.800E+01 1.800E+01 1.800E+01 1.800E+01

40	3.400E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
39	3.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
38	3.000E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
37	2.800E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
36	2.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
35	2.400E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.801E+01	1.801E+01	1.801E+01	
34	2.200E-02	1.800E+01	1.800E+01	1.801E+01	1.801E+01	1.801E+01	1.802E+
01	1.802E+01	1.803E+01	1.803E+01	1.803E+01	1.804E+01	1.804E+01	
33	2.000E-02	1.800E+01	1.806E+01	1.809E+01	1.810E+01	1.810E+01	1.810E+
01	1.810E+01	1.810E+01	1.810E+01	1.809E+01	1.809E+01	1.809E+01	
32	1.950E-02	1.800E+01	1.771E+01	1.782E+01	1.794E+01	1.794E+01	1.805E+
01	1.815E+01	1.824E+01	1.833E+01	1.840E+01	1.847E+01	1.847E+01	
31	1.850E-02	0.000E+00	1.455E+00	1.757E+00	1.980E+00	1.980E+00	2.183E+
00	2.379E+00	2.569E+00	2.756E+00	2.930E+00	3.109E+00	3.109E+00	
30	1.800E-02	0.000E+00	-4.460E-01	-3.492E-01	-2.404E-01	-2.404E-01	-1.365E-
01	-3.518E-02	6.505E-02	1.924E-01	2.923E-01	3.505E-01	3.505E-01	
29	1.700E-02	0.000E+00	-1.483E-01	-1.460E-01	-1.266E-01	-1.266E-01	-1.020E-
01	-7.552E-02	-4.799E-02	-1.947E-02	2.920E-02	5.957E-02	5.957E-02	
28	1.600E-02	0.000E+00	-1.366E-01	-1.681E-01	-1.887E-01	-1.887E-01	-2.028E-
01	-2.135E-01	-2.220E-01	-2.288E-01	-2.342E-01	-2.383E-01	-2.383E-01	
27	1.500E-02	0.000E+00	-3.616E-02	-6.331E-02	-8.768E-02	-8.768E-02	-1.080E-
01	-1.253E-01	-1.404E-01	-1.537E-01	-1.656E-01	-1.764E-01	-1.764E-01	
26	1.400E-02	0.000E+00	-1.846E-02	-4.685E-02	-7.564E-02	-7.564E-02	-1.018E-
01	-1.252E-01	-1.463E-01	-1.654E-01	-1.830E-01	-1.992E-01	-1.992E-01	
25	1.300E-02	0.000E+00	-4.885E-02	-9.368E-02	-1.376E-01	-1.376E-01	-1.779E-
01	-2.149E-01	-2.491E-01	-2.809E-01	-3.105E-01	-3.383E-01	-3.383E-01	
24	1.200E-02	0.000E+00	-1.525E-01	-2.228E-01	-2.883E-01	-2.883E-01	-3.481E-
01	-4.039E-01	-4.563E-01	-5.059E-01	-5.529E-01	-5.977E-01	-5.977E-01	
23	1.100E-02	0.000E+00	-2.771E-01	-3.561E-01	-4.303E-01	-4.303E-01	-4.989E-
01	-5.639E-01	-6.261E-01	-6.860E-01	-7.437E-01	-7.994E-01	-7.994E-01	
22	1.000E-02	0.000E+00	-1.306E-02	-6.042E-02	-1.089E-01	-1.089E-01	-1.554E-
01	-1.996E-01	-2.419E-01	-2.824E-01	-3.215E-01	-3.592E-01	-3.592E-01	
21	9.000E-03	0.000E+00	3.174E-02	-1.392E-03	-3.746E-02	-3.746E-02	-7.273E-
02	-1.064E-01	-1.385E-01	-1.692E-01	-1.987E-01	-2.271E-01	-2.271E-01	
20	8.000E-03	0.000E+00	-3.624E-02	-6.843E-02	-1.013E-01	-1.013E-01	-1.328E-
01	-1.629E-01	-1.919E-01	-2.198E-01	-2.469E-01	-2.732E-01	-2.732E-01	
19	6.700E-03	0.000E+00	-1.031E-01	-1.424E-01	-1.768E-01	-1.768E-01	-2.081E-
01	-2.380E-01	-2.671E-01	-2.955E-01	-3.232E-01	-3.503E-01	-3.503E-01	
18	5.500E-03	0.000E+00	-1.431E-01	-1.782E-01	-2.043E-01	-2.043E-01	-2.282E-
01	-2.516E-01	-2.749E-01	-2.980E-01	-3.135E-01	-3.301E-01	-3.301E-01	
17	4.500E-03	0.000E+00	-4.386E-02	1.279E-06	3.266E-02	3.266E-02	5.471E-
02	6.950E-02	7.911E-02	1.373E-01	3.874E-01	4.068E-01	4.068E-01	
16	3.700E-03	0.000E+00	8.431E-01	1.218E+00	1.463E+00	1.463E+00	1.645E+
00	1.785E+00	1.898E+00	1.988E+00	1.975E+00	1.963E+00	1.963E+00	
15	3.100E-03	0.000E+00	-1.514E-01	-7.628E-02	-3.055E-02	-3.055E-02	8.473E-
03	4.499E-02	8.018E-02	1.146E-01	1.485E-01	1.820E-01	1.820E-01	
14	2.600E-03	0.000E+00	1.599E-01	2.817E-01	3.501E-01	3.501E-01	4.113E-
01	4.703E-01	5.284E-01	5.861E-01	6.437E-01	7.011E-01	7.011E-01	
13	2.200E-03	0.000E+00	1.764E+00	1.905E+00	1.993E+00	1.993E+00	2.082E+
00	2.175E+00	2.271E+00	2.369E+00	2.469E+00	2.571E+00	2.571E+00	
12	1.900E-03	0.000E+00	5.887E+00	6.143E+00	6.335E+00	6.335E+00	6.533E+
00	6.733E+00	6.934E+00	7.134E+00	7.332E+00	7.529E+00	7.529E+00	
11	1.700E-03	0.000E+00	1.215E+01	1.354E+01	1.438E+01	1.438E+01	1.507E+
01	1.566E+01	1.617E+01	1.663E+01	1.706E+01	1.746E+01	1.746E+01	
10	1.500E-03	6.250E+01	4.960E+01	4.969E+01	4.992E+01	4.992E+01	5.017E+
01	5.041E+01	5.063E+01	5.083E+01	5.098E+01	5.107E+01	5.107E+01	
9	1.400E-03	6.250E+01	5.560E+01	5.537E+01	5.531E+01	5.531E+01	5.529E+
01	5.529E+01	5.532E+01	5.537E+01	5.542E+01	5.548E+01	5.548E+01	
8	1.200E-03	6.250E+01	6.012E+01	5.990E+01	5.980E+01	5.980E+01	5.968E+
01	5.957E+01	5.945E+01	5.935E+01	5.924E+01	5.915E+01	5.915E+01	

7	1.000E-03	6.250E+01	6.186E+01	6.173E+01	6.167E+01	6.159E+
01	6.149E+01	6.139E+01	6.128E+01	6.117E+01	6.105E+01	
6	8.000E-04	6.250E+01	6.256E+01	6.250E+01	6.248E+01	6.244E+
01	6.238E+01	6.230E+01	6.222E+01	6.212E+01	6.202E+01	
5	6.000E-04	6.250E+01	6.297E+01	6.299E+01	6.300E+01	6.299E+
01	6.296E+01	6.291E+01	6.284E+01	6.276E+01	6.267E+01	
4	4.000E-04	6.250E+01	6.361E+01	6.372E+01	6.378E+01	6.381E+
01	6.381E+01	6.378E+01	6.373E+01	6.367E+01	6.358E+01	
3	2.000E-04	6.250E+01	6.554E+01	6.581E+01	6.596E+01	6.608E+
01	6.614E+01	6.615E+01	6.611E+01	6.605E+01	6.597E+01	
2	1.000E-04	6.250E+01	7.192E+01	7.276E+01	7.326E+01	7.365E+
01	7.388E+01	7.396E+01	7.393E+01	7.381E+01	7.363E+01	
1	0.000E+00	0.000E+00	7.191E+01	7.276E+01	7.326E+01	7.365E+
01	7.388E+01	7.396E+01	7.393E+01	7.381E+01	7.363E+01	
0	X=	1.050E-03	1.150E-03	1.250E-03	1.350E-03	1.450E-
03	1.550E-03	1.650E-03	1.750E-03	1.850E-03	1.950E-03	
0	K=	12	13	14	15	16
17	18	19	20	21		

I	Y					
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
58	7.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
57	7.000E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
56	6.800E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
55	6.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
54	6.400E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
53	6.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
52	6.000E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
51	5.800E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
50	5.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
49	5.400E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
48	5.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
47	4.900E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
46	4.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
45	4.400E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
44	4.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
43	4.000E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
42	3.800E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
41	3.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
40	3.400E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
39	3.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
38	3.000E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
37	2.800E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
36	2.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+



01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	
35	2.400E-02	1.801E+01	1.801E+01	1.801E+01	1.801E+01	1.801E+01	1.801E+
01	1.801E+01	1.801E+01	1.801E+01	1.801E+01	1.801E+01	1.801E+01	
34	2.200E-02	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+
01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	1.804E+01	
33	2.000E-02	1.808E+01	1.807E+01	1.806E+01	1.805E+01	1.804E+01	1.804E+
01	1.804E+01	1.803E+01	1.802E+01	1.801E+01	1.801E+01	1.801E+01	
32	1.950E-02	1.854E+01	1.860E+01	1.866E+01	1.871E+01	1.871E+01	1.876E+
01	1.880E+01	1.884E+01	1.888E+01	1.892E+01	1.896E+01	1.896E+01	
31	1.850E-02	3.285E+00	3.458E+00	3.628E+00	3.795E+00	3.959E+00	3.959E+
00	4.121E+00	4.279E+00	4.434E+00	4.587E+00	4.736E+00	4.736E+00	
30	1.800E-02	4.505E-01	5.507E-01	6.510E-01	7.514E-01	8.520E-01	8.520E-
01	9.527E-01	1.053E+00	1.154E+00	1.255E+00	1.584E+00	1.584E+00	
29	1.700E-02	9.094E-02	1.232E-01	1.564E-01	1.904E-01	2.252E-01	2.252E-
01	2.608E-01	2.971E-01	3.343E-01	3.722E-01	4.129E-01	4.129E-01	
28	1.600E-02	-2.411E-01	-2.428E-01	-2.433E-01	-2.428E-01	-2.413E-01	-2.413E-
01	-2.389E-01	-2.354E-01	-2.312E-01	-2.260E-01	-2.235E-01	-2.235E-01	
27	1.500E-02	-1.860E-01	-1.947E-01	-2.025E-01	-2.094E-01	-2.155E-01	-2.155E-
01	-2.208E-01	-2.254E-01	-2.291E-01	-2.321E-01	-2.404E-01	-2.404E-01	
26	1.400E-02	-2.141E-01	-2.278E-01	-2.405E-01	-2.521E-01	-2.627E-01	-2.627E-
01	-2.724E-01	-2.811E-01	-2.891E-01	-2.961E-01	-3.112E-01	-3.112E-01	
25	1.300E-02	-3.643E-01	-3.886E-01	-4.114E-01	-4.327E-01	-4.527E-01	-4.527E-
01	-4.714E-01	-4.888E-01	-5.052E-01	-5.204E-01	-5.495E-01	-5.495E-01	
24	1.200E-02	-6.404E-01	-6.810E-01	-7.199E-01	-7.570E-01	-7.925E-01	-7.925E-
01	-8.266E-01	-8.592E-01	-8.906E-01	-9.208E-01	-9.738E-01	-9.738E-01	
23	1.100E-02	-8.534E-01	-9.056E-01	-9.562E-01	-1.005E+00	-1.053E+00	-1.053E+
00	-1.099E+00	-1.144E+00	-1.188E+00	-1.231E+00	-1.303E+00	-1.303E+00	
22	1.000E-02	-3.956E-01	-4.308E-01	-4.648E-01	-4.976E-01	-5.294E-01	-5.294E-
01	-5.602E-01	-5.900E-01	-6.190E-01	-6.471E-01	-6.922E-01	-6.922E-01	
21	9.000E-03	-2.545E-01	-2.809E-01	-3.065E-01	-3.313E-01	-3.552E-01	-3.552E-
01	-3.784E-01	-4.008E-01	-4.226E-01	-4.436E-01	-4.784E-01	-4.784E-01	
20	8.000E-03	-2.987E-01	-3.235E-01	-3.476E-01	-3.710E-01	-3.937E-01	-3.937E-
01	-4.157E-01	-4.370E-01	-4.578E-01	-4.779E-01	-5.144E-01	-5.144E-01	
19	6.700E-03	-3.767E-01	-4.026E-01	-4.278E-01	-4.524E-01	-4.764E-01	-4.764E-
01	-4.996E-01	-5.223E-01	-5.443E-01	-5.656E-01	-6.058E-01	-6.058E-01	
18	5.500E-03	-3.473E-01	-3.649E-01	-3.826E-01	-4.004E-01	-4.179E-01	-4.179E-
01	-4.352E-01	-4.522E-01	-4.687E-01	-4.848E-01	-5.126E-01	-5.126E-01	
17	4.500E-03	4.201E-01	4.287E-01	4.340E-01	4.367E-01	4.376E-01	4.376E-
01	4.373E-01	4.362E-01	4.345E-01	4.324E-01	4.301E-01	4.301E-01	
16	3.700E-03	1.952E+00	1.942E+00	1.932E+00	1.923E+00	1.915E+00	1.915E+
00	1.908E+00	1.901E+00	1.896E+00	1.891E+00	1.886E+00	1.886E+00	
15	3.100E-03	2.153E-01	2.484E-01	2.814E-01	3.144E-01	3.475E-01	3.475E-
01	3.806E-01	4.137E-01	4.469E-01	4.802E-01	5.136E-01	5.136E-01	
14	2.600E-03	7.586E-01	8.162E-01	8.740E-01	9.320E-01	9.901E-01	9.901E-
01	1.048E+00	1.107E+00	1.165E+00	1.224E+00	1.283E+00	1.283E+00	
13	2.200E-03	2.674E+00	2.777E+00	2.881E+00	2.986E+00	3.091E+00	3.091E+
00	3.197E+00	3.303E+00	3.409E+00	3.516E+00	3.623E+00	3.623E+00	
12	1.900E-03	7.725E+00	7.919E+00	8.111E+00	8.303E+00	8.493E+00	8.493E+
00	8.682E+00	8.870E+00	9.056E+00	9.242E+00	9.427E+00	9.427E+00	
11	1.700E-03	1.784E+01	1.820E+01	1.854E+01	1.888E+01	1.920E+01	1.920E+
01	1.951E+01	1.981E+01	2.010E+01	2.039E+01	2.066E+01	2.066E+01	
10	1.500E-03	5.113E+01	5.118E+01	5.121E+01	5.123E+01	5.123E+01	5.123E+
01	5.122E+01	5.121E+01	5.118E+01	5.115E+01	5.116E+01	5.116E+01	
9	1.400E-03	5.555E+01	5.561E+01	5.566E+01	5.572E+01	5.576E+01	5.576E+
01	5.581E+01	5.583E+01	5.583E+01	5.581E+01	5.584E+01	5.584E+01	
8	1.200E-03	5.906E+01	5.898E+01	5.891E+01	5.884E+01	5.878E+01	5.878E+
01	5.872E+01	5.867E+01	5.862E+01	5.858E+01	5.857E+01	5.857E+01	
7	1.000E-03	6.093E+01	6.081E+01	6.070E+01	6.059E+01	6.047E+01	6.047E+
01	6.037E+01	6.026E+01	6.016E+01	6.006E+01	5.998E+01	5.998E+01	
6	8.000E-04	6.191E+01	6.180E+01	6.169E+01	6.157E+01	6.146E+01	6.146E+
01	6.135E+01	6.123E+01	6.112E+01	6.101E+01	6.090E+01	6.090E+01	
5	6.000E-04	6.258E+01	6.248E+01	6.237E+01	6.227E+01	6.216E+01	6.216E+
01	6.205E+01	6.193E+01	6.182E+01	6.171E+01	6.160E+01	6.160E+01	
4	4.000E-04	6.349E+01	6.339E+01	6.329E+01	6.318E+01	6.306E+01	6.306E+
01	6.295E+01	6.283E+01	6.271E+01	6.260E+01	6.248E+01	6.248E+01	
3	2.000E-04	6.587E+01	6.575E+01	6.562E+01	6.549E+01	6.536E+01	6.536E+

01	6.521E+01	6.507E+01	6.493E+01	6.479E+01	6.464E+01		
2	1.000E-04	7.340E+01	7.313E+01	7.284E+01	7.254E+01	7.222E+	
01	7.190E+01	7.158E+01	7.126E+01	7.094E+01	7.062E+01		
1	0.000E+00	7.340E+01	7.314E+01	7.285E+01	7.255E+01	7.223E+	
01	7.191E+01	7.159E+01	7.127E+01	7.095E+01	7.063E+01		
0		X=	2.100E-03	2.300E-03	2.500E-03	2.700E-03	2.900E-
03	3.150E-03	3.450E-03	3.750E-03	4.050E-03	4.350E-03		
0		K=	22	23	24	25	26
27		28	29	30	31		
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
58	7.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
57	7.000E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
56	6.800E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
55	6.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
54	6.400E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
53	6.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
52	6.000E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
51	5.800E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
50	5.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
49	5.400E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
48	5.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
47	4.900E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01		
46	4.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.800E+01	1.799E+01	1.799E+01		
45	4.400E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.800E+01	1.799E+01	1.799E+01	1.799E+01		
44	4.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01		
43	4.000E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.800E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01		
42	3.800E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+	
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01		
41	3.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.799E+	
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01		
40	3.400E-02	1.800E+01	1.800E+01	1.800E+01	1.799E+01	1.799E+	
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01		
39	3.200E-02	1.800E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+	
01	1.799E+01	1.799E+01	1.799E+01	1.798E+01	1.798E+01		
38	3.000E-02	1.800E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+	
01	1.799E+01	1.799E+01	1.798E+01	1.798E+01	1.798E+01		
37	2.800E-02	1.800E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+	
01	1.799E+01	1.799E+01	1.798E+01	1.798E+01	1.798E+01		
36	2.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.799E+	
01	1.799E+01	1.799E+01	1.799E+01	1.798E+01	1.798E+01		
35	2.400E-02	1.801E+01	1.801E+01	1.801E+01	1.801E+01	1.801E+	
01	1.800E+01	1.800E+01	1.799E+01	1.798E+01	1.797E+01		
34	2.200E-02	1.804E+01	1.803E+01	1.803E+01	1.802E+01	1.801E+	
01	1.800E+01	1.799E+01	1.797E+01	1.795E+01	1.794E+01		
33	2.000E-02	1.800E+01	1.799E+01	1.798E+01	1.797E+01	1.796E+	
01	1.796E+01	1.796E+01	1.795E+01	1.794E+01	1.794E+01		
32	1.950E-02	1.900E+01	1.906E+01	1.910E+01	1.913E+01	1.916E+	
01	1.920E+01	1.921E+01	1.920E+01	1.919E+01	1.916E+01		

31	1.850E-02	4.954E+00	5.231E+00	5.509E+00	5.758E+00	5.999E+	
00	6.285E+00	6.601E+00	6.893E+00	7.168E+00	7.423E+00		
30	1.800E-02	1.735E+00	2.954E+00	3.147E+00	1.936E+00	2.115E+	
00	2.298E+00	2.543E+00	2.778E+00	3.032E+00	3.284E+00		
29	1.700E-02	4.895E-01	6.003E-01	1.347E+00	1.720E+00	1.904E+	
00	3.075E+00	3.419E+00	3.111E+00	3.491E+00	3.039E+00		
28	1.600E-02	-2.236E-01	-2.172E-01	-1.919E-01	-7.710E-02	-2.896E-	
02	1.110E-01	4.107E-01	6.171E-01	7.800E-01	1.064E+00		
27	1.500E-02	-2.565E-01	-2.670E-01	-2.698E-01	-2.704E-01	-2.708E-	
01	-2.715E-01	-2.433E-01	-8.634E-02	-1.086E-01	1.427E-01		
26	1.400E-02	-3.361E-01	-3.517E-01	-3.572E-01	-3.609E-01	-3.681E-	
01	-3.774E-01	-3.767E-01	-3.682E-01	-3.545E-01	-2.109E-01		
25	1.300E-02	-5.959E-01	-6.281E-01	-6.445E-01	-6.593E-01	-6.821E-	
01	-7.124E-01	-7.302E-01	-7.377E-01	-7.440E-01	-7.309E-01		
24	1.200E-02	-1.059E+00	-1.128E+00	-1.173E+00	-1.215E+00	-1.273E+	
00	-1.351E+00	-1.417E+00	-1.467E+00	-1.518E+00	-1.569E+00		
23	1.100E-02	-1.422E+00	-1.526E+00	-1.598E+00	-1.669E+00	-1.761E+	
00	-1.888E+00	-2.005E+00	-2.098E+00	-2.191E+00	-2.286E+00		
22	1.000E-02	-7.663E-01	-8.326E-01	-8.798E-01	-9.249E-01	-9.828E-	
01	-1.063E+00	-1.134E+00	-1.189E+00	-1.241E+00	-1.290E+00		
21	9.000E-03	-5.359E-01	-5.862E-01	-6.210E-01	-6.543E-01	-6.983E-	
01	-7.596E-01	-8.123E-01	-8.505E-01	-8.860E-01	-9.190E-01		
20	8.000E-03	-5.754E-01	-6.259E-01	-6.589E-01	-6.905E-01	-7.353E-	
01	-7.991E-01	-8.518E-01	-8.884E-01	-9.227E-01	-9.548E-01		
19	6.700E-03	-6.731E-01	-7.281E-01	-7.635E-01	-7.973E-01	-8.466E-	
01	-9.177E-01	-9.765E-01	-1.017E+00	-1.056E+00	-1.092E+00		
18	5.500E-03	-5.588E-01	-5.984E-01	-6.249E-01	-6.503E-01	-6.852E-	
01	-7.347E-01	-7.769E-01	-8.076E-01	-8.375E-01	-8.667E-01		
17	4.500E-03	4.255E-01	4.188E-01	4.132E-01	4.085E-01	4.047E-	
01	3.994E-01	3.950E-01	3.925E-01	3.887E-01	3.821E-01		
16	3.700E-03	1.881E+00	1.876E+00	1.873E+00	1.869E+00	1.870E+	
00	1.880E+00	1.889E+00	1.907E+00	1.922E+00	1.936E+00		
15	3.100E-03	5.638E-01	6.310E-01	6.986E-01	7.666E-01	8.350E-	
01	9.208E-01	1.024E+00	1.129E+00	1.233E+00	1.338E+00		
14	2.600E-03	1.372E+00	1.491E+00	1.610E+00	1.730E+00	1.851E+	
00	2.002E+00	2.183E+00	2.366E+00	2.549E+00	2.731E+00		
13	2.200E-03	3.783E+00	3.995E+00	4.207E+00	4.420E+00	4.632E+	
00	4.896E+00	5.211E+00	5.524E+00	5.834E+00	6.142E+00		
12	1.900E-03	9.703E+00	1.006E+01	1.042E+01	1.077E+01	1.112E+	
01	1.155E+01	1.205E+01	1.254E+01	1.301E+01	1.347E+01		
11	1.700E-03	2.107E+01	2.158E+01	2.206E+01	2.252E+01	2.297E+	
01	2.350E+01	2.409E+01	2.464E+01	2.515E+01	2.563E+01		
10	1.500E-03	5.111E+01	5.096E+01	5.079E+01	5.061E+01	5.046E+	
01	5.025E+01	4.997E+01	4.969E+01	4.942E+01	4.914E+01		
9	1.400E-03	5.584E+01	5.576E+01	5.567E+01	5.557E+01	5.549E+	
01	5.537E+01	5.517E+01	5.494E+01	5.466E+01	5.438E+01		
8	1.200E-03	5.855E+01	5.847E+01	5.840E+01	5.834E+01	5.831E+	
01	5.826E+01	5.816E+01	5.804E+01	5.789E+01	5.771E+01		
7	1.000E-03	5.986E+01	5.969E+01	5.954E+01	5.939E+01	5.927E+	
01	5.913E+01	5.895E+01	5.877E+01	5.861E+01	5.845E+01		
6	8.000E-04	6.075E+01	6.054E+01	6.034E+01	6.014E+01	5.996E+	
01	5.975E+01	5.950E+01	5.926E+01	5.903E+01	5.881E+01		
5	6.000E-04	6.143E+01	6.121E+01	6.100E+01	6.079E+01	6.059E+	
01	6.034E+01	6.005E+01	5.977E+01	5.950E+01	5.924E+01		
4	4.000E-04	6.230E+01	6.207E+01	6.184E+01	6.162E+01	6.139E+	
01	6.113E+01	6.081E+01	6.051E+01	6.021E+01	5.992E+01		
3	2.000E-04	6.443E+01	6.415E+01	6.387E+01	6.360E+01	6.334E+	
01	6.302E+01	6.265E+01	6.230E+01	6.196E+01	6.162E+01		
2	1.000E-04	7.016E+01	6.957E+01	6.901E+01	6.848E+01	6.797E+	
01	6.738E+01	6.673E+01	6.614E+01	6.560E+01	6.508E+01		
1	0.000E+00	7.017E+01	6.958E+01	6.902E+01	6.848E+01	6.798E+	
01	6.738E+01	6.674E+01	6.615E+01	6.561E+01	6.509E+01		
0		X=	4.650E-03	5.000E-03	5.400E-03	5.800E-03	6.250E-
03	6.750E-03	7.250E-03	7.750E-03	8.250E-03	8.750E-03		
0		K=	32	33	34	35	36
37	38	39	40	41			

I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
58	7.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.799E+01	1.799E+
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	
57	7.000E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.800E+01	1.799E+01	1.799E+01	1.799E+01	
56	6.800E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.800E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	
55	6.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.800E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	
54	6.400E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	
53	6.200E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	
52	6.000E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.799E+
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	
51	5.800E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.799E+
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	
50	5.600E-02	1.800E+01	1.800E+01	1.800E+01	1.800E+01	1.799E+01	1.799E+
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	
49	5.400E-02	1.800E+01	1.800E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	
48	5.200E-02	1.800E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+
01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.798E+01	
47	4.900E-02	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+
01	1.799E+01	1.799E+01	1.799E+01	1.798E+01	1.798E+01	1.798E+01	
46	4.600E-02	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+
01	1.799E+01	1.798E+01	1.798E+01	1.798E+01	1.798E+01	1.798E+01	
45	4.400E-02	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+
01	1.798E+01	1.798E+01	1.798E+01	1.798E+01	1.798E+01	1.797E+01	
44	4.200E-02	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.798E+
01	1.798E+01	1.798E+01	1.798E+01	1.797E+01	1.797E+01	1.797E+01	
43	4.000E-02	1.799E+01	1.799E+01	1.799E+01	1.799E+01	1.798E+01	1.798E+
01	1.798E+01	1.798E+01	1.797E+01	1.797E+01	1.797E+01	1.797E+01	
42	3.800E-02	1.799E+01	1.799E+01	1.799E+01	1.798E+01	1.798E+01	1.798E+
01	1.798E+01	1.797E+01	1.797E+01	1.796E+01	1.796E+01	1.796E+01	
41	3.600E-02	1.799E+01	1.798E+01	1.798E+01	1.798E+01	1.798E+01	1.797E+
01	1.797E+01	1.797E+01	1.796E+01	1.796E+01	1.796E+01	1.795E+01	
40	3.400E-02	1.798E+01	1.798E+01	1.798E+01	1.798E+01	1.797E+01	1.797E+
01	1.796E+01	1.796E+01	1.795E+01	1.795E+01	1.795E+01	1.794E+01	
39	3.200E-02	1.798E+01	1.798E+01	1.797E+01	1.797E+01	1.797E+01	1.796E+
01	1.796E+01	1.795E+01	1.794E+01	1.793E+01	1.793E+01	1.793E+01	
38	3.000E-02	1.798E+01	1.797E+01	1.797E+01	1.797E+01	1.796E+01	1.795E+
01	1.795E+01	1.794E+01	1.793E+01	1.792E+01	1.791E+01	1.791E+01	
37	2.800E-02	1.797E+01	1.797E+01	1.796E+01	1.796E+01	1.795E+01	1.794E+
01	1.793E+01	1.792E+01	1.791E+01	1.790E+01	1.790E+01	1.788E+01	
36	2.600E-02	1.797E+01	1.796E+01	1.795E+01	1.795E+01	1.794E+01	1.793E+
01	1.791E+01	1.790E+01	1.788E+01	1.786E+01	1.784E+01	1.784E+01	
35	2.400E-02	1.796E+01	1.795E+01	1.794E+01	1.794E+01	1.792E+01	1.790E+
01	1.788E+01	1.786E+01	1.783E+01	1.781E+01	1.779E+01	1.779E+01	
34	2.200E-02	1.792E+01	1.790E+01	1.787E+01	1.787E+01	1.784E+01	1.781E+
01	1.778E+01	1.774E+01	1.770E+01	1.767E+01	1.764E+01	1.764E+01	
33	2.000E-02	1.793E+01	1.793E+01	1.792E+01	1.792E+01	1.791E+01	1.790E+
01	1.788E+01	1.786E+01	1.784E+01	1.781E+01	1.778E+01	1.778E+01	
32	1.950E-02	1.912E+01	1.906E+01	1.898E+01	1.898E+01	1.887E+01	1.875E+
01	1.859E+01	1.842E+01	1.823E+01	1.801E+01	1.778E+01	1.778E+01	
31	1.850E-02	7.662E+00	7.918E+00	8.170E+00	8.383E+00	8.589E+00	8.589E+
00	8.766E+00	8.887E+00	8.950E+00	8.947E+00	8.878E+00	8.878E+00	
30	1.800E-02	3.543E+00	3.855E+00	4.211E+00	4.599E+00	4.946E+00	4.946E+
00	5.349E+00	5.717E+00	6.083E+00	6.448E+00	6.821E+00	6.821E+00	
29	1.700E-02	3.325E+00	4.778E+00	5.273E+00	2.656E+00	1.912E+00	1.912E+
00	2.196E+00	2.360E+00	2.718E+00	3.103E+00	3.424E+00	3.424E+00	
28	1.600E-02	1.199E+00	3.369E+00	3.513E+00	3.451E+00	3.238E+00	3.238E+
00	3.222E+00	3.400E+00	3.755E+00	1.414E+00	1.045E+00	1.045E+00	
27	1.500E-02	2.197E-01	4.395E-01	1.004E-00	1.665E+00	1.732E+00	1.732E+

00	1.735E+00	1.798E+00	1.827E+00	1.921E+00	2.134E+00		
26	1.400E-02	-2.674E-01	-7.079E-02	-1.047E-01	2.352E-02	6.016E-	
02	1.372E-01	2.031E-01	2.948E-01	3.919E-01	4.768E-01		
25	1.300E-02	-8.809E-01	-1.416E+00	-1.831E+00	-1.605E+00	-3.054E+	
00	-2.606E+00	-2.524E+00	-2.303E+00	-1.957E+00	-8.875E-01		
24	1.200E-02	-1.627E+00	-1.793E+00	-2.046E+00	-3.533E+00	-4.522E+	
00	-3.846E+00	-4.702E+00	-2.697E+00	-1.518E+00	-1.346E+00		
23	1.100E-02	-2.392E+00	-2.523E+00	-2.619E+00	-2.691E+00	-3.036E+	
00	-3.103E+00	-2.814E+00	-3.601E+00	-3.998E+00	-3.271E+00		
22	1.000E-02	-1.347E+00	-1.417E+00	-1.480E+00	-1.538E+00	-1.603E+	
00	-1.631E+00	-1.672E+00	-1.705E+00	-1.709E+00	-1.718E+00		
21	9.000E-03	-9.588E-01	-1.009E+00	-1.049E+00	-1.084E+00	-1.122E+	
00	-1.145E+00	-1.154E+00	-1.155E+00	-1.147E+00	-1.129E+00		
20	8.000E-03	-9.970E-01	-1.052E+00	-1.095E+00	-1.132E+00	-1.175E+	
00	-1.199E+00	-1.206E+00	-1.203E+00	-1.192E+00	-1.174E+00		
19	6.700E-03	-1.141E+00	-1.206E+00	-1.257E+00	-1.302E+00	-1.356E+	
00	-1.390E+00	-1.405E+00	-1.411E+00	-1.409E+00	-1.400E+00		
18	5.500E-03	-9.049E-01	-9.554E-01	-9.993E-01	-1.041E+00	-1.090E+	
00	-1.126E+00	-1.148E+00	-1.165E+00	-1.177E+00	-1.181E+00		
17	4.500E-03	3.712E-01	3.535E-01	3.290E-01	3.001E-01	2.704E-	
01	2.483E-01	2.295E-01	2.040E-01	1.715E-01	1.497E-01		
16	3.700E-03	1.953E+00	1.980E+00	2.017E+00	2.058E+00	2.112E+	
00	2.172E+00	2.246E+00	2.335E+00	2.427E+00	2.530E+00		
15	3.100E-03	1.444E+00	1.567E+00	1.709E+00	1.852E+00	2.016E+	
00	2.202E+00	2.390E+00	2.581E+00	2.777E+00	2.980E+00		
14	2.600E-03	2.914E+00	3.127E+00	3.370E+00	3.614E+00	3.889E+	
00	4.195E+00	4.503E+00	4.810E+00	5.118E+00	5.431E+00		
13	2.200E-03	6.446E+00	6.797E+00	7.191E+00	7.579E+00	8.011E+	
00	8.482E+00	8.943E+00	9.393E+00	9.833E+00	1.027E+01		
12	1.900E-03	1.392E+01	1.443E+01	1.498E+01	1.551E+01	1.609E+	
01	1.669E+01	1.727E+01	1.780E+01	1.831E+01	1.879E+01		
11	1.700E-03	2.608E+01	2.658E+01	2.708E+01	2.755E+01	2.802E+	
01	2.847E+01	2.886E+01	2.920E+01	2.950E+01	2.975E+01		
10	1.500E-03	4.888E+01	4.854E+01	4.815E+01	4.777E+01	4.736E+	
01	4.690E+01	4.645E+01	4.601E+01	4.557E+01	4.512E+01		
9	1.400E-03	5.411E+01	5.379E+01	5.340E+01	5.302E+01	5.258E+	
01	5.208E+01	5.156E+01	5.101E+01	5.046E+01	4.992E+01		
8	1.200E-03	5.756E+01	5.736E+01	5.710E+01	5.685E+01	5.656E+	
01	5.620E+01	5.582E+01	5.539E+01	5.492E+01	5.445E+01		
7	1.000E-03	5.831E+01	5.815E+01	5.794E+01	5.775E+01	5.752E+	
01	5.719E+01	5.685E+01	5.649E+01	5.612E+01	5.573E+01		
6	8.000E-04	5.861E+01	5.838E+01	5.811E+01	5.787E+01	5.759E+	
01	5.727E+01	5.696E+01	5.664E+01	5.630E+01	5.596E+01		
5	6.000E-04	5.899E+01	5.871E+01	5.838E+01	5.807E+01	5.773E+	
01	5.736E+01	5.699E+01	5.661E+01	5.622E+01	5.583E+01		
4	4.000E-04	5.963E+01	5.931E+01	5.894E+01	5.857E+01	5.818E+	
01	5.774E+01	5.731E+01	5.688E+01	5.642E+01	5.596E+01		
3	2.000E-04	6.129E+01	6.091E+01	6.047E+01	6.004E+01	5.956E+	
01	5.905E+01	5.854E+01	5.801E+01	5.745E+01	5.686E+01		
2	1.000E-04	6.459E+01	6.402E+01	6.340E+01	6.280E+01	6.213E+	
01	6.145E+01	6.080E+01	6.008E+01	5.926E+01	5.837E+01		
1	0.000E+00	6.459E+01	6.403E+01	6.341E+01	6.280E+01	6.214E+	
01	6.146E+01	6.081E+01	6.009E+01	5.926E+01	5.837E+01		
0		X=	9.250E-03	9.750E-03	1.250E-02	1.750E-02	2.500E-
02	3.500E-02	4.750E-02	5.750E-02	6.750E-02	7.750E-02		
0		K=	42	43	44	45	46
47	48	49	50	51			
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
58	7.200E-02	1.799E+01	1.799E+01	1.798E+01	1.796E+01	1.793E+	
01	1.788E+01	1.781E+01	1.777E+01	1.773E+01	1.771E+01		
57	7.000E-02	1.799E+01	1.799E+01	1.799E+01	1.797E+01	1.794E+	
01	1.790E+01	1.784E+01	1.780E+01	1.776E+01	1.774E+01		
56	6.800E-02	1.799E+01	1.799E+01	1.799E+01	1.797E+01	1.794E+	
01	1.790E+01	1.784E+01	1.780E+01	1.777E+01	1.775E+01		

55	6.600E-02	1.799E+01	1.799E+01	1.798E+01	1.797E+01	1.794E+
01	1.790E+01	1.784E+01	1.780E+01	1.777E+01	1.775E+01	
54	6.400E-02	1.799E+01	1.799E+01	1.798E+01	1.797E+01	1.794E+
01	1.789E+01	1.783E+01	1.779E+01	1.776E+01	1.774E+01	
53	6.200E-02	1.799E+01	1.799E+01	1.798E+01	1.797E+01	1.793E+
01	1.788E+01	1.782E+01	1.778E+01	1.775E+01	1.773E+01	
52	6.000E-02	1.799E+01	1.799E+01	1.798E+01	1.796E+01	1.793E+
01	1.788E+01	1.781E+01	1.777E+01	1.774E+01	1.772E+01	
51	5.800E-02	1.799E+01	1.799E+01	1.798E+01	1.796E+01	1.792E+
01	1.787E+01	1.780E+01	1.776E+01	1.773E+01	1.771E+01	
50	5.600E-02	1.799E+01	1.799E+01	1.798E+01	1.796E+01	1.792E+
01	1.786E+01	1.779E+01	1.775E+01	1.771E+01	1.770E+01	
49	5.400E-02	1.799E+01	1.798E+01	1.797E+01	1.795E+01	1.791E+
01	1.784E+01	1.777E+01	1.773E+01	1.770E+01	1.768E+01	
48	5.200E-02	1.798E+01	1.798E+01	1.797E+01	1.795E+01	1.790E+
01	1.783E+01	1.775E+01	1.771E+01	1.768E+01	1.766E+01	
47	4.900E-02	1.798E+01	1.798E+01	1.797E+01	1.793E+01	1.788E+
01	1.780E+01	1.772E+01	1.768E+01	1.764E+01	1.763E+01	
46	4.600E-02	1.798E+01	1.797E+01	1.796E+01	1.792E+01	1.785E+
01	1.777E+01	1.768E+01	1.764E+01	1.760E+01	1.759E+01	
45	4.400E-02	1.797E+01	1.797E+01	1.795E+01	1.791E+01	1.783E+
01	1.774E+01	1.765E+01	1.760E+01	1.757E+01	1.756E+01	
44	4.200E-02	1.797E+01	1.796E+01	1.794E+01	1.789E+01	1.781E+
01	1.770E+01	1.761E+01	1.757E+01	1.753E+01	1.752E+01	
43	4.000E-02	1.796E+01	1.796E+01	1.793E+01	1.788E+01	1.778E+
01	1.767E+01	1.757E+01	1.752E+01	1.749E+01	1.748E+01	
42	3.800E-02	1.795E+01	1.795E+01	1.792E+01	1.785E+01	1.774E+
01	1.762E+01	1.752E+01	1.748E+01	1.744E+01	1.744E+01	
41	3.600E-02	1.795E+01	1.794E+01	1.791E+01	1.782E+01	1.770E+
01	1.757E+01	1.746E+01	1.742E+01	1.739E+01	1.738E+01	
40	3.400E-02	1.793E+01	1.793E+01	1.788E+01	1.779E+01	1.765E+
01	1.750E+01	1.740E+01	1.736E+01	1.733E+01	1.732E+01	
39	3.200E-02	1.792E+01	1.791E+01	1.786E+01	1.774E+01	1.758E+
01	1.743E+01	1.732E+01	1.729E+01	1.726E+01	1.726E+01	
38	3.000E-02	1.790E+01	1.789E+01	1.782E+01	1.769E+01	1.750E+
01	1.734E+01	1.724E+01	1.720E+01	1.718E+01	1.718E+01	
37	2.800E-02	1.787E+01	1.785E+01	1.777E+01	1.761E+01	1.741E+
01	1.724E+01	1.714E+01	1.711E+01	1.709E+01	1.709E+01	
36	2.600E-02	1.783E+01	1.781E+01	1.771E+01	1.752E+01	1.729E+
01	1.712E+01	1.702E+01	1.700E+01	1.698E+01	1.698E+01	
35	2.400E-02	1.776E+01	1.774E+01	1.762E+01	1.739E+01	1.714E+
01	1.697E+01	1.688E+01	1.687E+01	1.686E+01	1.687E+01	
34	2.200E-02	1.760E+01	1.758E+01	1.743E+01	1.716E+01	1.691E+
01	1.677E+01	1.673E+01	1.673E+01	1.673E+01	1.674E+01	
33	2.000E-02	1.775E+01	1.777E+01	1.754E+01	1.717E+01	1.682E+
01	1.661E+01	1.653E+01	1.651E+01	1.647E+01	1.644E+01	
32	1.950E-02	1.751E+01	1.716E+01	1.707E+01	1.688E+01	1.659E+
01	1.640E+01	1.635E+01	1.633E+01	1.629E+01	1.625E+01	
31	1.850E-02	8.734E+00	1.086E+01	1.299E+01	1.387E+01	1.461E+
01	1.510E+01	1.548E+01	1.558E+01	1.564E+01	1.563E+01	
30	1.800E-02	7.202E+00	7.596E+00	9.761E+00	1.143E+01	1.309E+
01	1.413E+01	1.483E+01	1.504E+01	1.518E+01	1.521E+01	
29	1.700E-02	3.733E+00	4.056E+00	5.456E+00	6.661E+00	1.036E+
01	1.192E+01	1.319E+01	1.366E+01	1.401E+01	1.416E+01	
28	1.600E-02	1.252E+00	1.452E+00	2.921E+00	5.552E+00	7.330E+
00	9.447E+00	1.134E+01	1.208E+01	1.265E+01	1.292E+01	
27	1.500E-02	7.883E-01	9.170E-01	2.438E+00	3.717E+00	5.116E+
00	6.929E+00	9.445E+00	1.040E+01	1.112E+01	1.150E+01	
26	1.400E-02	2.525E-01	4.639E-01	8.323E-01	1.892E+00	3.772E+
00	5.406E+00	7.847E+00	8.610E+00	9.297E+00	9.684E+00	
25	1.300E-02	-7.161E-01	-1.102E+00	-2.309E-01	7.555E-01	2.352E+
00	4.584E+00	5.987E+00	6.857E+00	7.672E+00	8.263E+00	
24	1.200E-02	-1.554E+00	-2.385E+00	-1.604E+00	-4.226E-01	8.160E-
01	2.759E+00	4.638E+00	5.654E+00	6.617E+00	7.440E+00	
23	1.100E-02	-3.070E+00	-5.226E+00	-5.347E+00	-2.625E+00	-1.033E+
00	1.215E+00	3.634E+00	4.736E+00	5.939E+00	6.375E+00	

22	1.000E-02	-1.720E+00	-2.938E+00	-1.068E+01	-1.028E+01	-4.192E+00
00	-3.288E-01	3.151E+00	4.407E+00	6.268E+00	8.265E+00	
21	9.000E-03	-1.103E+00	-1.083E+00	-1.145E+00	-1.694E+00	-6.508E+00
00	-4.520E+00	4.382E-01	2.270E+00	4.569E+00	6.640E+00	
20	8.000E-03	-1.150E+00	-1.164E+00	-1.095E+00	-5.387E-01	-5.972E-01
01	-3.372E-01	-1.702E-01	-5.216E+00	1.166E+00	4.199E+00	
19	6.700E-03	-1.387E+00	-1.466E+00	-1.563E+00	-1.049E+00	-2.193E-02
02	8.506E-01	1.384E+00	2.453E+00	3.890E+00	2.316E+00	
18	5.500E-03	-1.182E+00	-1.246E+00	-1.298E+00	-8.766E-01	-9.580E-02
02	1.104E+00	2.422E+00	4.290E+00	4.215E+00	4.081E+00	
17	4.500E-03	1.258E-01	7.062E-02	1.103E-01	5.918E-01	1.384E+00
00	2.272E+00	3.320E+00	4.294E+00	5.151E+00	5.894E+00	
16	3.700E-03	2.657E+00	2.800E+00	3.508E+00	5.805E+00	4.167E+00
00	4.189E+00	5.295E+00	5.850E+00	6.705E+00	7.754E+00	
15	3.100E-03	3.195E+00	3.432E+00	4.646E+00	6.984E+00	1.031E+01
01	1.203E+01	8.152E+00	6.961E+00	8.514E+00	9.813E+00	
14	2.600E-03	5.755E+00	6.123E+00	7.945E+00	1.109E+01	1.553E+01
01	2.174E+01	1.345E+01	1.103E+01	1.147E+01	1.248E+01	
13	2.200E-03	1.070E+01	1.123E+01	1.368E+01	1.716E+01	2.124E+01
01	2.490E+01	2.548E+01	1.670E+01	1.426E+01	1.509E+01	
12	1.900E-03	1.924E+01	1.989E+01	2.251E+01	2.547E+01	2.832E+01
01	3.083E+01	3.400E+01	1.912E+01	1.889E+01	1.764E+01	
11	1.700E-03	2.996E+01	3.053E+01	3.203E+01	3.328E+01	3.416E+01
01	3.520E+01	3.615E+01	3.182E+01	2.355E+01	1.760E+01	
10	1.500E-03	4.466E+01	4.483E+01	4.348E+01	4.191E+01	4.029E+01
01	3.994E+01	4.091E+01	4.825E+01	2.499E+01	1.853E+01	
9	1.400E-03	4.937E+01	4.953E+01	4.770E+01	4.541E+01	4.300E+01
01	4.215E+01	4.321E+01	5.325E+01	2.645E+01	1.938E+01	
8	1.200E-03	5.396E+01	5.428E+01	5.272E+01	5.027E+01	4.732E+01
01	4.597E+01	4.710E+01	5.969E+01	3.024E+01	2.195E+01	
7	1.000E-03	5.533E+01	5.575E+01	5.464E+01	5.262E+01	4.992E+01
01	4.845E+01	4.912E+01	6.228E+01	3.532E+01	2.681E+01	
6	8.000E-04	5.556E+01	5.593E+01	5.506E+01	5.341E+01	5.109E+01
01	4.948E+01	4.828E+01	5.109E+01	4.882E+01	3.169E+01	
5	6.000E-04	5.542E+01	5.575E+01	5.494E+01	5.346E+01	5.139E+01
01	4.982E+01	4.823E+01	5.223E+01	5.897E+01	2.821E+01	
4	4.000E-04	5.547E+01	5.567E+01	5.478E+01	5.326E+01	5.126E+01
01	4.977E+01	4.831E+01	5.370E+01	6.322E+01	2.972E+01	
3	2.000E-04	5.622E+01	5.617E+01	5.494E+01	5.312E+01	5.081E+01
01	4.915E+01	4.750E+01	5.338E+01	6.458E+01	3.166E+01	
2	1.000E-04	5.728E+01	5.662E+01	5.493E+01	5.285E+01	5.023E+01
01	4.840E+01	4.616E+01	5.128E+01	6.398E+01	3.499E+01	
1	0.000E+00	5.729E+01	5.662E+01	5.493E+01	5.285E+01	5.023E+01
01	4.840E+01	4.616E+01	5.127E+01	6.397E+01	3.499E+01	
0		X=	8.750E-02	1.025E-01	1.175E-01	1.300E-01
01	1.500E-01	1.600E-01	1.750E-01			
0		K=	52	53	54	55
57		58	59			56
I	Y					
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
00	0.000E+00	0.000E+00	1.800E+01			
58	7.200E-02	1.769E+01	1.767E+01	1.767E+01	1.768E+01	1.768E+01
01	1.769E+01	1.768E+01	1.768E+01			
57	7.000E-02	1.772E+01	1.772E+01	1.772E+01	1.772E+01	1.773E+01
01	1.774E+01	1.774E+01	1.774E+01			
56	6.800E-02	1.773E+01	1.773E+01	1.773E+01	1.774E+01	1.775E+01
01	1.775E+01	1.776E+01	1.776E+01			
55	6.600E-02	1.773E+01	1.773E+01	1.773E+01	1.774E+01	1.775E+01
01	1.776E+01	1.777E+01	1.777E+01			
54	6.400E-02	1.773E+01	1.772E+01	1.773E+01	1.774E+01	1.775E+01
01	1.776E+01	1.777E+01	1.777E+01			
53	6.200E-02	1.772E+01	1.772E+01	1.773E+01	1.774E+01	1.775E+01
01	1.776E+01	1.777E+01	1.777E+01			
52	6.000E-02	1.771E+01	1.771E+01	1.772E+01	1.773E+01	1.774E+01
01	1.775E+01	1.776E+01	1.776E+01			
51	5.800E-02	1.770E+01	1.770E+01	1.771E+01	1.772E+01	1.773E+01

01	1.775E+01	1.775E+01	1.775E+01			
50	5.600E-02	1.768E+01	1.768E+01	1.770E+01	1.771E+01	1.772E+
01	1.774E+01	1.775E+01	1.775E+01			
49	5.400E-02	1.767E+01	1.767E+01	1.768E+01	1.770E+01	1.771E+
01	1.773E+01	1.773E+01	1.773E+01			
48	5.200E-02	1.765E+01	1.765E+01	1.767E+01	1.769E+01	1.770E+
01	1.771E+01	1.772E+01	1.772E+01			
47	4.900E-02	1.762E+01	1.763E+01	1.764E+01	1.766E+01	1.768E+
01	1.769E+01	1.770E+01	1.770E+01			
46	4.600E-02	1.758E+01	1.759E+01	1.761E+01	1.763E+01	1.765E+
01	1.767E+01	1.768E+01	1.768E+01			
45	4.400E-02	1.755E+01	1.757E+01	1.759E+01	1.761E+01	1.763E+
01	1.765E+01	1.766E+01	1.766E+01			
44	4.200E-02	1.752E+01	1.754E+01	1.756E+01	1.758E+01	1.760E+
01	1.762E+01	1.764E+01	1.764E+01			
43	4.000E-02	1.748E+01	1.750E+01	1.753E+01	1.755E+01	1.758E+
01	1.760E+01	1.761E+01	1.761E+01			
42	3.800E-02	1.744E+01	1.746E+01	1.749E+01	1.752E+01	1.754E+
01	1.757E+01	1.758E+01	1.758E+01			
41	3.600E-02	1.739E+01	1.742E+01	1.745E+01	1.748E+01	1.751E+
01	1.753E+01	1.755E+01	1.754E+01			
40	3.400E-02	1.734E+01	1.737E+01	1.740E+01	1.743E+01	1.746E+
01	1.749E+01	1.751E+01	1.750E+01			
39	3.200E-02	1.727E+01	1.731E+01	1.734E+01	1.738E+01	1.741E+
01	1.744E+01	1.746E+01	1.744E+01			
38	3.000E-02	1.720E+01	1.725E+01	1.728E+01	1.732E+01	1.736E+
01	1.738E+01	1.741E+01	1.736E+01			
37	2.800E-02	1.712E+01	1.717E+01	1.720E+01	1.724E+01	1.729E+
01	1.732E+01	1.735E+01	1.721E+01			
36	2.600E-02	1.703E+01	1.709E+01	1.712E+01	1.716E+01	1.721E+
01	1.724E+01	1.728E+01	1.694E+01			
35	2.400E-02	1.692E+01	1.699E+01	1.701E+01	1.706E+01	1.711E+
01	1.712E+01	1.717E+01	1.646E+01			
34	2.200E-02	1.681E+01	1.685E+01	1.683E+01	1.686E+01	1.689E+
01	1.687E+01	1.693E+01	1.557E+01			
33	2.000E-02	1.648E+01	1.646E+01	1.637E+01	1.636E+01	1.637E+
01	1.633E+01	1.643E+01	1.402E+01			
32	1.950E-02	1.628E+01	1.624E+01	1.615E+01	1.614E+01	1.615E+
01	1.612E+01	1.624E+01	1.348E+01			
31	1.850E-02	1.569E+01	1.565E+01	1.557E+01	1.559E+01	1.562E+
01	1.562E+01	1.579E+01	1.224E+01			
30	1.800E-02	1.530E+01	1.529E+01	1.524E+01	1.528E+01	1.532E+
01	1.535E+01	1.555E+01	1.154E+01			
29	1.700E-02	1.435E+01	1.444E+01	1.448E+01	1.460E+01	1.470E+
01	1.476E+01	1.499E+01	9.989E+00			
28	1.600E-02	1.326E+01	1.351E+01	1.368E+01	1.386E+01	1.413E+
01	1.413E+01	1.425E+01	8.182E+00			
27	1.500E-02	1.200E+01	1.257E+01	1.282E+01	1.291E+01	1.411E+
01	1.328E+01	1.283E+01	9.728E+00			
26	1.400E-02	1.048E+01	1.198E+01	1.191E+01	1.137E+01	1.207E+
01	1.249E+01	1.303E+01	9.041E+00			
25	1.300E-02	9.215E+00	1.044E+01	1.085E+01	1.144E+01	1.202E+
01	1.218E+01	1.270E+01	8.427E+00			
24	1.200E-02	8.659E+00	1.009E+01	9.797E+00	1.053E+01	1.409E+
01	1.268E+01	1.227E+01	3.042E+00			
23	1.100E-02	8.368E+00	1.158E+01	1.080E+01	1.144E+01	1.235E+
01	1.219E+01	1.195E+01	2.625E+00			
22	1.000E-02	1.022E+01	1.089E+01	1.085E+01	1.130E+01	1.170E+
01	1.159E+01	1.131E+01	2.132E+00			
21	9.000E-03	8.627E+00	9.744E+00	1.009E+01	1.059E+01	1.091E+
01	1.087E+01	1.069E+01	1.818E+00			
20	8.000E-03	6.493E+00	7.909E+00	8.608E+00	9.268E+00	9.882E+
00	1.038E+01	1.036E+01	1.610E+00			
19	6.700E-03	3.071E+00	4.674E+00	5.551E+00	5.942E+00	7.363E+
00	1.137E+01	1.208E+01	1.707E+00			
18	5.500E-03	4.485E+00	5.329E+00	5.819E+00	5.694E+00	5.288E+



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00 6.998E+00 1.800E+01 2.618E+00
 17 4.500E-03 6.527E+00 7.174E+00 7.605E+00 7.864E+00 8.132E+
00 9.003E+00 1.128E+01 8.530E+00
 16 3.700E-03 8.520E+00 9.069E+00 9.364E+00 9.563E+00 9.678E+
00 9.902E+00 1.108E+01 8.783E+00
 15 3.100E-03 1.056E+01 1.090E+01 1.098E+01 1.103E+01 1.098E+
01 1.087E+01 1.172E+01 9.765E+00
 14 2.600E-03 1.285E+01 1.276E+01 1.254E+01 1.240E+01 1.219E+
01 1.185E+01 1.249E+01 1.075E+01
 13 2.200E-03 1.502E+01 1.444E+01 1.389E+01 1.356E+01 1.322E+
01 1.271E+01 1.314E+01 1.166E+01
 12 1.900E-03 1.673E+01 1.574E+01 1.493E+01 1.445E+01 1.400E+
01 1.337E+01 1.360E+01 1.247E+01
 11 1.700E-03 1.763E+01 1.658E+01 1.560E+01 1.502E+01 1.450E+
01 1.380E+01 1.389E+01 1.298E+01
 10 1.500E-03 1.869E+01 1.741E+01 1.625E+01 1.556E+01 1.498E+
01 1.421E+01 1.417E+01 1.350E+01
 9 1.400E-03 1.932E+01 1.782E+01 1.655E+01 1.581E+01 1.520E+
01 1.439E+01 1.431E+01 1.367E+01
 8 1.200E-03 2.080E+01 1.858E+01 1.709E+01 1.626E+01 1.559E+
01 1.472E+01 1.462E+01 1.371E+01
 7 1.000E-03 2.217E+01 1.911E+01 1.750E+01 1.663E+01 1.592E+
01 1.501E+01 1.487E+01 1.401E+01
 6 8.000E-04 2.137E+01 1.914E+01 1.774E+01 1.690E+01 1.619E+
01 1.525E+01 1.504E+01 1.428E+01
 5 6.000E-04 2.049E+01 1.901E+01 1.786E+01 1.709E+01 1.640E+
01 1.542E+01 1.513E+01 1.451E+01
 4 4.000E-04 2.066E+01 1.900E+01 1.794E+01 1.722E+01 1.655E+
01 1.552E+01 1.510E+01 1.470E+01
 3 2.000E-04 2.149E+01 1.913E+01 1.799E+01 1.733E+01 1.669E+
01 1.552E+01 1.492E+01 1.480E+01
 2 1.000E-04 2.238E+01 1.910E+01 1.798E+01 1.739E+01 1.682E+
01 1.541E+01 1.474E+01 1.469E+01
 1 0.000E+00 2.238E+01 1.910E+01 1.798E+01 1.739E+01 1.682E+
01 1.541E+01 1.474E+01 1.800E+01

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*-*-*-*-* V VELOCITY
*-*-*-*-*
0 X= 0.000E+00 1.000E-04 2.000E-04 3.000E-04 4.000E-
04 5.000E-04 6.000E-04 7.000E-04 8.000E-04 9.000E-04
0 K= 1 2 3 4 5
6 7 8 9 10
I Y
59 7.600E-02 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+
00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
58 7.100E-02 0.000E+00 -2.674E-04 -3.887E-04 -5.568E-04 -7.294E-
04 -9.012E-04 -1.072E-03 -1.241E-03 -1.408E-03 -1.575E-03
57 6.900E-02 0.000E+00 -2.567E-04 -3.933E-04 -5.637E-04 -7.401E-
04 -9.198E-04 -1.102E-03 -1.286E-03 -1.473E-03 -1.662E-03
56 6.700E-02 0.000E+00 -3.110E-04 -4.762E-04 -6.817E-04 -8.940E-
04 -1.109E-03 -1.326E-03 -1.546E-03 -1.768E-03 -1.992E-03
55 6.500E-02 0.000E+00 -3.779E-04 -5.797E-04 -8.307E-04 -1.089E-
03 -1.350E-03 -1.614E-03 -1.880E-03 -2.148E-03 -2.419E-03
54 6.300E-02 0.000E+00 -4.554E-04 -6.987E-04 -1.000E-03 -1.312E-
03 -1.625E-03 -1.942E-03 -2.260E-03 -2.581E-03 -2.904E-03
53 6.100E-02 0.000E+00 -5.379E-04 -8.265E-04 -1.185E-03 -1.555E-
03 -1.929E-03 -2.305E-03 -2.683E-03 -3.064E-03 -3.447E-03
52 5.900E-02 0.000E+00 -6.317E-04 -9.714E-04 -1.393E-03 -1.828E-
03 -2.266E-03 -2.708E-03 -3.152E-03 -3.599E-03 -4.047E-03
51 5.700E-02 0.000E+00 -7.344E-04 -1.129E-03 -1.619E-03 -2.125E-
03 -2.635E-03 -3.149E-03 -3.667E-03 -4.187E-03 -4.710E-03
50 5.500E-02 0.000E+00 -8.516E-04 -1.308E-03 -1.876E-03 -2.460E-
03 -3.050E-03 -3.643E-03 -4.241E-03 -4.842E-03 -5.446E-03
49 5.300E-02 0.000E+00 -9.829E-04 -1.509E-03 -2.162E-03 -2.834E-
03 -3.513E-03 -4.196E-03 -4.884E-03 -5.575E-03 -6.270E-03
48 5.050E-02 0.000E+00 -1.175E-03 -1.803E-03 -2.582E-03 -3.383E-

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03 -4.190E-03 -5.003E-03 -5.821E-03 -6.643E-03 -7.470E-03  
47 4.750E-02 0.000E+00 -1.451E-03 -2.226E-03 -3.188E-03 -4.177E-  
03 -5.174E-03 -6.177E-03 -7.186E-03 -8.201E-03 -9.221E-03  
46 4.500E-02 0.000E+00 -1.724E-03 -2.643E-03 -3.785E-03 -4.960E-  
03 -6.145E-03 -7.339E-03 -8.542E-03 -9.752E-03 -1.097E-02  
45 4.300E-02 0.000E+00 -1.985E-03 -3.040E-03 -4.350E-03 -5.698E-  
03 -7.058E-03 -8.429E-03 -9.809E-03 -1.120E-02 -1.260E-02  
44 4.100E-02 0.000E+00 -2.308E-03 -3.527E-03 -5.040E-03 -6.593E-  
03 -8.159E-03 -9.734E-03 -1.132E-02 -1.292E-02 -1.453E-02  
43 3.900E-02 0.000E+00 -2.710E-03 -4.136E-03 -5.901E-03 -7.707E-  
03 -9.522E-03 -1.134E-02 -1.318E-02 -1.502E-02 -1.688E-02  
42 3.700E-02 0.000E+00 -3.206E-03 -4.895E-03 -6.979E-03 -9.106E-  
03 -1.124E-02 -1.337E-02 -1.550E-02 -1.765E-02 -1.980E-02  
41 3.500E-02 0.000E+00 -3.794E-03 -5.806E-03 -8.288E-03 -1.082E-  
02 -1.335E-02 -1.587E-02 -1.839E-02 -2.091E-02 -2.344E-02  
40 3.300E-02 0.000E+00 -4.464E-03 -6.852E-03 -9.809E-03 -1.283E-  
02 -1.585E-02 -1.887E-02 -2.187E-02 -2.487E-02 -2.787E-02  
39 3.100E-02 0.000E+00 -5.231E-03 -8.040E-03 -1.154E-02 -1.514E-  
02 -1.875E-02 -2.236E-02 -2.597E-02 -2.956E-02 -3.316E-02  
38 2.900E-02 0.000E+00 -6.192E-03 -9.483E-03 -1.361E-02 -1.787E-  
02 -2.217E-02 -2.647E-02 -3.078E-02 -3.509E-02 -3.939E-02  
37 2.700E-02 0.000E+00 -7.501E-03 -1.141E-02 -1.629E-02 -2.131E-  
02 -2.635E-02 -3.139E-02 -3.642E-02 -4.143E-02 -4.644E-02  
36 2.500E-02 0.000E+00 -9.126E-03 -1.369E-02 -1.920E-02 -2.468E-  
02 -3.004E-02 -3.530E-02 -4.050E-02 -4.569E-02 -5.090E-02  
35 2.300E-02 0.000E+00 -9.277E-03 -1.152E-02 -1.364E-02 -1.567E-  
02 -1.796E-02 -2.076E-02 -2.422E-02 -2.842E-02 -3.339E-02  
34 2.100E-02 0.000E+00 2.965E-02 5.640E-02 7.342E-02 7.997E-  
02 7.878E-02 7.181E-02 6.051E-02 4.599E-02 2.915E-02  
33 1.975E-02 0.000E+00 5.557E-01 2.736E-01 1.223E-01 2.950E-  
02 -4.666E-02 -1.159E-01 -1.795E-01 -2.382E-01 -2.919E-01  
32 1.900E-02 0.000E+00 -1.613E+00 -7.681E-01 -6.653E-01 -7.116E-  
01 -7.785E-01 -8.408E-01 -8.944E-01 -9.410E-01 -9.794E-01  
31 1.825E-02 0.000E+00 5.757E+00 1.525E+00 1.021E+00 8.318E-  
01 7.065E-01 6.085E-01 5.275E-01 4.550E-01 3.957E-01  
30 1.750E-02 0.000E+00 3.831E+00 2.361E+00 1.926E+00 1.690E+  
00 1.538E+00 1.427E+00 1.339E+00 1.267E+00 1.203E+00  
29 1.650E-02 0.000E+00 3.232E+00 2.616E+00 2.338E+00 2.136E+  
00 1.990E+00 1.881E+00 1.795E+00 1.725E+00 1.666E+00  
28 1.550E-02 0.000E+00 2.685E+00 2.570E+00 2.411E+00 2.257E+  
00 2.133E+00 2.035E+00 1.957E+00 1.893E+00 1.839E+00  
27 1.450E-02 0.000E+00 2.705E+00 2.532E+00 2.403E+00 2.281E+  
00 2.179E+00 2.097E+00 2.031E+00 1.976E+00 1.930E+00  
26 1.350E-02 0.000E+00 2.798E+00 2.438E+00 2.306E+00 2.205E+  
00 2.127E+00 2.064E+00 2.012E+00 1.969E+00 1.933E+00  
25 1.250E-02 0.000E+00 2.709E+00 2.176E+00 2.057E+00 1.986E+  
00 1.934E+00 1.893E+00 1.858E+00 1.829E+00 1.802E+00  
24 1.150E-02 0.000E+00 1.918E+00 1.635E+00 1.596E+00 1.573E+  
00 1.553E+00 1.535E+00 1.518E+00 1.502E+00 1.487E+00  
23 1.050E-02 0.000E+00 1.387E-01 9.003E-01 9.957E-01 1.026E+  
00 1.038E+00 1.042E+00 1.043E+00 1.040E+00 1.036E+00  
22 9.500E-03 0.000E+00 6.065E-02 5.098E-01 6.153E-01 6.749E-  
01 7.136E-01 7.395E-01 7.566E-01 7.671E-01 7.728E-01  
21 8.500E-03 0.000E+00 3.176E-01 2.649E-01 3.396E-01 4.167E-  
01 4.777E-01 5.227E-01 5.550E-01 5.776E-01 5.927E-01  
20 7.350E-03 0.000E+00 7.195E-02 -9.269E-02 -3.101E-03 1.031E-  
01 1.899E-01 2.552E-01 3.035E-01 3.389E-01 3.640E-01  
19 6.100E-03 0.000E+00 -8.218E-01 -6.478E-01 -4.464E-01 -2.860E-  
01 -1.694E-01 -8.383E-02 -2.003E-02 2.791E-02 6.259E-02  
18 5.000E-03 0.000E+00 -2.028E+00 -1.166E+00 -8.017E-01 -5.912E-  
01 -4.526E-01 -3.528E-01 -2.775E-01 -2.196E-01 -1.783E-01  
17 4.100E-03 0.000E+00 -4.288E+00 -1.526E+00 -1.010E+00 -7.755E-  
01 -6.261E-01 -5.174E-01 -4.355E-01 -3.744E-01 -3.244E-01  
16 3.400E-03 0.000E+00 -8.384E+00 -1.634E+00 -1.079E+00 -8.463E-  
01 -6.917E-01 -5.762E-01 -4.875E-01 -4.190E-01 -3.643E-01  
15 2.850E-03 0.000E+00 -9.703E+00 -1.335E+00 -8.992E-01 -6.833E-

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01 -5.289E-01 -4.106E-01 -3.187E-01 -2.473E-01 -1.905E-01
14 2.400E-03 0.000E+00 -9.873E+00 -8.299E-01 -6.119E-01 -4.143E-
01 -2.606E-01 -1.402E-01 -4.579E-02 2.791E-02 8.647E-02
13 2.050E-03 0.000E+00 -5.548E+00 -1.518E-01 -1.901E-01 -5.952E-
03 1.459E-01 2.670E-01 3.624E-01 4.368E-01 4.958E-01
12 1.800E-03 0.000E+00 3.970E+00 5.916E-01 3.306E-01 5.077E-
01 6.565E-01 7.760E-01 8.700E-01 9.428E-01 9.998E-01
11 1.600E-03 0.000E+00 1.996E+01 1.437E+00 9.993E-01 1.162E+
00 1.299E+00 1.406E+00 1.489E+00 1.550E+00 1.596E+00
10 1.450E-03 0.000E+00 8.122E+00 9.028E-01 5.314E-01 6.876E-
01 8.319E-01 9.498E-01 1.042E+00 1.113E+00 1.167E+00
9 1.300E-03 0.000E+00 1.723E+00 4.885E-01 2.321E-01 3.712E-
01 5.152E-01 6.350E-01 7.295E-01 8.024E-01 8.587E-01
8 1.100E-03 0.000E+00 -1.430E+00 8.474E-02 5.591E-03 1.232E-
01 2.632E-01 3.822E-01 4.762E-01 5.488E-01 6.046E-01
7 9.000E-04 0.000E+00 -2.694E+00 -2.018E-01 -1.366E-01 -3.436E-
02 1.013E-01 2.188E-01 3.118E-01 3.832E-01 4.381E-01
6 7.000E-04 0.000E+00 -3.369E+00 -4.007E-01 -2.337E-01 -1.419E-
01 -1.028E-02 1.055E-01 1.970E-01 2.671E-01 3.206E-01
5 5.000E-04 0.000E+00 -3.964E+00 -5.333E-01 -3.039E-01 -2.194E-
01 -9.115E-02 2.268E-02 1.125E-01 1.810E-01 2.331E-01
4 3.000E-04 0.000E+00 -4.633E+00 -6.151E-01 -3.560E-01 -2.762E-
01 -1.509E-01 -3.920E-02 4.869E-02 1.155E-01 1.660E-01
3 1.500E-04 0.000E+00 -4.708E+00 -6.340E-01 -3.701E-01 -2.933E-
01 -1.706E-01 -6.126E-02 2.444E-02 8.913E-02 1.376E-01
2 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+
00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
0 X= 1.000E-03 1.100E-03 1.200E-03 1.300E-03 1.400E-
03 1.500E-03 1.600E-03 1.700E-03 1.800E-03 1.900E-03
0 K= 11 12 13 14 15
16 17 18 19 20
I Y
59 7.600E-02 0.000E+00 0.000E+00 0.000E+00 0.000E+00 0.000E+
00 0.000E+00 0.000E+00 0.000E+00 0.000E+00
58 7.100E-02 -1.741E-03 -1.906E-03 -2.070E-03 -2.232E-03 -2.394E-
03 -2.554E-03 -2.713E-03 -2.871E-03 -3.028E-03 -3.185E-03
57 6.900E-02 -1.853E-03 -2.046E-03 -2.241E-03 -2.437E-03 -2.635E-
03 -2.833E-03 -3.032E-03 -3.232E-03 -3.431E-03 -3.631E-03
56 6.700E-02 -2.219E-03 -2.448E-03 -2.680E-03 -2.914E-03 -3.149E-
03 -3.386E-03 -3.625E-03 -3.864E-03 -4.104E-03 -4.345E-03
55 6.500E-02 -2.692E-03 -2.967E-03 -3.244E-03 -3.522E-03 -3.803E-
03 -4.085E-03 -4.369E-03 -4.653E-03 -4.938E-03 -5.224E-03
54 6.300E-02 -3.229E-03 -3.556E-03 -3.886E-03 -4.217E-03 -4.549E-
03 -4.883E-03 -5.217E-03 -5.551E-03 -5.887E-03 -6.223E-03
53 6.100E-02 -3.832E-03 -4.219E-03 -4.607E-03 -4.996E-03 -5.386E-
03 -5.777E-03 -6.169E-03 -6.561E-03 -6.953E-03 -7.346E-03
52 5.900E-02 -4.498E-03 -4.950E-03 -5.403E-03 -5.858E-03 -6.313E-
03 -6.769E-03 -7.225E-03 -7.681E-03 -8.138E-03 -8.595E-03
51 5.700E-02 -5.234E-03 -5.760E-03 -6.288E-03 -6.816E-03 -7.345E-
03 -7.875E-03 -8.404E-03 -8.933E-03 -9.462E-03 -9.991E-03
50 5.500E-02 -6.053E-03 -6.662E-03 -7.272E-03 -7.884E-03 -8.496E-
03 -9.109E-03 -9.721E-03 -1.033E-02 -1.094E-02 -1.156E-02
49 5.300E-02 -6.968E-03 -7.669E-03 -8.372E-03 -9.077E-03 -9.784E-
03 -1.049E-02 -1.120E-02 -1.190E-02 -1.261E-02 -1.332E-02
48 5.050E-02 -8.300E-03 -9.134E-03 -9.971E-03 -1.081E-02 -1.165E-
02 -1.249E-02 -1.333E-02 -1.418E-02 -1.502E-02 -1.586E-02
47 4.750E-02 -1.025E-02 -1.127E-02 -1.231E-02 -1.334E-02 -1.438E-
02 -1.542E-02 -1.646E-02 -1.751E-02 -1.855E-02 -1.959E-02
46 4.500E-02 -1.219E-02 -1.342E-02 -1.466E-02 -1.590E-02 -1.714E-
02 -1.839E-02 -1.964E-02 -2.089E-02 -2.214E-02 -2.339E-02
45 4.300E-02 -1.401E-02 -1.543E-02 -1.685E-02 -1.828E-02 -1.972E-
02 -2.116E-02 -2.260E-02 -2.405E-02 -2.550E-02 -2.695E-02
44 4.100E-02 -1.616E-02 -1.779E-02 -1.944E-02 -2.109E-02 -2.276E-
02 -2.442E-02 -2.610E-02 -2.777E-02 -2.945E-02 -3.114E-02
43 3.900E-02 -1.876E-02 -2.064E-02 -2.254E-02 -2.446E-02 -2.638E-
02 -2.832E-02 -3.026E-02 -3.221E-02 -3.416E-02 -3.612E-02

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42	3.700E-02	-2.197E-02	-2.416E-02	-2.636E-02	-2.858E-02	-3.081E-02
02	-3.306E-02	-3.532E-02	-3.759E-02	-3.986E-02	-4.215E-02	
41	3.500E-02	-2.597E-02	-2.853E-02	-3.109E-02	-3.368E-02	-3.628E-02
02	-3.889E-02	-4.153E-02	-4.417E-02	-4.683E-02	-4.950E-02	
40	3.300E-02	-3.087E-02	-3.388E-02	-3.691E-02	-3.995E-02	-4.300E-02
02	-4.607E-02	-4.916E-02	-5.226E-02	-5.538E-02	-5.852E-02	
39	3.100E-02	-3.675E-02	-4.034E-02	-4.395E-02	-4.756E-02	-5.118E-02
02	-5.481E-02	-5.847E-02	-6.214E-02	-6.582E-02	-6.953E-02	
38	2.900E-02	-4.369E-02	-4.799E-02	-5.229E-02	-5.659E-02	-6.091E-02
02	-6.523E-02	-6.956E-02	-7.392E-02	-7.829E-02	-8.268E-02	
37	2.700E-02	-5.144E-02	-5.644E-02	-6.145E-02	-6.646E-02	-7.150E-02
02	-7.656E-02	-8.165E-02	-8.678E-02	-9.195E-02	-9.717E-02	
36	2.500E-02	-5.617E-02	-6.152E-02	-6.699E-02	-7.260E-02	-7.835E-02
02	-8.426E-02	-9.034E-02	-9.658E-02	-1.030E-01	-1.095E-01	
35	2.300E-02	-3.911E-02	-4.556E-02	-5.269E-02	-6.044E-02	-6.877E-02
02	-7.761E-02	-8.690E-02	-9.659E-02	-1.066E-01	-1.169E-01	
34	2.100E-02	1.072E-02	-8.802E-03	-2.901E-02	-4.962E-02	-7.043E-02
02	-9.128E-02	-1.120E-01	-1.327E-01	-1.531E-01	-1.731E-01	
33	1.975E-02	-3.409E-01	-3.860E-01	-4.278E-01	-4.667E-01	-5.032E-01
01	-5.376E-01	-5.701E-01	-6.011E-01	-6.305E-01	-6.579E-01	
32	1.900E-02	-1.012E+00	-1.040E+00	-1.064E+00	-1.086E+00	-1.105E+00
00	-1.122E+00	-1.138E+00	-1.152E+00	-1.166E+00	-1.175E+00	
31	1.825E-02	3.430E-01	2.949E-01	2.510E-01	2.104E-01	1.725E-01
01	1.368E-01	1.027E-01	7.001E-02	3.863E-02	1.218E-02	
30	1.750E-02	1.146E+00	1.096E+00	1.050E+00	1.008E+00	9.684E-01
01	9.307E-01	8.946E-01	8.594E-01	8.245E-01	7.881E-01	
29	1.650E-02	1.613E+00	1.567E+00	1.525E+00	1.487E+00	1.450E+00
00	1.416E+00	1.383E+00	1.350E+00	1.318E+00	1.285E+00	
28	1.550E-02	1.792E+00	1.750E+00	1.712E+00	1.677E+00	1.644E+00
00	1.612E+00	1.582E+00	1.552E+00	1.522E+00	1.492E+00	
27	1.450E-02	1.890E+00	1.854E+00	1.821E+00	1.790E+00	1.760E+00
00	1.732E+00	1.705E+00	1.678E+00	1.651E+00	1.623E+00	
26	1.350E-02	1.900E+00	1.871E+00	1.843E+00	1.817E+00	1.792E+00
00	1.768E+00	1.744E+00	1.721E+00	1.697E+00	1.673E+00	
25	1.250E-02	1.779E+00	1.756E+00	1.735E+00	1.715E+00	1.695E+00
00	1.675E+00	1.655E+00	1.636E+00	1.616E+00	1.596E+00	
24	1.150E-02	1.472E+00	1.457E+00	1.443E+00	1.428E+00	1.413E+00
00	1.398E+00	1.382E+00	1.367E+00	1.352E+00	1.336E+00	
23	1.050E-02	1.029E+00	1.021E+00	1.012E+00	1.002E+00	9.914E-01
01	9.801E-01	9.684E-01	9.564E-01	9.443E-01	9.326E-01	
22	9.500E-03	7.747E-01	7.738E-01	7.706E-01	7.657E-01	7.595E-01
01	7.523E-01	7.443E-01	7.358E-01	7.271E-01	7.185E-01	
21	8.500E-03	6.022E-01	6.076E-01	6.098E-01	6.095E-01	6.073E-01
01	6.036E-01	5.988E-01	5.933E-01	5.874E-01	5.813E-01	
20	7.350E-03	3.819E-01	3.943E-01	4.025E-01	4.073E-01	4.097E-01
01	4.101E-01	4.091E-01	4.071E-01	4.044E-01	4.013E-01	
19	6.100E-03	8.876E-02	1.082E-01	1.225E-01	1.327E-01	1.398E-01
01	1.445E-01	1.475E-01	1.491E-01	1.499E-01	1.502E-01	
18	5.000E-03	-1.455E-01	-1.204E-01	-1.013E-01	-8.682E-02	-7.595E-02
02	-6.783E-02	-6.178E-02	-5.724E-02	-5.375E-02	-5.091E-02	
17	4.100E-03	-2.867E-01	-2.575E-01	-2.349E-01	-2.173E-01	-2.038E-01
01	-1.932E-01	-1.849E-01	-1.783E-01	-1.728E-01	-1.683E-01	
16	3.400E-03	-3.219E-01	-2.887E-01	-2.624E-01	-2.415E-01	-2.248E-01
01	-2.113E-01	-2.002E-01	-1.909E-01	-1.830E-01	-1.761E-01	
15	2.850E-03	-1.461E-01	-1.111E-01	-8.336E-02	-6.124E-02	-4.346E-02
02	-2.901E-02	-1.709E-02	-7.014E-03	1.718E-03	9.162E-03	
14	2.400E-03	1.325E-01	1.689E-01	1.978E-01	2.209E-01	2.396E-01
01	2.548E-01	2.674E-01	2.781E-01	2.874E-01	2.953E-01	
13	2.050E-03	5.421E-01	5.785E-01	6.073E-01	6.302E-01	6.485E-01
01	6.633E-01	6.754E-01	6.855E-01	6.942E-01	7.014E-01	
12	1.800E-03	1.044E+00	1.078E+00	1.104E+00	1.124E+00	1.140E+00
00	1.152E+00	1.161E+00	1.168E+00	1.174E+00	1.178E+00	
11	1.600E-03	1.628E+00	1.650E+00	1.665E+00	1.674E+00	1.678E+00
00	1.679E+00	1.677E+00	1.674E+00	1.669E+00	1.662E+00	
10	1.450E-03	1.208E+00	1.239E+00	1.261E+00	1.278E+00	1.289E+00
00	1.297E+00	1.302E+00	1.305E+00	1.307E+00	1.307E+00	

9	1.300E-03	9.018E-01	9.345E-01	9.592E-01	9.777E-01	9.914E-
01	1.001E+00	1.009E+00	1.014E+00	1.017E+00	1.019E+00	
8	1.100E-03	6.473E-01	6.797E-01	7.041E-01	7.223E-01	7.358E-
01	7.456E-01	7.527E-01	7.577E-01	7.611E-01	7.631E-01	
7	9.000E-04	4.797E-01	5.111E-01	5.346E-01	5.520E-01	5.646E-
01	5.736E-01	5.799E-01	5.841E-01	5.869E-01	5.882E-01	
6	7.000E-04	3.611E-01	3.914E-01	4.137E-01	4.300E-01	4.416E-
01	4.497E-01	4.550E-01	4.583E-01	4.601E-01	4.606E-01	
5	5.000E-04	2.722E-01	3.012E-01	3.223E-01	3.375E-01	3.480E-
01	3.549E-01	3.592E-01	3.615E-01	3.623E-01	3.619E-01	
4	3.000E-04	2.036E-01	2.311E-01	2.509E-01	2.648E-01	2.740E-
01	2.798E-01	2.829E-01	2.841E-01	2.838E-01	2.823E-01	
3	1.500E-04	1.733E-01	1.990E-01	2.170E-01	2.292E-01	2.368E-
01	2.410E-01	2.425E-01	2.422E-01	2.405E-01	2.376E-01	
2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
0		X=	2.000E-03	2.200E-03	2.400E-03	2.600E-03
03	3.000E-03	3.300E-03	3.600E-03	3.900E-03	4.200E-03	
0		K=	21	22	23	24
26			21	22	23	24
			27	28	29	30
I	Y					
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
58	7.100E-02	-3.338E-03	-3.633E-03	-3.917E-03	-4.196E-03	-4.470E-
03	-4.739E-03	-5.134E-03	-5.519E-03	-5.898E-03	-6.271E-03	
57	6.900E-02	-3.828E-03	-4.207E-03	-4.576E-03	-4.940E-03	-5.302E-
03	-5.661E-03	-6.189E-03	-6.709E-03	-7.225E-03	-7.736E-03	
56	6.700E-02	-4.582E-03	-5.043E-03	-5.494E-03	-5.943E-03	-6.390E-
03	-6.835E-03	-7.494E-03	-8.146E-03	-8.795E-03	-9.441E-03	
55	6.500E-02	-5.506E-03	-6.057E-03	-6.598E-03	-7.138E-03	-7.678E-
03	-8.216E-03	-9.015E-03	-9.809E-03	-1.060E-02	-1.139E-02	
54	6.300E-02	-6.556E-03	-7.209E-03	-7.852E-03	-8.494E-03	-9.137E-
03	-9.778E-03	-1.073E-02	-1.168E-02	-1.263E-02	-1.358E-02	
53	6.100E-02	-7.735E-03	-8.500E-03	-9.257E-03	-1.001E-02	-1.077E-
02	-1.152E-02	-1.265E-02	-1.377E-02	-1.489E-02	-1.601E-02	
52	5.900E-02	-9.048E-03	-9.939E-03	-1.082E-02	-1.170E-02	-1.259E-
02	-1.347E-02	-1.479E-02	-1.610E-02	-1.741E-02	-1.872E-02	
51	5.700E-02	-1.052E-02	-1.155E-02	-1.257E-02	-1.360E-02	-1.463E-
02	-1.565E-02	-1.718E-02	-1.871E-02	-2.023E-02	-2.176E-02	
50	5.500E-02	-1.216E-02	-1.336E-02	-1.454E-02	-1.573E-02	-1.692E-
02	-1.810E-02	-1.988E-02	-2.164E-02	-2.341E-02	-2.517E-02	
49	5.300E-02	-1.402E-02	-1.540E-02	-1.677E-02	-1.814E-02	-1.951E-
02	-2.088E-02	-2.292E-02	-2.496E-02	-2.700E-02	-2.904E-02	
48	5.050E-02	-1.670E-02	-1.835E-02	-1.998E-02	-2.162E-02	-2.325E-
02	-2.489E-02	-2.733E-02	-2.976E-02	-3.219E-02	-3.462E-02	
47	4.750E-02	-2.063E-02	-2.267E-02	-2.470E-02	-2.672E-02	-2.875E-
02	-3.077E-02	-3.380E-02	-3.681E-02	-3.982E-02	-4.283E-02	
46	4.500E-02	-2.463E-02	-2.708E-02	-2.951E-02	-3.193E-02	-3.436E-
02	-3.679E-02	-4.042E-02	-4.403E-02	-4.764E-02	-5.125E-02	
45	4.300E-02	-2.839E-02	-3.122E-02	-3.403E-02	-3.683E-02	-3.964E-
02	-4.245E-02	-4.665E-02	-5.083E-02	-5.500E-02	-5.918E-02	
44	4.100E-02	-3.281E-02	-3.611E-02	-3.937E-02	-4.262E-02	-4.589E-
02	-4.915E-02	-5.402E-02	-5.887E-02	-6.372E-02	-6.856E-02	
43	3.900E-02	-3.808E-02	-4.193E-02	-4.574E-02	-4.954E-02	-5.335E-
02	-5.715E-02	-6.284E-02	-6.850E-02	-7.416E-02	-7.980E-02	
42	3.700E-02	-4.443E-02	-4.895E-02	-5.342E-02	-5.789E-02	-6.235E-
02	-6.682E-02	-7.349E-02	-8.013E-02	-8.676E-02	-9.338E-02	
41	3.500E-02	-5.218E-02	-5.749E-02	-6.277E-02	-6.804E-02	-7.330E-
02	-7.856E-02	-8.644E-02	-9.428E-02	-1.021E-01	-1.099E-01	
40	3.300E-02	-6.166E-02	-6.794E-02	-7.419E-02	-8.042E-02	-8.666E-
02	-9.290E-02	-1.022E-01	-1.116E-01	-1.209E-01	-1.302E-01	
39	3.100E-02	-7.325E-02	-8.068E-02	-8.811E-02	-9.554E-02	-1.030E-
01	-1.104E-01	-1.216E-01	-1.328E-01	-1.440E-01	-1.551E-01	
38	2.900E-02	-8.710E-02	-9.595E-02	-1.048E-01	-1.137E-01	-1.227E-
01	-1.317E-01	-1.452E-01	-1.589E-01	-1.726E-01	-1.863E-01	
37	2.700E-02	-1.024E-01	-1.131E-01	-1.240E-01	-1.349E-01	-1.460E-

01	-1.573E-01	-1.744E-01	-1.917E-01	-2.091E-01	-2.266E-01	
36	2.500E-02	-1.162E-01	-1.301E-01	-1.444E-01	-1.591E-01	-1.741E-
01	-1.892E-01	-2.124E-01	-2.357E-01	-2.591E-01	-2.824E-01	
35	2.300E-02	-1.274E-01	-1.491E-01	-1.712E-01	-1.936E-01	-2.160E-
01	-2.385E-01	-2.720E-01	-3.050E-01	-3.374E-01	-3.691E-01	
34	2.100E-02	-1.934E-01	-2.319E-01	-2.689E-01	-3.056E-01	-3.409E-
01	-3.755E-01	-4.250E-01	-4.728E-01	-5.184E-01	-5.629E-01	
33	1.975E-02	-6.843E-01	-7.269E-01	-7.742E-01	-8.219E-01	-8.612E-
01	-8.954E-01	-9.437E-01	-9.953E-01	-1.042E+00	-1.088E+00	
32	1.900E-02	-1.181E+00	-1.186E+00	-1.211E+00	-1.235E+00	-1.244E+
00	-1.249E+00	-1.261E+00	-1.287E+00	-1.307E+00	-1.333E+00	
31	1.825E-02	-2.878E-02	-7.570E-02	-1.628E-01	-2.238E-01	-2.543E-
01	-3.048E-01	-3.832E-01	-4.619E-01	-5.223E-01	-5.957E-01	
30	1.750E-02	7.584E-01	6.794E-01	6.657E-01	5.883E-01	4.969E-
01	4.327E-01	3.239E-01	2.193E-01	1.462E-01	4.817E-02	
29	1.650E-02	1.252E+00	1.186E+00	1.142E+00	1.102E+00	1.031E+
00	9.701E-01	9.087E-01	8.456E-01	7.653E-01	7.116E-01	
28	1.550E-02	1.461E+00	1.402E+00	1.356E+00	1.310E+00	1.251E+
00	1.193E+00	1.127E+00	1.071E+00	9.947E-01	9.439E-01	
27	1.450E-02	1.596E+00	1.543E+00	1.499E+00	1.454E+00	1.402E+
00	1.351E+00	1.287E+00	1.229E+00	1.166E+00	1.114E+00	
26	1.350E-02	1.649E+00	1.603E+00	1.563E+00	1.522E+00	1.477E+
00	1.432E+00	1.374E+00	1.321E+00	1.266E+00	1.218E+00	
25	1.250E-02	1.575E+00	1.538E+00	1.503E+00	1.468E+00	1.430E+
00	1.392E+00	1.343E+00	1.298E+00	1.254E+00	1.214E+00	
24	1.150E-02	1.320E+00	1.291E+00	1.262E+00	1.233E+00	1.203E+
00	1.174E+00	1.134E+00	1.100E+00	1.066E+00	1.038E+00	
23	1.050E-02	9.209E-01	8.965E-01	8.722E-01	8.477E-01	8.229E-
01	7.991E-01	7.658E-01	7.358E-01	7.083E-01	6.857E-01	
22	9.500E-03	7.100E-01	6.913E-01	6.719E-01	6.524E-01	6.329E-
01	6.142E-01	5.878E-01	5.643E-01	5.435E-01	5.276E-01	
21	8.500E-03	5.751E-01	5.614E-01	5.466E-01	5.317E-01	5.168E-
01	5.025E-01	4.823E-01	4.648E-01	4.501E-01	4.400E-01	
20	7.350E-03	3.980E-01	3.895E-01	3.800E-01	3.703E-01	3.607E-
01	3.514E-01	3.383E-01	3.275E-01	3.197E-01	3.162E-01	
19	6.100E-03	1.499E-01	1.469E-01	1.428E-01	1.387E-01	1.347E-
01	1.307E-01	1.249E-01	1.212E-01	1.206E-01	1.239E-01	
18	5.000E-03	-4.890E-02	-4.762E-02	-4.732E-02	-4.711E-02	-4.680E-
02	-4.670E-02	-4.694E-02	-4.508E-02	-4.031E-02	-3.185E-02	
17	4.100E-03	-1.647E-01	-1.599E-01	-1.560E-01	-1.522E-01	-1.484E-
01	-1.452E-01	-1.407E-01	-1.340E-01	-1.246E-01	-1.116E-01	
16	3.400E-03	-1.703E-01	-1.610E-01	-1.524E-01	-1.440E-01	-1.360E-
01	-1.287E-01	-1.181E-01	-1.055E-01	-9.016E-02	-7.150E-02	
15	2.850E-03	1.542E-02	2.571E-02	3.551E-02	4.511E-02	5.427E-
02	6.245E-02	7.431E-02	8.829E-02	1.050E-01	1.250E-01	
14	2.400E-03	3.018E-01	3.126E-01	3.233E-01	3.336E-01	3.435E-
01	3.519E-01	3.642E-01	3.788E-01	3.960E-01	4.163E-01	
13	2.050E-03	7.067E-01	7.155E-01	7.245E-01	7.332E-01	7.412E-
01	7.474E-01	7.562E-01	7.675E-01	7.814E-01	7.985E-01	
12	1.800E-03	1.179E+00	1.181E+00	1.183E+00	1.185E+00	1.186E+
00	1.185E+00	1.182E+00	1.183E+00	1.187E+00	1.193E+00	
11	1.600E-03	1.653E+00	1.633E+00	1.617E+00	1.600E+00	1.584E+
00	1.566E+00	1.539E+00	1.517E+00	1.500E+00	1.488E+00	
10	1.450E-03	1.304E+00	1.298E+00	1.292E+00	1.286E+00	1.280E+
00	1.271E+00	1.258E+00	1.249E+00	1.243E+00	1.241E+00	
9	1.300E-03	1.019E+00	1.016E+00	1.014E+00	1.012E+00	1.010E+
00	1.005E+00	9.983E-01	9.946E-01	9.940E-01	9.968E-01	
8	1.100E-03	7.633E-01	7.611E-01	7.591E-01	7.574E-01	7.556E-
01	7.519E-01	7.460E-01	7.432E-01	7.435E-01	7.471E-01	
7	9.000E-04	5.879E-01	5.846E-01	5.814E-01	5.787E-01	5.759E-
01	5.715E-01	5.645E-01	5.604E-01	5.595E-01	5.620E-01	
6	7.000E-04	4.596E-01	4.547E-01	4.499E-01	4.457E-01	4.415E-
01	4.359E-01	4.270E-01	4.210E-01	4.183E-01	4.191E-01	
5	5.000E-04	3.600E-01	3.533E-01	3.468E-01	3.410E-01	3.352E-
01	3.281E-01	3.170E-01	3.089E-01	3.041E-01	3.029E-01	
4	3.000E-04	2.794E-01	2.707E-01	2.623E-01	2.546E-01	2.471E-

01	2.383E-01	2.247E-01	2.142E-01	2.071E-01	2.036E-01		
3	1.500E-04	2.333E-01	2.221E-01	2.112E-01	2.012E-01	1.914E-	
01	1.804E-01	1.639E-01	1.505E-01	1.406E-01	1.346E-01		
2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
0		X=	4.500E-03	4.800E-03	5.200E-03	5.600E-03	6.000E-
03	6.500E-03	7.000E-03	7.500E-03	8.000E-03	8.500E-03		
0		K=	31	32	33	34	35
36	37	38	39	40			
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
58	7.100E-02	-6.639E-03	-7.003E-03	-7.480E-03	-7.951E-03	-8.417E-	
03	-8.990E-03	-9.555E-03	-1.011E-02	-1.066E-02	-1.120E-02		
57	6.900E-02	-8.242E-03	-8.746E-03	-9.409E-03	-1.007E-02	-1.072E-	
02	-1.152E-02	-1.232E-02	-1.310E-02	-1.388E-02	-1.465E-02		
56	6.700E-02	-1.009E-02	-1.073E-02	-1.157E-02	-1.241E-02	-1.325E-	
02	-1.429E-02	-1.531E-02	-1.633E-02	-1.734E-02	-1.833E-02		
55	6.500E-02	-1.218E-02	-1.296E-02	-1.400E-02	-1.504E-02	-1.607E-	
02	-1.734E-02	-1.861E-02	-1.986E-02	-2.111E-02	-2.234E-02		
54	6.300E-02	-1.452E-02	-1.546E-02	-1.671E-02	-1.795E-02	-1.919E-	
02	-2.073E-02	-2.225E-02	-2.376E-02	-2.526E-02	-2.675E-02		
53	6.100E-02	-1.713E-02	-1.824E-02	-1.972E-02	-2.119E-02	-2.266E-	
02	-2.448E-02	-2.628E-02	-2.807E-02	-2.985E-02	-3.161E-02		
52	5.900E-02	-2.003E-02	-2.134E-02	-2.307E-02	-2.480E-02	-2.651E-	
02	-2.865E-02	-3.076E-02	-3.286E-02	-3.495E-02	-3.701E-02		
51	5.700E-02	-2.328E-02	-2.480E-02	-2.682E-02	-2.883E-02	-3.083E-	
02	-3.331E-02	-3.577E-02	-3.821E-02	-4.064E-02	-4.304E-02		
50	5.500E-02	-2.694E-02	-2.870E-02	-3.104E-02	-3.336E-02	-3.567E-	
02	-3.855E-02	-4.140E-02	-4.423E-02	-4.704E-02	-4.981E-02		
49	5.300E-02	-3.108E-02	-3.311E-02	-3.581E-02	-3.849E-02	-4.116E-	
02	-4.448E-02	-4.777E-02	-5.103E-02	-5.427E-02	-5.747E-02		
48	5.050E-02	-3.705E-02	-3.947E-02	-4.269E-02	-4.589E-02	-4.907E-	
02	-5.303E-02	-5.695E-02	-6.084E-02	-6.470E-02	-6.851E-02		
47	4.750E-02	-4.584E-02	-4.884E-02	-5.282E-02	-5.678E-02	-6.073E-	
02	-6.562E-02	-7.048E-02	-7.529E-02	-8.007E-02	-8.478E-02		
46	4.500E-02	-5.485E-02	-5.846E-02	-6.323E-02	-6.798E-02	-7.271E-	
02	-7.857E-02	-8.439E-02	-9.015E-02	-9.587E-02	-1.015E-01		
45	4.300E-02	-6.335E-02	-6.752E-02	-7.304E-02	-7.853E-02	-8.400E-	
02	-9.078E-02	-9.750E-02	-1.042E-01	-1.108E-01	-1.172E-01		
44	4.100E-02	-7.341E-02	-7.824E-02	-8.466E-02	-9.103E-02	-9.737E-	
02	-1.052E-01	-1.130E-01	-1.207E-01	-1.284E-01	-1.359E-01		
43	3.900E-02	-8.544E-02	-9.108E-02	-9.855E-02	-1.060E-01	-1.134E-	
01	-1.225E-01	-1.316E-01	-1.405E-01	-1.494E-01	-1.581E-01		
42	3.700E-02	-9.998E-02	-1.066E-01	-1.153E-01	-1.240E-01	-1.327E-	
01	-1.434E-01	-1.540E-01	-1.645E-01	-1.748E-01	-1.849E-01		
41	3.500E-02	-1.177E-01	-1.255E-01	-1.358E-01	-1.461E-01	-1.563E-	
01	-1.689E-01	-1.814E-01	-1.937E-01	-2.058E-01	-2.177E-01		
40	3.300E-02	-1.394E-01	-1.487E-01	-1.610E-01	-1.732E-01	-1.854E-	
01	-2.004E-01	-2.152E-01	-2.298E-01	-2.442E-01	-2.582E-01		
39	3.100E-02	-1.663E-01	-1.775E-01	-1.923E-01	-2.071E-01	-2.218E-	
01	-2.399E-01	-2.578E-01	-2.753E-01	-2.924E-01	-3.090E-01		
38	2.900E-02	-2.001E-01	-2.139E-01	-2.322E-01	-2.504E-01	-2.684E-	
01	-2.907E-01	-3.125E-01	-3.336E-01	-3.542E-01	-3.739E-01		
37	2.700E-02	-2.441E-01	-2.616E-01	-2.848E-01	-3.078E-01	-3.304E-	
01	-3.580E-01	-3.848E-01	-4.105E-01	-4.352E-01	-4.584E-01		
36	2.500E-02	-3.055E-01	-3.284E-01	-3.585E-01	-3.877E-01	-4.164E-	
01	-4.509E-01	-4.836E-01	-5.144E-01	-5.434E-01	-5.699E-01		
35	2.300E-02	-4.001E-01	-4.303E-01	-4.691E-01	-5.066E-01	-5.430E-	
01	-5.855E-01	-6.246E-01	-6.598E-01	-6.922E-01	-7.206E-01		
34	2.100E-02	-6.053E-01	-6.458E-01	-6.966E-01	-7.475E-01	-7.956E-	
01	-8.472E-01	-8.923E-01	-9.311E-01	-9.667E-01	-9.952E-01		
33	1.975E-02	-1.128E+00	-1.159E+00	-1.203E+00	-1.256E+00	-1.291E+	
00	-1.322E+00	-1.351E+00	-1.375E+00	-1.398E+00	-1.407E+00		
32	1.900E-02	-1.351E+00	-1.362E+00	-1.389E+00	-1.436E+00	-1.457E+	
00	-1.476E+00	-1.504E+00	-1.533E+00	-1.572E+00	-1.601E+00		





00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
58	7.100E-02	-1.174E-02	-1.224E-02	-1.281E-02	-1.753E-02	-2.189E-02	-2.662E-02
02	-2.662E-02	-2.716E-02	-2.247E-02	-2.021E-02	-1.314E-02		
57	6.900E-02	-1.542E-02	-1.617E-02	-1.696E-02	-2.383E-02	-3.010E-02	-3.711E-02
02	-3.711E-02	-3.758E-02	-3.106E-02	-2.785E-02	-1.789E-02		
56	6.700E-02	-1.933E-02	-2.029E-02	-2.132E-02	-3.021E-02	-3.839E-02	-4.762E-02
02	-4.762E-02	-4.824E-02	-3.972E-02	-3.549E-02	-2.249E-02		
55	6.500E-02	-2.358E-02	-2.477E-02	-2.605E-02	-3.704E-02	-4.716E-02	-5.849E-02
02	-5.849E-02	-5.935E-02	-4.863E-02	-4.334E-02	-2.711E-02		
54	6.300E-02	-2.824E-02	-2.967E-02	-3.121E-02	-4.445E-02	-5.666E-02	-7.003E-02
02	-7.003E-02	-7.106E-02	-5.789E-02	-5.149E-02	-3.184E-02		
53	6.100E-02	-3.338E-02	-3.507E-02	-3.690E-02	-5.257E-02	-6.703E-02	-8.247E-02
02	-8.247E-02	-8.349E-02	-6.758E-02	-6.000E-02	-3.671E-02		
52	5.900E-02	-3.908E-02	-4.107E-02	-4.321E-02	-6.155E-02	-7.844E-02	-9.599E-02
02	-9.599E-02	-9.676E-02	-7.777E-02	-6.890E-02	-4.172E-02		
51	5.700E-02	-4.545E-02	-4.775E-02	-5.025E-02	-7.152E-02	-9.107E-02	-1.108E-01
02	-1.108E-01	-1.110E-01	-8.854E-02	-7.823E-02	-4.688E-02		
50	5.500E-02	-5.259E-02	-5.526E-02	-5.815E-02	-8.269E-02	-1.051E-01	-1.270E-01
01	-1.270E-01	-1.263E-01	-9.994E-02	-8.803E-02	-5.220E-02		
49	5.300E-02	-6.067E-02	-6.373E-02	-6.708E-02	-9.529E-02	-1.209E-01	-1.449E-01
01	-1.449E-01	-1.429E-01	-1.120E-01	-9.835E-02	-5.767E-02		
48	5.050E-02	-7.232E-02	-7.595E-02	-7.995E-02	-1.133E-01	-1.433E-01	-1.698E-01
01	-1.698E-01	-1.654E-01	-1.282E-01	-1.120E-01	-6.475E-02		
47	4.750E-02	-8.950E-02	-9.400E-02	-9.892E-02	-1.397E-01	-1.757E-01	-2.046E-01
01	-2.046E-01	-1.958E-01	-1.493E-01	-1.297E-01	-7.355E-02		
46	4.500E-02	-1.071E-01	-1.125E-01	-1.184E-01	-1.668E-01	-2.084E-01	-2.386E-01
01	-2.386E-01	-2.245E-01	-1.687E-01	-1.457E-01	-8.119E-02		
45	4.300E-02	-1.237E-01	-1.299E-01	-1.367E-01	-1.921E-01	-2.386E-01	-2.692E-01
01	-2.692E-01	-2.498E-01	-1.854E-01	-1.595E-01	-8.760E-02		
44	4.100E-02	-1.434E-01	-1.504E-01	-1.584E-01	-2.218E-01	-2.736E-01	-3.036E-01
01	-3.036E-01	-2.775E-01	-2.034E-01	-1.741E-01	-9.425E-02		
43	3.900E-02	-1.668E-01	-1.750E-01	-1.842E-01	-2.569E-01	-3.141E-01	-3.423E-01
01	-3.423E-01	-3.079E-01	-2.227E-01	-1.898E-01	-1.012E-01		
42	3.700E-02	-1.951E-01	-2.045E-01	-2.153E-01	-2.987E-01	-3.614E-01	-3.858E-01
01	-3.858E-01	-3.414E-01	-2.434E-01	-2.066E-01	-1.084E-01		
41	3.500E-02	-2.296E-01	-2.405E-01	-2.531E-01	-3.489E-01	-4.165E-01	-4.350E-01
01	-4.350E-01	-3.782E-01	-2.658E-01	-2.246E-01	-1.160E-01		
40	3.300E-02	-2.722E-01	-2.848E-01	-2.998E-01	-4.094E-01	-4.811E-01	-4.905E-01
01	-4.905E-01	-4.187E-01	-2.901E-01	-2.441E-01	-1.241E-01		
39	3.100E-02	-3.255E-01	-3.403E-01	-3.580E-01	-4.828E-01	-5.569E-01	-5.534E-01
01	-5.534E-01	-4.634E-01	-3.164E-01	-2.653E-01	-1.328E-01		
38	2.900E-02	-3.935E-01	-4.106E-01	-4.313E-01	-5.722E-01	-6.460E-01	-6.246E-01
01	-6.246E-01	-5.130E-01	-3.451E-01	-2.885E-01	-1.423E-01		
37	2.700E-02	-4.812E-01	-5.007E-01	-5.244E-01	-6.816E-01	-7.507E-01	-7.055E-01
01	-7.055E-01	-5.680E-01	-3.768E-01	-3.145E-01	-1.536E-01		
36	2.500E-02	-5.958E-01	-6.164E-01	-6.429E-01	-8.162E-01	-8.744E-01	-7.984E-01
01	-7.984E-01	-6.304E-01	-4.137E-01	-3.457E-01	-1.689E-01		
35	2.300E-02	-7.478E-01	-7.652E-01	-7.966E-01	-9.861E-01	-1.025E+00	-9.114E-01
00	-9.114E-01	-7.074E-01	-4.622E-01	-3.883E-01	-1.932E-01		
34	2.100E-02	-1.019E+00	-1.027E+00	-1.067E+00	-1.267E+00	-1.264E+00	-1.084E+00
00	-1.084E+00	-8.221E-01	-5.360E-01	-4.536E-01	-2.333E-01		
33	1.975E-02	-1.408E+00	-1.391E+00	-1.393E+00	-1.531E+00	-1.458E+00	-1.215E+00
00	-1.215E+00	-9.077E-01	-5.900E-01	-5.036E-01	-2.669E-01		
32	1.900E-02	-1.631E+00	-1.663E+00	-1.707E+00	-1.761E+00	-1.619E+00	-1.317E+00
00	-1.317E+00	-9.717E-01	-6.298E-01	-5.403E-01	-2.920E-01		
31	1.825E-02	-1.756E+00	-1.863E+00	-1.710E+00	-1.724E+00	-1.637E+00	-1.355E+00
00	-1.355E+00	-1.009E+00	-6.593E-01	-5.720E-01	-3.169E-01		
30	1.750E-02	-1.249E+00	-1.346E+00	-1.358E+00	-1.500E+00	-1.539E+00	-1.350E+00
00	-1.350E+00	-1.031E+00	-6.851E-01	-6.034E-01	-3.433E-01		
29	1.650E-02	-6.663E-01	-7.884E-01	-9.441E-01	-1.297E+00	-1.534E+00	-1.279E+00
00	-1.279E+00	-1.020E+00	-7.001E-01	-6.320E-01	-3.745E-01		
28	1.550E-02	-3.321E-01	-4.773E-01	-6.874E-01	-1.130E+00	-1.223E+00	-1.168E+00
00	-1.168E+00	-9.774E-01	-7.047E-01	-6.554E-01	-4.065E-01		
27	1.450E-02	-1.785E-02	-2.182E-01	-4.115E-01	-8.029E-01	-9.660E-01	-9.664E-01
01	-9.664E-01	-9.224E-01	-7.184E-01	-6.910E-01	-4.502E-01		
26	1.350E-02	2.455E-01	1.860E-02	-1.470E-01	-5.793E-01	-7.925E-01	

01	-7.877E-01	-7.627E-01	-5.464E-01	-5.501E-01	-3.818E-01		
25	1.250E-02	3.401E-01	1.102E-01	-5.009E-02	-4.303E-01	-6.340E-	
01	-6.288E-01	-5.422E-01	-3.932E-01	-4.207E-01	-3.034E-01		
24	1.150E-02	2.920E-01	7.281E-02	-9.593E-02	-3.441E-01	-5.018E-	
01	-4.841E-01	-4.493E-01	-3.419E-01	-3.859E-01	-2.815E-01		
23	1.050E-02	4.595E-02	-5.014E-02	-2.885E-01	-4.621E-01	-5.320E-	
01	-4.902E-01	-4.891E-01	-4.376E-01	-5.074E-01	-4.541E-01		
22	9.500E-03	3.545E-02	-1.056E-02	-7.999E-02	-6.538E-01	-1.320E+	
00	-1.392E+00	-1.327E+00	-1.176E+00	-1.221E+00	-9.905E-01		
21	8.500E-03	7.605E-02	3.869E-02	-2.997E-02	-3.454E-01	-4.981E-	
01	-9.620E-01	-1.326E+00	-1.404E+00	-1.386E+00	-1.096E+00		
20	7.350E-03	9.875E-02	7.383E-02	5.791E-03	-2.404E-01	-3.238E-	
01	-3.969E-01	-4.642E-01	-6.540E-01	-1.025E+00	-1.092E+00		
19	6.100E-03	6.469E-02	5.745E-02	-5.464E-03	-1.629E-01	-2.109E-	
01	-2.135E-01	-2.565E-01	-4.490E-01	-5.722E-01	-4.699E-01		
18	5.000E-03	3.595E-02	4.435E-02	-1.754E-02	-9.891E-02	-1.217E-	
01	-1.105E-01	-1.692E-01	-3.279E-01	-4.237E-01	-3.399E-01		
17	4.100E-03	6.094E-02	8.184E-02	1.652E-02	-2.374E-02	-6.129E-	
02	-4.227E-02	-1.159E-01	-3.005E-01	-4.204E-01	-3.172E-01		
16	3.400E-03	2.153E-01	2.502E-01	1.838E-01	2.346E-01	2.835E-	
01	1.218E-01	-1.075E-01	-3.152E-01	-4.304E-01	-2.920E-01		
15	2.850E-03	4.539E-01	4.946E-01	4.182E-01	4.805E-01	5.071E-	
01	3.894E-01	1.057E-01	-2.595E-01	-4.168E-01	-2.666E-01		
14	2.400E-03	7.616E-01	8.048E-01	7.115E-01	7.551E-01	7.551E-	
01	6.300E-01	5.059E-01	-2.844E-01	-4.685E-01	-2.634E-01		
13	2.050E-03	1.094E+00	1.134E+00	1.014E+00	9.877E-01	9.275E-	
01	7.257E-01	4.839E-01	-2.357E-01	-4.006E-01	-2.717E-01		
12	1.800E-03	1.349E+00	1.377E+00	1.231E+00	1.115E+00	9.993E-	
01	7.548E-01	5.063E-01	2.524E-02	-4.366E-01	-3.368E-01		
11	1.600E-03	1.450E+00	1.468E+00	1.304E+00	1.134E+00	9.948E-	
01	7.414E-01	4.853E-01	-1.545E-01	-6.683E-01	-3.119E-01		
10	1.450E-03	1.304E+00	1.328E+00	1.176E+00	1.044E+00	9.284E-	
01	7.007E-01	4.625E-01	-1.412E-01	-5.121E-01	-2.951E-01		
9	1.300E-03	1.127E+00	1.158E+00	1.016E+00	9.304E-01	8.445E-	
01	6.511E-01	4.395E-01	-9.448E-02	-3.916E-01	-2.812E-01		
8	1.100E-03	8.987E-01	9.336E-01	8.026E-01	7.556E-01	7.032E-	
01	5.624E-01	4.026E-01	1.161E-02	-2.080E-01	-2.682E-01		
7	9.000E-04	7.090E-01	7.461E-01	6.212E-01	5.933E-01	5.617E-	
01	4.643E-01	3.564E-01	1.393E-01	1.131E-01	-3.521E-01		
6	7.000E-04	5.514E-01	5.895E-01	4.681E-01	4.485E-01	4.284E-	
01	3.601E-01	2.821E-01	8.381E-02	-4.965E-02	-4.064E-01		
5	5.000E-04	4.148E-01	4.532E-01	3.339E-01	3.177E-01	3.041E-	
01	2.562E-01	2.010E-01	4.291E-02	-7.346E-02	-2.944E-01		
4	3.000E-04	2.908E-01	3.289E-01	2.107E-01	1.952E-01	1.856E-	
01	1.546E-01	1.221E-01	2.194E-02	-6.324E-02	-2.269E-01		
3	1.500E-04	1.941E-01	2.315E-01	1.137E-01	9.969E-02	9.411E-	
02	7.736E-02	6.282E-02	1.396E-02	-4.099E-02	-1.641E-01		
2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
0		X=	8.000E-02	9.500E-02	1.100E-01	1.250E-01	1.350E-
01	1.450E-01	1.550E-01	1.650E-01	1.750E-01			
0		K=	51	52	53	54	55
56		57	58	59			
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
58	7.100E-02	-1.059E-02	-4.137E-03	1.013E-04	1.994E-03	2.335E-	
03	1.474E-03	-8.357E-04	-3.970E-06	-8.346E-06			
57	6.900E-02	-1.444E-02	-5.467E-03	4.149E-04	3.145E-03	3.624E-	
03	2.633E-03	-7.929E-05	-3.996E-05	-4.034E-05			
56	6.700E-02	-1.805E-02	-6.500E-03	1.028E-03	4.607E-03	5.201E-	
03	4.144E-03	9.251E-04	-5.013E-05	-5.450E-05			
55	6.500E-02	-2.156E-02	-7.265E-03	1.976E-03	6.435E-03	7.112E-	
03	6.052E-03	2.117E-03	-6.179E-05	-6.721E-05			
54	6.300E-02	-2.508E-02	-7.885E-03	3.174E-03	8.591E-03	9.338E-	
03	8.350E-03	3.505E-03	-7.313E-05	-7.995E-05			

53	6.100E-02	-2.869E-02	-8.426E-03	4.533E-03	1.100E-02	1.182E-
02	1.096E-02	5.066E-03	-8.388E-05	-9.181E-05		
52	5.900E-02	-3.237E-02	-8.884E-03	6.035E-03	1.362E-02	1.453E-
02	1.381E-02	6.759E-03	-9.376E-05	-1.031E-04		
51	5.700E-02	-3.611E-02	-9.227E-03	7.702E-03	1.646E-02	1.748E-
02	1.687E-02	8.561E-03	-1.026E-04	-1.131E-04		
50	5.500E-02	-3.989E-02	-9.419E-03	9.567E-03	1.955E-02	2.071E-
02	2.016E-02	1.048E-02	-1.102E-04	-1.219E-04		
49	5.300E-02	-4.371E-02	-9.423E-03	1.167E-02	2.294E-02	2.425E-
02	2.373E-02	1.253E-02	-1.165E-04	-1.295E-04		
48	5.050E-02	-4.853E-02	-9.142E-03	1.464E-02	2.762E-02	2.917E-
02	2.859E-02	1.530E-02	-1.221E-04	-1.355E-04		
47	4.750E-02	-5.425E-02	-8.153E-03	1.891E-02	3.409E-02	3.604E-
02	3.524E-02	1.907E-02	-1.265E-04	-1.410E-04		
46	4.500E-02	-5.891E-02	-6.658E-03	2.312E-02	4.035E-02	4.276E-
02	4.165E-02	2.274E-02	-1.292E-04	-1.444E-04		
45	4.300E-02	-6.261E-02	-5.027E-03	2.693E-02	4.596E-02	4.885E-
02	4.737E-02	2.606E-02	-1.298E-04	-1.454E-04		
44	4.100E-02	-6.621E-02	-2.887E-03	3.119E-02	5.222E-02	5.574E-
02	5.372E-02	2.981E-02	-1.290E-04	-1.441E-04		
43	3.900E-02	-6.963E-02	-1.408E-04	3.595E-02	5.921E-02	6.356E-
02	6.077E-02	3.406E-02	-1.266E-04	-1.408E-04		
42	3.700E-02	-7.280E-02	3.320E-03	4.126E-02	6.705E-02	7.249E-
02	6.860E-02	3.890E-02	-1.226E-04	-1.358E-04		
41	3.500E-02	-7.562E-02	7.616E-03	4.715E-02	7.586E-02	8.272E-
02	7.728E-02	4.442E-02	-1.176E-04	-1.293E-04		
40	3.300E-02	-7.797E-02	1.287E-02	5.364E-02	8.575E-02	9.444E-
02	8.677E-02	5.067E-02	-1.118E-04	-1.219E-04		
39	3.100E-02	-7.973E-02	1.915E-02	6.062E-02	9.674E-02	1.077E-
01	9.690E-02	5.759E-02	-1.057E-04	-1.136E-04		
38	2.900E-02	-8.096E-02	2.631E-02	6.771E-02	1.086E-01	1.224E-
01	1.071E-01	6.485E-02	-9.915E-05	-1.051E-04		
37	2.700E-02	-8.229E-02	3.364E-02	7.396E-02	1.208E-01	1.378E-
01	1.163E-01	7.175E-02	-9.335E-05	-9.716E-05		
36	2.500E-02	-8.588E-02	3.930E-02	7.746E-02	1.318E-01	1.524E-
01	1.224E-01	7.705E-02	-8.878E-05	-9.046E-05		
35	2.300E-02	-9.607E-02	4.005E-02	7.505E-02	1.395E-01	1.638E-
01	1.217E-01	7.898E-02	-8.650E-05	-8.636E-05		
34	2.100E-02	-1.185E-01	3.056E-02	6.103E-02	1.391E-01	1.671E-
01	1.088E-01	7.502E-02	-8.923E-05	-8.728E-05		
33	1.975E-02	-1.408E-01	1.451E-02	4.029E-02	1.295E-01	1.598E-
01	8.984E-02	6.714E-02	-9.276E-05	-8.990E-05		
32	1.900E-02	-1.582E-01	2.249E-03	2.533E-02	1.232E-01	1.553E-
01	7.729E-02	6.213E-02	-9.713E-05	-9.428E-05		
31	1.825E-02	-1.771E-01	-1.290E-02	7.002E-03	1.143E-01	1.480E-
01	6.217E-02	5.612E-02	-1.044E-04	-1.019E-04		
30	1.750E-02	-1.981E-01	-2.998E-02	-1.379E-02	1.045E-01	1.400E-
01	4.488E-02	4.896E-02	-1.151E-04	-1.136E-04		
29	1.650E-02	-2.249E-01	-5.420E-02	-4.585E-02	8.760E-02	1.262E-
01	1.337E-02	3.204E-02	-1.392E-04	-1.414E-04		
28	1.550E-02	-2.535E-01	-8.008E-02	-8.701E-02	6.155E-02	1.181E-
01	-4.760E-02	-9.883E-03	-1.414E-04	-1.461E-04		
27	1.450E-02	-2.900E-01	-1.042E-01	-1.536E-01	2.099E-03	1.361E-
01	1.751E-01	1.346E-01	-1.423E-04	-1.497E-04		
26	1.350E-02	-2.392E-01	-6.581E-02	3.687E-02	1.519E-01	1.621E-
01	1.327E-01	8.673E-02	-1.628E-04	-1.743E-04		
25	1.250E-02	-1.634E-01	-8.881E-03	3.441E-02	1.952E-01	3.158E-
01	1.621E-01	7.212E-02	-2.563E-04	-2.864E-04		
24	1.150E-02	-1.126E-01	8.412E-02	8.498E-03	-2.424E-02	8.440E-
03	1.822E-01	1.034E-01	-5.167E-04	-5.802E-04		
23	1.050E-02	-3.461E-01	-2.502E-01	-7.445E-02	-3.835E-02	6.753E-
02	1.842E-01	1.071E-01	-6.303E-04	-7.188E-04		
22	9.500E-03	-7.519E-01	-3.369E-01	-1.424E-01	-4.785E-02	8.448E-
02	1.997E-01	1.292E-01	-7.561E-04	-8.652E-04		
21	8.500E-03	-8.365E-01	-4.033E-01	-1.741E-01	-2.921E-02	1.271E-
01	2.420E-01	1.617E-01	-8.712E-04	-1.008E-03		

20	7.350E-03	-8.495E-01	-4.210E-01	-1.727E-01	2.348E-02	2.278E-
01	3.761E-01	2.470E-01	-1.011E-03	-1.182E-03		
19	6.100E-03	-2.768E-01	-1.087E-01	-3.923E-02	2.095E-02	1.398E-
01	3.102E-01	3.894E-01	-1.082E-03	-1.199E-03		
18	5.000E-03	-1.408E-01	-1.741E-02	4.241E-03	-6.844E-04	3.008E-
02	6.176E-02	-2.743E-02	-3.365E-04	-4.016E-04		
17	4.100E-03	-1.008E-01	1.861E-02	3.100E-02	2.233E-02	5.316E-
02	1.113E-01	6.984E-02	-1.372E-04	-1.456E-04		
16	3.400E-03	-6.069E-02	4.863E-02	5.013E-02	3.758E-02	6.233E-
02	1.152E-01	7.638E-02	-7.293E-05	-7.606E-05		
15	2.850E-03	-2.521E-02	7.173E-02	6.221E-02	4.594E-02	6.433E-
02	1.090E-01	7.106E-02	-3.497E-05	-3.383E-05		
14	2.400E-03	-6.569E-03	8.471E-02	6.723E-02	4.871E-02	6.180E-
02	9.892E-02	6.239E-02	-1.081E-05	-5.880E-06		
13	2.050E-03	-3.593E-03	8.823E-02	6.664E-02	4.766E-02	5.707E-
02	8.822E-02	5.366E-02	3.562E-06	1.081E-05		
12	1.800E-03	-2.170E-02	8.656E-02	6.369E-02	4.523E-02	5.262E-
02	7.995E-02	4.772E-02	1.121E-05	1.953E-05		
11	1.600E-03	-1.796E-02	8.619E-02	6.002E-02	4.236E-02	4.855E-
02	7.322E-02	4.335E-02	1.553E-05	2.453E-05		
10	1.450E-03	-1.206E-02	8.491E-02	5.594E-02	3.942E-02	4.511E-
02	6.814E-02	4.078E-02	1.815E-05	2.769E-05		
9	1.300E-03	-8.595E-03	8.222E-02	5.109E-02	3.612E-02	4.153E-
02	6.324E-02	3.857E-02	2.012E-05	2.979E-05		
8	1.100E-03	-2.579E-02	6.997E-02	4.149E-02	3.005E-02	3.514E-
02	5.462E-02	3.263E-02	1.993E-05	2.905E-05		
7	9.000E-04	-1.122E-01	4.589E-02	2.984E-02	2.313E-02	2.803E-
02	4.527E-02	2.648E-02	1.793E-05	2.613E-05		
6	7.000E-04	-9.674E-02	3.094E-02	2.037E-02	1.648E-02	2.084E-
02	3.576E-02	2.036E-02	1.467E-05	2.123E-05		
5	5.000E-04	-5.647E-02	2.603E-02	1.382E-02	1.072E-02	1.402E-
02	2.638E-02	1.438E-02	1.024E-05	1.465E-05		
4	3.000E-04	-2.742E-02	2.140E-02	8.562E-03	5.769E-03	7.723E-
03	1.722E-02	8.608E-03	4.730E-06	7.005E-06		
3	1.500E-04	-7.136E-03	1.412E-02	4.201E-03	2.537E-03	3.417E-
03	9.889E-03	4.432E-03	2.309E-06	3.758E-06		
2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

\*\*\*\*\* DP PRESSURE

CORRECTION \*\*\*\*\*

	X=	0.000E+00	1.000E-04	2.000E-04	3.000E-04	4.000E-
0	5.000E-04	6.000E-04	7.000E-04	8.000E-04	9.000E-04	
0	K=	1	2	3	4	5
6	7	8	9	10		
I	Y					
59	7.600E-02	7.453E-04	7.453E-04	7.945E-04	8.872E-04	9.108E-
04	8.988E-04	9.157E-04	9.008E-04	7.934E-04	7.798E-04	
58	7.200E-02	7.453E-04	7.453E-04	7.945E-04	8.872E-04	9.108E-
04	8.988E-04	9.157E-04	9.008E-04	7.934E-04	7.798E-04	
57	7.000E-02	6.232E-04	6.232E-04	6.431E-04	8.322E-04	9.177E-
04	8.542E-04	7.591E-04	7.616E-04	7.914E-04	8.969E-04	
56	6.800E-02	3.440E-04	3.440E-04	3.758E-04	5.525E-04	3.954E-
04	1.737E-04	1.934E-04	3.392E-04	2.853E-04	3.456E-04	
55	6.600E-02	1.102E-04	1.102E-04	1.065E-04	1.920E-04	3.024E-
04	2.276E-04	9.518E-05	3.189E-05	6.235E-05	1.094E-04	
54	6.400E-02	2.783E-04	2.783E-04	3.013E-04	4.388E-04	4.766E-
04	4.231E-04	3.177E-04	4.111E-04	4.256E-04	6.138E-04	
53	6.200E-02	6.907E-04	6.907E-04	7.055E-04	6.421E-04	5.135E-
04	6.958E-04	9.298E-04	9.590E-04	8.442E-04	9.658E-04	
52	6.000E-02	1.489E-03	1.489E-03	1.468E-03	1.531E-03	1.618E-
03	1.765E-03	1.723E-03	1.772E-03	1.771E-03	1.792E-03	
51	5.800E-02	2.706E-03	2.706E-03	2.706E-03	2.746E-03	2.781E-
03	2.740E-03	2.804E-03	2.628E-03	2.614E-03	2.851E-03	
50	5.600E-02	3.973E-03	3.973E-03	3.931E-03	3.911E-03	3.894E-
03	4.038E-03	4.014E-03	4.235E-03	4.165E-03	4.220E-03	

49	5.400E-02	5.465E-03	5.465E-03	5.357E-03	5.245E-03	5.258E-03
03	5.252E-03	5.233E-03	5.421E-03	5.615E-03	5.619E-03	
48	5.200E-02	6.299E-03	6.299E-03	6.285E-03	6.335E-03	6.480E-03
03	6.570E-03	6.862E-03	6.865E-03	6.829E-03	6.686E-03	
47	4.900E-02	8.016E-03	8.016E-03	8.045E-03	8.219E-03	8.245E-03
03	8.297E-03	8.468E-03	8.425E-03	8.582E-03	8.820E-03	
46	4.600E-02	1.025E-02	1.025E-02	1.021E-02	1.007E-02	1.035E-02
02	1.059E-02	1.070E-02	1.085E-02	1.085E-02	1.098E-02	
45	4.400E-02	1.124E-02	1.124E-02	1.122E-02	1.129E-02	1.155E-02
02	1.183E-02	1.199E-02	1.225E-02	1.249E-02	1.282E-02	
44	4.200E-02	1.160E-02	1.160E-02	1.164E-02	1.179E-02	1.194E-02
02	1.206E-02	1.222E-02	1.254E-02	1.288E-02	1.307E-02	
43	4.000E-02	1.032E-02	1.032E-02	1.034E-02	1.047E-02	1.083E-02
02	1.123E-02	1.148E-02	1.163E-02	1.188E-02	1.195E-02	
42	3.800E-02	8.239E-03	8.239E-03	8.248E-03	8.345E-03	8.543E-03
03	8.711E-03	9.130E-03	9.113E-03	9.211E-03	9.328E-03	
41	3.600E-02	7.028E-03	7.028E-03	7.074E-03	7.153E-03	7.192E-03
03	7.133E-03	7.101E-03	6.977E-03	6.720E-03	6.361E-03	
40	3.400E-02	9.779E-03	9.779E-03	9.807E-03	9.660E-03	9.325E-03
03	8.678E-03	7.983E-03	7.272E-03	6.443E-03	5.465E-03	
39	3.200E-02	1.749E-02	1.749E-02	1.748E-02	1.691E-02	1.555E-02
02	1.427E-02	1.279E-02	1.122E-02	9.497E-03	7.604E-03	
38	3.000E-02	2.468E-02	2.468E-02	2.438E-02	2.276E-02	2.060E-02
02	1.837E-02	1.590E-02	1.323E-02	1.050E-02	7.676E-03	
37	2.800E-02	1.799E-02	1.799E-02	1.719E-02	1.416E-02	1.133E-02
02	8.622E-03	5.895E-03	3.155E-03	3.707E-04	-2.417E-03	
36	2.600E-02	-1.091E-02	-1.091E-02	-1.204E-02	-1.545E-02	-1.735E-02
02	-1.869E-02	-2.003E-02	-2.114E-02	-2.193E-02	-2.284E-02	
35	2.400E-02	-4.221E-02	-4.221E-02	-4.321E-02	-4.488E-02	-4.388E-02
02	-4.227E-02	-4.056E-02	-3.856E-02	-3.642E-02	-3.390E-02	
34	2.200E-02	-4.719E-02	-4.719E-02	-4.771E-02	-4.710E-02	-4.288E-02
02	-3.800E-02	-3.268E-02	-2.694E-02	-2.105E-02	-1.522E-02	
33	2.000E-02	-6.547E-02	-6.547E-02	-6.556E-02	-6.231E-02	-5.442E-02
02	-4.678E-02	-3.910E-02	-3.087E-02	-2.258E-02	-1.442E-02	
32	1.950E-02	-7.802E-02	-7.802E-02	-7.738E-02	-7.365E-02	-6.655E-02
02	-5.999E-02	-5.284E-02	-4.519E-02	-3.733E-02	-2.968E-02	
31	1.850E-02	-9.939E-02	-9.939E-02	-9.763E-02	-9.515E-02	-9.072E-02
02	-8.630E-02	-8.136E-02	-7.590E-02	-7.008E-02	-6.382E-02	
30	1.800E-02	-1.028E-01	-1.028E-01	-1.017E-01	-9.932E-02	-9.525E-02
02	-9.108E-02	-8.680E-02	-8.123E-02	-7.550E-02	-6.970E-02	
29	1.700E-02	-9.155E-02	-9.155E-02	-9.107E-02	-8.800E-02	-8.336E-02
02	-7.842E-02	-7.285E-02	-6.668E-02	-5.990E-02	-5.253E-02	
28	1.600E-02	-1.235E-01	-1.235E-01	-1.222E-01	-1.214E-01	-1.181E-01
01	-1.142E-01	-1.095E-01	-1.038E-01	-9.722E-02	-8.963E-02	
27	1.500E-02	-9.736E-02	-9.736E-02	-9.599E-02	-9.627E-02	-9.359E-02
02	-9.020E-02	-8.607E-02	-8.121E-02	-7.565E-02	-6.942E-02	
26	1.400E-02	-4.839E-02	-4.839E-02	-4.643E-02	-4.610E-02	-4.308E-02
02	-3.940E-02	-3.538E-02	-3.109E-02	-2.668E-02	-2.225E-02	
25	1.300E-02	9.502E-03	9.502E-03	1.151E-02	1.323E-02	1.671E-02
02	2.076E-02	2.475E-02	2.843E-02	3.158E-02	3.397E-02	
24	1.200E-02	4.131E-02	4.131E-02	4.272E-02	4.360E-02	4.536E-02
02	4.768E-02	4.964E-02	5.096E-02	5.135E-02	5.054E-02	
23	1.100E-02	7.534E-04	7.534E-04	2.965E-03	4.399E-03	5.378E-03
03	6.824E-03	7.714E-03	7.787E-03	6.824E-03	4.616E-03	
22	1.000E-02	-2.219E-02	-2.219E-02	-2.054E-02	-2.014E-02	-2.240E-02
02	-2.482E-02	-2.800E-02	-3.203E-02	-3.692E-02	-4.265E-02	
21	9.000E-03	9.611E-02	9.611E-02	9.209E-02	8.515E-02	7.300E-02
02	5.956E-02	4.484E-02	2.896E-02	1.223E-02	-5.056E-03	
20	8.000E-03	1.173E-01	1.173E-01	1.139E-01	1.056E-01	9.053E-01
02	7.356E-02	5.493E-02	3.495E-02	1.409E-02	-7.157E-03	
19	6.700E-03	2.090E-01	2.090E-01	2.042E-01	1.941E-01	1.760E-01
01	1.557E-01	1.331E-01	1.087E-01	8.287E-02	5.615E-02	
18	5.500E-03	2.766E-01	2.766E-01	2.692E-01	2.571E-01	2.362E-01
01	2.129E-01	1.871E-01	1.591E-01	1.296E-01	9.838E-02	
17	4.500E-03	8.294E-02	8.294E-02	8.022E-02	8.185E-02	7.480E-02
02	6.672E-02	5.880E-02	3.885E-02	-2.297E-02	-5.946E-03	

16	3.700E-03	3.591E-01	3.591E-01	3.518E-01	3.498E-01	3.355E-01
01	3.182E-01	2.977E-01	2.742E-01	2.472E-01	2.179E-01	
15	3.100E-03	2.152E-01	2.152E-01	2.060E-01	2.089E-01	1.984E-01
01	1.854E-01	1.702E-01	1.528E-01	1.336E-01	1.128E-01	
14	2.600E-03	4.572E-02	4.572E-02	3.707E-02	4.624E-02	4.246E-02
02	3.689E-02	3.000E-02	2.175E-02	1.226E-02	1.665E-03	
13	2.200E-03	-1.528E-01	-1.528E-01	-1.617E-01	-1.488E-01	-1.476E-01
01	-1.473E-01	-1.473E-01	-1.478E-01	-1.488E-01	-1.505E-01	
12	1.900E-03	-3.718E-01	-3.718E-01	-3.776E-01	-3.613E-01	-3.564E-01
01	-3.515E-01	-3.462E-01	-3.408E-01	-3.356E-01	-3.307E-01	
11	1.700E-03	-4.298E-01	-4.298E-01	-4.716E-01	-4.605E-01	-4.580E-01
01	-4.547E-01	-4.504E-01	-4.459E-01	-4.410E-01	-4.363E-01	
10	1.500E-03	-4.534E-01	-4.534E-01	-4.935E-01	-4.849E-01	-4.824E-01
01	-4.777E-01	-4.716E-01	-4.650E-01	-4.583E-01	-4.521E-01	
9	1.400E-03	-5.888E-01	-5.888E-01	-6.083E-01	-5.941E-01	-5.937E-01
01	-5.901E-01	-5.843E-01	-5.780E-01	-5.722E-01	-5.654E-01	
8	1.200E-03	-7.046E-01	-7.046E-01	-7.103E-01	-6.866E-01	-6.862E-01
01	-6.818E-01	-6.746E-01	-6.664E-01	-6.586E-01	-6.502E-01	
7	1.000E-03	-7.994E-01	-7.994E-01	-7.987E-01	-7.687E-01	-7.697E-01
01	-7.644E-01	-7.562E-01	-7.476E-01	-7.375E-01	-7.267E-01	
6	8.000E-04	-9.189E-01	-9.189E-01	-9.196E-01	-8.844E-01	-8.844E-01
01	-8.774E-01	-8.678E-01	-8.574E-01	-8.463E-01	-8.342E-01	
5	6.000E-04	-1.063E+00	-1.063E+00	-1.067E+00	-1.025E+00	-1.023E+00
00	-1.016E+00	-1.004E+00	-9.916E-01	-9.782E-01	-9.648E-01	
4	4.000E-04	-1.183E+00	-1.183E+00	-1.192E+00	-1.145E+00	-1.141E+00
00	-1.131E+00	-1.118E+00	-1.104E+00	-1.090E+00	-1.076E+00	
3	2.000E-04	-1.172E+00	-1.172E+00	-1.195E+00	-1.139E+00	-1.132E+00
00	-1.119E+00	-1.105E+00	-1.094E+00	-1.081E+00	-1.071E+00	
2	1.000E-04	-6.249E-01	-6.249E-01	-7.042E-01	-6.365E-01	-6.408E-01
01	-6.369E-01	-6.320E-01	-6.307E-01	-6.325E-01	-6.356E-01	
1	0.000E+00	-6.249E-01	-6.249E-01	-7.042E-01	-6.365E-01	-6.408E-01
01	-6.369E-01	-6.320E-01	-6.307E-01	-6.325E-01	-6.356E-01	
0	X=	1.000E-03	1.100E-03	1.200E-03	1.300E-03	1.400E-03
03	1.500E-03	1.600E-03	1.700E-03	1.800E-03	1.900E-03	
0	K=	11	12	13	14	15
16	17	18	19	20		
I	Y					
59	7.600E-02	8.636E-04	9.895E-04	1.165E-03	1.277E-03	1.394E-03
03	1.462E-03	1.612E-03	1.665E-03	1.748E-03	1.807E-03	
58	7.200E-02	8.636E-04	9.895E-04	1.165E-03	1.277E-03	1.394E-03
03	1.462E-03	1.612E-03	1.665E-03	1.748E-03	1.807E-03	
57	7.000E-02	8.193E-04	8.412E-04	9.397E-04	1.102E-03	1.223E-03
03	1.310E-03	1.385E-03	1.685E-03	1.927E-03	2.146E-03	
56	6.800E-02	5.212E-04	6.054E-04	9.242E-04	1.171E-03	1.253E-03
03	1.182E-03	1.184E-03	1.488E-03	1.694E-03	1.826E-03	
55	6.600E-02	3.105E-04	4.905E-04	7.945E-04	1.048E-03	1.178E-03
03	1.323E-03	1.304E-03	1.363E-03	1.533E-03	1.636E-03	
54	6.400E-02	7.002E-04	6.209E-04	6.322E-04	8.888E-04	1.125E-03
03	1.285E-03	1.422E-03	1.584E-03	1.928E-03	2.083E-03	
53	6.200E-02	1.177E-03	1.332E-03	1.391E-03	1.526E-03	1.801E-03
03	1.963E-03	2.182E-03	2.307E-03	2.295E-03	2.417E-03	
52	6.000E-02	1.909E-03	2.093E-03	2.318E-03	2.560E-03	2.796E-03
03	2.786E-03	2.926E-03	3.081E-03	3.328E-03	3.528E-03	
51	5.800E-02	3.011E-03	3.298E-03	3.494E-03	3.695E-03	3.781E-03
03	3.633E-03	3.655E-03	3.828E-03	3.924E-03	4.029E-03	
50	5.600E-02	4.295E-03	4.496E-03	4.721E-03	4.761E-03	4.724E-03
03	4.714E-03	4.733E-03	4.780E-03	4.965E-03	5.187E-03	
49	5.400E-02	5.655E-03	5.738E-03	5.778E-03	5.793E-03	5.803E-03
03	5.831E-03	6.010E-03	6.262E-03	6.302E-03	6.471E-03	
48	5.200E-02	6.687E-03	6.766E-03	6.862E-03	6.915E-03	7.079E-03
03	7.089E-03	7.209E-03	7.388E-03	7.468E-03	7.397E-03	
47	4.900E-02	8.809E-03	8.751E-03	8.852E-03	9.000E-03	9.191E-03
03	9.106E-03	9.382E-03	9.489E-03	9.431E-03	9.634E-03	
46	4.600E-02	1.107E-02	1.131E-02	1.154E-02	1.175E-02	1.210E-02
02	1.238E-02	1.253E-02	1.254E-02	1.246E-02	1.245E-02	
45	4.400E-02	1.314E-02	1.325E-02	1.336E-02	1.338E-02	1.334E-02

02	1.344E-02	1.362E-02	1.377E-02	1.371E-02	1.355E-02		
44	4.200E-02	1.328E-02	1.357E-02	1.370E-02	1.386E-02	1.400E-	
02	1.400E-02	1.395E-02	1.392E-02	1.388E-02	1.380E-02		
43	4.000E-02	1.215E-02	1.230E-02	1.263E-02	1.252E-02	1.243E-	
02	1.249E-02	1.243E-02	1.217E-02	1.185E-02	1.161E-02		
42	3.800E-02	9.459E-03	9.487E-03	9.288E-03	9.153E-03	8.849E-	
03	8.458E-03	8.066E-03	7.662E-03	7.343E-03	6.896E-03		
41	3.600E-02	6.010E-03	5.648E-03	5.133E-03	4.524E-03	3.869E-	
03	3.217E-03	2.620E-03	1.924E-03	1.194E-03	6.010E-04		
40	3.400E-02	4.483E-03	3.507E-03	2.308E-03	1.053E-03	-3.174E-	
04	-1.559E-03	-2.849E-03	-4.049E-03	-5.223E-03	-6.426E-03		
39	3.200E-02	5.515E-03	3.376E-03	1.306E-03	-9.152E-04	-3.107E-	
03	-5.206E-03	-7.158E-03	-9.115E-03	-1.102E-02	-1.269E-02		
38	3.000E-02	4.795E-03	1.891E-03	-1.016E-03	-3.922E-03	-6.728E-	
03	-9.339E-03	-1.177E-02	-1.402E-02	-1.610E-02	-1.830E-02		
37	2.800E-02	-5.075E-03	-7.481E-03	-1.013E-02	-1.256E-02	-1.490E-	
02	-1.724E-02	-1.939E-02	-2.122E-02	-2.300E-02	-2.475E-02		
36	2.600E-02	-2.355E-02	-2.425E-02	-2.475E-02	-2.512E-02	-2.558E-	
02	-2.606E-02	-2.651E-02	-2.708E-02	-2.769E-02	-2.829E-02		
35	2.400E-02	-3.130E-02	-2.864E-02	-2.612E-02	-2.359E-02	-2.163E-	
02	-2.024E-02	-1.902E-02	-1.815E-02	-1.760E-02	-1.742E-02		
34	2.200E-02	-9.461E-03	-4.116E-03	7.275E-04	4.989E-03	8.298E-	
03	1.077E-02	1.231E-02	1.300E-02	1.268E-02	1.191E-02		
33	2.000E-02	-6.910E-03	-4.438E-03	6.216E-03	1.166E-02	1.617E-	
02	1.975E-02	2.240E-02	2.429E-02	2.517E-02	2.547E-02		
32	1.950E-02	-2.245E-02	-1.551E-02	-9.130E-03	-3.096E-03	2.218E-	
03	6.774E-03	1.100E-02	1.465E-02	1.756E-02	2.009E-02		
31	1.850E-02	-5.743E-02	-5.078E-02	-4.399E-02	-3.702E-02	-2.991E-	
02	-2.264E-02	-1.525E-02	-7.754E-03	-1.543E-04	7.567E-03		
30	1.800E-02	-6.285E-02	-5.707E-02	-5.066E-02	-4.400E-02	-3.710E-	
02	-2.997E-02	-2.261E-02	-1.511E-02	-7.467E-03	3.535E-03		
29	1.700E-02	-4.458E-02	-3.611E-02	-2.717E-02	-1.784E-02	-8.211E-	
03	1.595E-03	1.145E-02	2.120E-02	3.073E-02	3.998E-02		
28	1.600E-02	-8.107E-02	-7.155E-02	-6.112E-02	-4.981E-02	-3.774E-	
02	-2.498E-02	-1.168E-02	2.001E-03	1.589E-02	3.013E-02		
27	1.500E-02	-6.257E-02	-5.515E-02	-4.724E-02	-3.889E-02	-3.020E-	
02	-2.124E-02	-1.211E-02	-2.926E-03	6.190E-03	1.557E-02		
26	1.400E-02	-1.794E-02	-1.383E-02	-1.004E-02	-6.607E-03	-3.601E-	
03	-1.042E-03	1.057E-03	2.711E-03	3.937E-03	5.096E-03		
25	1.300E-02	3.540E-02	3.571E-02	3.479E-02	3.257E-02	2.905E-	
02	2.427E-02	1.833E-02	1.139E-02	3.640E-03	-4.924E-03		
24	1.200E-02	4.830E-02	4.446E-02	3.892E-02	3.168E-02	2.280E-	
02	1.243E-02	7.961E-04	-1.180E-02	-2.502E-02	-3.923E-02		
23	1.100E-02	1.003E-03	-4.086E-03	-1.065E-02	-1.862E-02	-2.781E-	
02	-3.799E-02	-4.883E-02	-5.992E-02	-7.093E-02	-8.213E-02		
22	1.000E-02	-4.917E-02	-5.639E-02	-6.414E-02	-7.223E-02	-8.041E-	
02	-8.839E-02	-9.587E-02	-1.025E-01	-1.081E-01	-1.130E-01		
21	9.000E-03	-2.257E-02	-3.998E-02	-5.693E-02	-7.310E-02	-8.816E-	
02	-1.018E-01	-1.138E-01	-1.239E-01	-1.320E-01	-1.394E-01		
20	8.000E-03	-2.829E-02	-4.882E-02	-6.829E-02	-8.625E-02	-1.024E-	
01	-1.163E-01	-1.277E-01	-1.366E-01	-1.428E-01	-1.473E-01		
19	6.700E-03	2.903E-02	2.028E-03	-2.435E-02	-4.963E-02	-7.340E-	
02	-9.528E-02	-1.150E-01	-1.322E-01	-1.468E-01	-1.598E-01		
18	5.500E-03	6.642E-02	3.420E-02	2.158E-03	-2.925E-02	-5.960E-	
02	-8.852E-02	-1.156E-01	-1.407E-01	-1.633E-01	-1.845E-01		
17	4.500E-03	-5.113E-02	-9.254E-02	-1.314E-01	-1.679E-01	-2.017E-	
01	-2.325E-01	-2.599E-01	-2.837E-01	-3.038E-01	-3.197E-01		
16	3.700E-03	1.870E-01	1.549E-01	1.220E-01	8.857E-02	5.513E-	
02	2.202E-02	-1.040E-02	-4.179E-02	-7.185E-02	-1.001E-01		
15	3.100E-03	9.070E-02	6.760E-02	4.382E-02	1.968E-02	-4.517E-	
03	-2.848E-02	-5.195E-02	-7.469E-02	-9.650E-02	-1.170E-01		
14	2.600E-03	-9.908E-03	-2.232E-02	-3.538E-02	-4.892E-02	-6.276E-	
02	-7.676E-02	-9.073E-02	-1.045E-01	-1.180E-01	-1.310E-01		
13	2.200E-03	-1.527E-01	-1.556E-01	-1.590E-01	-1.630E-01	-1.674E-	
01	-1.723E-01	-1.776E-01	-1.831E-01	-1.887E-01	-1.944E-01		
12	1.900E-03	-3.262E-01	-3.223E-01	-3.190E-01	-3.164E-01	-3.146E-	

01	-3.135E-01	-3.133E-01	-3.136E-01	-3.145E-01	-3.159E-01						
11	1.700E-03	-4.317E-01	-4.278E-01	-4.247E-01	-4.226E-01	-4.216E-					
01	-4.219E-01	-4.234E-01	-4.259E-01	-4.296E-01	-4.343E-01						
10	1.500E-03	-4.465E-01	-4.427E-01	-4.412E-01	-4.420E-01	-4.455E-					
01	-4.522E-01	-4.615E-01	-4.737E-01	-4.881E-01	-5.035E-01						
9	1.400E-03	-5.605E-01	-5.561E-01	-5.543E-01	-5.555E-01	-5.603E-					
01	-5.686E-01	-5.795E-01	-5.937E-01	-6.104E-01	-6.294E-01						
8	1.200E-03	-6.417E-01	-6.345E-01	-6.294E-01	-6.276E-01	-6.298E-					
01	-6.358E-01	-6.466E-01	-6.616E-01	-6.799E-01	-7.009E-01						
7	1.000E-03	-7.158E-01	-7.061E-01	-6.993E-01	-6.963E-01	-6.975E-					
01	-7.046E-01	-7.173E-01	-7.346E-01	-7.565E-01	-7.819E-01						
6	8.000E-04	-8.221E-01	-8.108E-01	-8.019E-01	-7.976E-01	-7.992E-					
01	-8.068E-01	-8.208E-01	-8.412E-01	-8.672E-01	-8.971E-01						
5	6.000E-04	-9.513E-01	-9.393E-01	-9.297E-01	-9.252E-01	-9.271E-					
01	-9.355E-01	-9.516E-01	-9.743E-01	-1.003E+00	-1.035E+00						
4	4.000E-04	-1.063E+00	-1.050E+00	-1.042E+00	-1.039E+00	-1.042E+					
00	-1.054E+00	-1.072E+00	-1.097E+00	-1.128E+00	-1.164E+00						
3	2.000E-04	-1.063E+00	-1.059E+00	-1.061E+00	-1.071E+00	-1.087E+					
00	-1.110E+00	-1.141E+00	-1.178E+00	-1.222E+00	-1.271E+00						
2	1.000E-04	-6.427E-01	-6.556E-01	-6.751E-01	-7.015E-01	-7.375E-					
01	-7.809E-01	-8.326E-01	-8.913E-01	-9.538E-01	-1.022E+00						
1	0.000E+00	-6.427E-01	-6.556E-01	-6.751E-01	-7.015E-01	-7.375E-					
01	-7.809E-01	-8.326E-01	-8.913E-01	-9.538E-01	-1.022E+00						
0		X=	2.000E-03	2.200E-03	2.400E-03	2.600E-03	2.800E-				
03	3.000E-03	3.300E-03	3.600E-03	3.900E-03	4.200E-03						
0		K=	21	22	23	24	25				
26	27	28	29	30							
I	Y										
59	7.600E-02	1.972E-03	2.169E-03	2.403E-03	2.669E-03	2.811E-					
03	3.001E-03	3.141E-03	3.292E-03	3.431E-03	3.436E-03						
58	7.200E-02	1.972E-03	2.169E-03	2.403E-03	2.669E-03	2.811E-					
03	3.001E-03	3.141E-03	3.292E-03	3.431E-03	3.436E-03						
57	7.000E-02	2.276E-03	2.233E-03	2.338E-03	2.512E-03	2.767E-					
03	2.951E-03	3.139E-03	3.334E-03	3.547E-03	3.547E-03						
56	6.800E-02	2.020E-03	2.153E-03	2.357E-03	2.646E-03	2.943E-					
03	3.072E-03	3.272E-03	3.356E-03	3.370E-03	3.537E-03						
55	6.600E-02	1.821E-03	2.206E-03	2.526E-03	2.796E-03	3.047E-					
03	3.202E-03	3.302E-03	3.494E-03	3.615E-03	3.626E-03						
54	6.400E-02	2.208E-03	2.479E-03	2.742E-03	2.945E-03	3.070E-					
03	3.228E-03	3.334E-03	3.524E-03	3.694E-03	3.868E-03						
53	6.200E-02	2.741E-03	2.939E-03	3.085E-03	3.242E-03	3.416E-					
03	3.510E-03	3.706E-03	3.871E-03	4.056E-03	4.208E-03						
52	6.000E-02	3.531E-03	3.608E-03	3.709E-03	3.757E-03	3.873E-					
03	4.001E-03	4.199E-03	4.418E-03	4.504E-03	4.549E-03						
51	5.800E-02	4.114E-03	4.306E-03	4.390E-03	4.544E-03	4.703E-					
03	4.771E-03	4.943E-03	4.984E-03	4.991E-03	4.920E-03						
50	5.600E-02	5.221E-03	5.288E-03	5.435E-03	5.474E-03	5.474E-					
03	5.621E-03	5.538E-03	5.454E-03	5.549E-03	5.513E-03						
49	5.400E-02	6.457E-03	6.396E-03	6.382E-03	6.377E-03	6.515E-					
03	6.654E-03	6.561E-03	6.401E-03	6.209E-03	6.093E-03						
48	5.200E-02	7.528E-03	7.676E-03	7.724E-03	7.707E-03	7.611E-					
03	7.603E-03	7.458E-03	7.221E-03	7.093E-03	6.833E-03						
47	4.900E-02	9.758E-03	9.849E-03	9.727E-03	9.606E-03	9.452E-					
03	9.249E-03	9.084E-03	8.729E-03	8.422E-03	8.079E-03						
46	4.600E-02	1.231E-02	1.201E-02	1.181E-02	1.159E-02	1.140E-					
02	1.099E-02	1.056E-02	1.005E-02	9.537E-03	9.043E-03						
45	4.400E-02	1.334E-02	1.313E-02	1.292E-02	1.258E-02	1.215E-					
02	1.161E-02	1.090E-02	1.035E-02	9.703E-03	8.866E-03						
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02	1.077E-02	9.969E-03	9.193E-03	8.404E-03	7.561E-03						
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03	7.839E-03	6.978E-03	6.159E-03	5.312E-03	4.462E-03						
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7	1.000E-03	-8.117E-01	-8.509E-01	-8.847E-01	-9.171E-01	-9.491E-
01	-9.798E-01	-1.013E+00	-1.042E+00	-1.069E+00	-1.093E+00	
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00	-1.124E+00	-1.163E+00	-1.195E+00	-1.225E+00	-1.252E+00	
5	6.000E-04	-1.074E+00	-1.122E+00	-1.165E+00	-1.205E+00	-1.246E+
00	-1.284E+00	-1.327E+00	-1.362E+00	-1.395E+00	-1.423E+00	
4	4.000E-04	-1.206E+00	-1.260E+00	-1.305E+00	-1.348E+00	-1.391E+
00	-1.433E+00	-1.478E+00	-1.515E+00	-1.548E+00	-1.577E+00	
3	2.000E-04	-1.327E+00	-1.397E+00	-1.457E+00	-1.514E+00	-1.570E+
00	-1.623E+00	-1.682E+00	-1.731E+00	-1.775E+00	-1.813E+00	
2	1.000E-04	-1.097E+00	-1.203E+00	-1.295E+00	-1.379E+00	-1.458E+
00	-1.535E+00	-1.624E+00	-1.699E+00	-1.764E+00	-1.820E+00	
1	0.000E+00	-1.097E+00	-1.203E+00	-1.295E+00	-1.379E+00	-1.458E+
00	-1.535E+00	-1.624E+00	-1.699E+00	-1.764E+00	-1.820E+00	
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03	6.500E-03	7.000E-03	7.500E-03	8.000E-03	8.500E-03	
0		K=	31	32	33	34
36	37	38	39	40		35
I	Y					
59	7.600E-02	3.460E-03	3.640E-03	3.813E-03	3.841E-03	3.921E-
03	3.842E-03	3.803E-03	3.722E-03	3.587E-03	3.419E-03	
58	7.200E-02	3.460E-03	3.640E-03	3.813E-03	3.841E-03	3.921E-
03	3.842E-03	3.803E-03	3.722E-03	3.587E-03	3.419E-03	
57	7.000E-02	3.606E-03	3.627E-03	3.684E-03	3.732E-03	3.867E-
03	3.929E-03	3.898E-03	3.833E-03	3.634E-03	3.382E-03	
56	6.800E-02	3.718E-03	3.778E-03	3.712E-03	3.770E-03	3.903E-
03	3.857E-03	3.777E-03	3.696E-03	3.538E-03	3.349E-03	
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03	3.904E-03	3.779E-03	3.718E-03	3.666E-03	3.429E-03	
54	6.400E-02	3.910E-03	3.970E-03	4.001E-03	4.003E-03	3.947E-
03	3.869E-03	3.758E-03	3.685E-03	3.475E-03	3.275E-03	
53	6.200E-02	4.249E-03	4.242E-03	4.183E-03	4.119E-03	4.053E-
03	3.919E-03	3.807E-03	3.710E-03	3.524E-03	3.266E-03	
52	6.000E-02	4.477E-03	4.423E-03	4.380E-03	4.376E-03	4.316E-
03	4.096E-03	3.869E-03	3.542E-03	3.321E-03	3.052E-03	
51	5.800E-02	4.782E-03	4.727E-03	4.660E-03	4.594E-03	4.448E-
03	4.152E-03	3.981E-03	3.705E-03	3.411E-03	3.156E-03	
50	5.600E-02	5.321E-03	5.222E-03	5.091E-03	4.940E-03	4.733E-
03	4.374E-03	4.102E-03	3.752E-03	3.393E-03	3.069E-03	
49	5.400E-02	5.925E-03	5.710E-03	5.502E-03	5.261E-03	4.947E-
03	4.472E-03	4.155E-03	3.739E-03	3.406E-03	3.025E-03	
48	5.200E-02	6.553E-03	6.192E-03	5.849E-03	5.458E-03	5.113E-
03	4.723E-03	4.320E-03	3.869E-03	3.420E-03	2.994E-03	
47	4.900E-02	7.606E-03	7.099E-03	6.629E-03	6.082E-03	5.572E-
03	4.899E-03	4.346E-03	3.766E-03	3.241E-03	2.611E-03	
46	4.600E-02	8.496E-03	7.782E-03	6.905E-03	6.192E-03	5.479E-
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31 1.850E-02 3.186E-02 3.405E-02 3.511E-02 3.474E-02 3.600E-  
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16 3.700E-03 -1.540E-01 -1.466E-01 -1.382E-01 -1.287E-01 -1.186E-  
01 -1.075E-01 -9.614E-02 -8.407E-02 -7.132E-02 -5.793E-02  
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01 -1.261E-01 -1.186E-01 -1.106E-01 -1.023E-01 -9.364E-02  
14 2.600E-03 -1.600E-01 -1.574E-01 -1.540E-01 -1.498E-01 -1.454E-  
01 -1.401E-01 -1.344E-01 -1.284E-01 -1.221E-01 -1.154E-01  
13 2.200E-03 -2.047E-01 -2.030E-01 -2.001E-01 -1.966E-01 -1.928E-  
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01 -4.649E-01 -4.577E-01 -4.501E-01 -4.421E-01 -4.328E-01  
10 1.500E-03 -7.272E-01 -7.344E-01 -7.384E-01 -7.386E-01 -7.353E-  
01 -7.273E-01 -7.170E-01 -7.044E-01 -6.897E-01 -6.725E-01  
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8 1.200E-03 -9.717E-01 -9.825E-01 -9.894E-01 -9.917E-01 -9.907E-  
01 -9.836E-01 -9.732E-01 -9.608E-01 -9.460E-01 -9.293E-01  
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00 -1.450E+00 -1.433E+00 -1.412E+00 -1.387E+00 -1.358E+00  
4 4.000E-04 -1.600E+00 -1.615E+00 -1.623E+00 -1.624E+00 -1.618E+  
00 -1.601E+00 -1.581E+00 -1.560E+00 -1.532E+00 -1.501E+00  
3 2.000E-04 -1.844E+00 -1.866E+00 -1.879E+00 -1.883E+00 -1.880E+

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00 -1.926E+00 -1.912E+00 -1.891E+00 -1.857E+00 -1.808E+00
 1  0.000E+00 -1.865E+00 -1.898E+00 -1.924E+00 -1.934E+00 -1.934E+
00 -1.926E+00 -1.912E+00 -1.891E+00 -1.857E+00 -1.808E+00
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30	1.800E-02	4.585E-02	4.459E-02	4.209E-02	3.565E-02	3.301E-	
02	2.604E-02	2.330E-02	2.207E-02	2.200E-02	2.256E-02		
29	1.700E-02	3.716E-02	3.647E-02	3.561E-02	3.695E-02	3.632E-	
02	3.197E-02	2.910E-02	2.753E-02	2.729E-02	2.725E-02		
28	1.600E-02	3.251E-02	3.170E-02	3.105E-02	3.450E-02	2.858E-	
02	3.453E-02	3.310E-02	3.235E-02	3.217E-02	3.197E-02		
27	1.500E-02	3.459E-02	2.858E-02	2.811E-02	3.617E-02	3.020E-	
02	3.208E-02	3.596E-02	3.724E-02	3.748E-02	3.753E-02		
26	1.400E-02	3.532E-02	3.546E-02	3.703E-02	3.691E-02	3.630E-	
02	3.594E-02	3.885E-02	4.026E-02	4.056E-02	4.207E-02		
25	1.300E-02	2.691E-02	3.508E-02	3.637E-02	3.657E-02	3.627E-	
02	4.008E-02	4.316E-02	4.464E-02	4.535E-02	4.752E-02		
24	1.200E-02	3.209E-02	4.261E-02	4.202E-02	3.831E-02	3.621E-	
02	4.044E-02	4.443E-02	4.935E-02	5.079E-02	5.360E-02		
23	1.100E-02	3.807E-02	5.619E-02	5.789E-02	4.746E-02	5.110E-	
02	5.568E-02	5.536E-02	5.896E-02	6.035E-02	6.293E-02		
22	1.000E-02	5.833E-02	6.837E-02	8.267E-02	5.583E-02	1.047E-	
01	1.103E-01	8.429E-02	8.335E-02	8.378E-02	8.181E-02		
21	9.000E-03	1.162E-02	1.397E-02	1.431E-02	1.708E-02	-8.575E-	
03	2.062E-02	6.140E-02	8.046E-02	8.194E-02	9.099E-02		
20	8.000E-03	1.727E-02	2.027E-02	2.277E-02	2.479E-02	2.968E-	
02	1.644E-02	2.167E-02	4.548E-02	7.176E-02	1.037E-01		
19	6.700E-03	-3.970E-03	2.733E-03	8.942E-03	2.171E-02	3.790E-	
02	5.374E-02	6.242E-02	7.188E-02	6.739E-02	1.069E-01		
18	5.500E-03	-4.240E-02	-3.155E-02	-2.156E-02	3.335E-03	2.692E-	
02	6.049E-02	7.902E-02	1.005E-01	1.086E-01	1.389E-01		
17	4.500E-03	-3.467E-02	-1.345E-02	-1.417E-03	1.662E-02	3.527E-	
02	6.489E-02	8.470E-02	1.142E-01	1.266E-01	1.558E-01		
16	3.700E-03	-4.415E-02	-3.003E-02	-1.837E-02	2.482E-02	4.030E-	
02	7.640E-02	9.910E-02	1.275E-01	1.376E-01	1.694E-01		
15	3.100E-03	-8.459E-02	-7.533E-02	-6.771E-02	-4.331E-02	-4.320E-	
04	5.733E-02	1.224E-01	1.392E-01	1.514E-01	1.846E-01		
14	2.600E-03	-1.081E-01	-1.005E-01	-9.353E-02	-6.232E-02	-2.869E-	
02	5.385E-02	1.216E-01	1.735E-01	1.758E-01	2.053E-01		
13	2.200E-03	-1.602E-01	-1.535E-01	-1.464E-01	-1.095E-01	-7.139E-	
02	1.987E-02	1.096E-01	2.448E-01	1.788E-01	2.302E-01		
12	1.900E-03	-2.648E-01	-2.562E-01	-2.458E-01	-1.900E-01	-1.384E-	
01	-2.408E-02	7.556E-02	1.888E-01	2.375E-01	2.740E-01		
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01	-8.098E-02	4.660E-02	2.702E-01	5.469E-01	2.786E-01		
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01	-1.584E-01	-7.391E-03	1.247E-01	-1.071E-02	2.921E-01		
9	1.400E-03	-8.144E-01	-7.904E-01	-7.590E-01	-6.018E-01	-4.752E-	
01	-2.446E-01	-5.981E-02	1.041E-01	8.533E-02	3.123E-01		
8	1.200E-03	-9.102E-01	-8.892E-01	-8.588E-01	-7.147E-01	-5.888E-	
01	-3.387E-01	-1.267E-01	6.136E-02	1.009E-01	3.512E-01		
7	1.000E-03	-1.040E+00	-1.015E+00	-9.785E-01	-8.180E-01	-6.827E-	
01	-4.126E-01	-1.846E-01	5.332E-03	-3.122E-02	2.343E-01		
6	8.000E-04	-1.179E+00	-1.150E+00	-1.109E+00	-9.309E-01	-7.798E-	
01	-4.874E-01	-2.323E-01	7.105E-02	2.068E-01	9.713E-03		
5	6.000E-04	-1.328E+00	-1.295E+00	-1.249E+00	-1.052E+00	-8.825E-	
01	-5.666E-01	-2.860E-01	6.027E-02	1.659E-01	5.847E-01		
4	4.000E-04	-1.469E+00	-1.434E+00	-1.387E+00	-1.178E+00	-9.953E-	
01	-6.512E-01	-3.486E-01	7.988E-03	1.007E-01	3.979E-01		
3	2.000E-04	-1.717E+00	-1.677E+00	-1.623E+00	-1.365E+00	-1.122E+	
00	-7.180E-01	-3.919E-01	-6.029E-02	5.284E-02	4.108E-01		
2	1.000E-04	-1.755E+00	-1.694E+00	-1.613E+00	-1.207E+00	-1.047E+	
00	-5.894E-01	-9.162E-02	5.945E-01	4.264E-01	-3.607E-01		
1	0.000E+00	-1.755E+00	-1.694E+00	-1.613E+00	-1.207E+00	-1.047E+	
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0		K=	51	52	53	54	55
56	57	58	59				

I	Y						
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03	-3.744E-03	-4.191E-03	-4.649E-03	-4.649E-03			
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03	-3.744E-03	-4.191E-03	-4.649E-03	-4.649E-03			
57	7.000E-02	-1.084E-03	-1.585E-03	-1.932E-03	-2.534E-03	-3.085E-03	
03	-3.595E-03	-4.033E-03	-4.578E-03	-4.578E-03			
56	6.800E-02	-1.499E-03	-2.038E-03	-2.413E-03	-2.931E-03	-3.451E-03	
03	-3.909E-03	-4.217E-03	-4.561E-03	-4.561E-03			
55	6.600E-02	-1.587E-03	-2.078E-03	-2.443E-03	-2.898E-03	-3.340E-03	
03	-3.757E-03	-4.056E-03	-4.361E-03	-4.361E-03			
54	6.400E-02	-1.681E-03	-2.101E-03	-2.404E-03	-2.851E-03	-3.252E-03	
03	-3.637E-03	-3.872E-03	-4.115E-03	-4.115E-03			
53	6.200E-02	-1.741E-03	-2.108E-03	-2.362E-03	-2.773E-03	-3.144E-03	
03	-3.509E-03	-3.634E-03	-3.805E-03	-3.805E-03			
52	6.000E-02	-1.785E-03	-2.078E-03	-2.290E-03	-2.699E-03	-2.997E-03	
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03	-2.739E-03	-2.593E-03	-2.508E-03	-2.508E-03			
49	5.400E-02	-1.737E-03	-1.680E-03	-1.807E-03	-2.064E-03	-2.270E-03	
03	-2.328E-03	-2.098E-03	-1.937E-03	-1.937E-03			
48	5.200E-02	-1.611E-03	-1.459E-03	-1.522E-03	-1.717E-03	-1.887E-03	
03	-1.855E-03	-1.566E-03	-1.337E-03	-1.337E-03			
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03	-1.327E-03	-1.029E-03	-7.160E-04	-7.160E-04			
46	4.600E-02	-1.266E-03	-8.854E-04	-8.447E-04	-8.895E-04	-9.014E-04	
04	-7.367E-04	-3.979E-04	-2.313E-05	-2.313E-05			
45	4.400E-02	-8.840E-04	-3.888E-04	-2.727E-04	-2.360E-04	-1.805E-04	
04	2.848E-05	3.605E-04	7.767E-04	7.767E-04			
44	4.200E-02	-3.740E-04	2.810E-04	4.655E-04	5.665E-04	6.952E-04	
04	9.276E-04	1.266E-03	1.699E-03	1.699E-03			
43	4.000E-02	2.160E-04	1.012E-03	1.289E-03	1.465E-03	1.633E-03	
03	1.888E-03	2.216E-03	2.629E-03	2.629E-03			
42	3.800E-02	8.951E-04	1.813E-03	2.160E-03	2.456E-03	2.653E-03	
03	2.904E-03	3.182E-03	3.541E-03	3.541E-03			
41	3.600E-02	1.650E-03	2.664E-03	3.131E-03	3.483E-03	3.713E-03	
03	3.956E-03	4.122E-03	4.425E-03	4.425E-03			
40	3.400E-02	2.479E-03	3.574E-03	4.141E-03	4.544E-03	4.782E-03	
03	4.981E-03	5.062E-03	5.244E-03	5.244E-03			
39	3.200E-02	3.380E-03	4.525E-03	5.172E-03	5.618E-03	5.837E-03	
03	5.955E-03	5.932E-03	5.989E-03	5.989E-03			
38	3.000E-02	4.347E-03	5.504E-03	6.191E-03	6.691E-03	6.859E-03	
03	6.872E-03	6.731E-03	6.605E-03	6.605E-03			
37	2.800E-02	5.368E-03	6.519E-03	7.199E-03	7.699E-03	7.835E-03	
03	7.701E-03	7.411E-03	7.101E-03	7.101E-03			
36	2.600E-02	6.440E-03	7.563E-03	8.188E-03	8.677E-03	8.718E-03	
03	8.445E-03	7.941E-03	7.438E-03	7.438E-03			
35	2.400E-02	7.594E-03	8.634E-03	9.205E-03	9.605E-03	9.538E-03	
03	9.067E-03	8.314E-03	7.597E-03	7.597E-03			
34	2.200E-02	8.862E-03	9.783E-03	1.028E-02	1.055E-02	1.030E-02	
02	9.565E-03	8.559E-03	7.583E-03	7.583E-03			
33	2.000E-02	1.074E-02	1.144E-02	1.172E-02	1.175E-02	1.119E-02	
02	1.009E-02	8.707E-03	7.311E-03	7.311E-03			
32	1.950E-02	1.385E-02	1.413E-02	1.402E-02	1.347E-02	1.241E-02	
02	1.070E-02	8.713E-03	6.654E-03	6.654E-03			
31	1.850E-02	1.793E-02	1.763E-02	1.694E-02	1.569E-02	1.394E-02	
02	1.143E-02	8.650E-03	5.800E-03	5.800E-03			
30	1.800E-02	2.237E-02	2.148E-02	2.018E-02	1.808E-02	1.569E-02	
02	1.237E-02	8.728E-03	5.023E-03	5.023E-03			
29	1.700E-02	2.682E-02	2.539E-02	2.346E-02	2.058E-02	1.756E-02	
02	1.355E-02	9.151E-03	4.604E-03	4.604E-03			
28	1.600E-02	3.140E-02	2.952E-02	2.711E-02	2.385E-02	2.024E-02	
02	1.542E-02	1.044E-02	5.181E-03	5.181E-03			
27	1.500E-02	3.694E-02	3.469E-02	3.174E-02	2.785E-02	2.386E-02	



02	2.088E-02	2.075E-02	2.063E-02	2.050E-02	2.038E-02	
56	6.800E-02	2.160E-02	2.143E-02	2.127E-02	2.113E-02	2.100E-
02	2.087E-02	2.074E-02	2.061E-02	2.048E-02	2.035E-02	
55	6.600E-02	2.160E-02	2.143E-02	2.126E-02	2.113E-02	2.099E-
02	2.086E-02	2.073E-02	2.059E-02	2.046E-02	2.034E-02	
54	6.400E-02	2.160E-02	2.143E-02	2.126E-02	2.112E-02	2.098E-
02	2.085E-02	2.071E-02	2.058E-02	2.045E-02	2.032E-02	
53	6.200E-02	2.160E-02	2.143E-02	2.125E-02	2.111E-02	2.097E-
02	2.084E-02	2.070E-02	2.056E-02	2.043E-02	2.030E-02	
52	6.000E-02	2.160E-02	2.142E-02	2.125E-02	2.110E-02	2.096E-
02	2.082E-02	2.068E-02	2.055E-02	2.041E-02	2.028E-02	
51	5.800E-02	2.160E-02	2.142E-02	2.124E-02	2.110E-02	2.095E-
02	2.081E-02	2.067E-02	2.053E-02	2.039E-02	2.026E-02	
50	5.600E-02	2.160E-02	2.142E-02	2.124E-02	2.109E-02	2.094E-
02	2.080E-02	2.065E-02	2.051E-02	2.037E-02	2.023E-02	
49	5.400E-02	2.160E-02	2.141E-02	2.123E-02	2.108E-02	2.093E-
02	2.078E-02	2.064E-02	2.049E-02	2.035E-02	2.021E-02	
48	5.200E-02	2.160E-02	2.143E-02	2.126E-02	2.112E-02	2.099E-
02	2.085E-02	2.072E-02	2.058E-02	2.045E-02	2.032E-02	
47	4.900E-02	2.160E-02	2.144E-02	2.128E-02	2.115E-02	2.102E-
02	2.090E-02	2.077E-02	2.064E-02	2.052E-02	2.040E-02	
46	4.600E-02	2.160E-02	2.142E-02	2.124E-02	2.110E-02	2.095E-
02	2.081E-02	2.067E-02	2.053E-02	2.039E-02	2.025E-02	
45	4.400E-02	2.160E-02	2.139E-02	2.119E-02	2.102E-02	2.086E-
02	2.070E-02	2.054E-02	2.038E-02	2.023E-02	2.007E-02	
44	4.200E-02	2.160E-02	2.139E-02	2.118E-02	2.101E-02	2.084E-
02	2.068E-02	2.052E-02	2.035E-02	2.019E-02	2.004E-02	
43	4.000E-02	2.160E-02	2.138E-02	2.117E-02	2.100E-02	2.083E-
02	2.066E-02	2.049E-02	2.032E-02	2.016E-02	2.000E-02	
42	3.800E-02	2.160E-02	2.138E-02	2.116E-02	2.098E-02	2.081E-
02	2.063E-02	2.046E-02	2.029E-02	2.013E-02	1.996E-02	
41	3.600E-02	2.160E-02	2.137E-02	2.115E-02	2.097E-02	2.079E-
02	2.061E-02	2.043E-02	2.026E-02	2.009E-02	1.992E-02	
40	3.400E-02	2.160E-02	2.136E-02	2.114E-02	2.095E-02	2.076E-
02	2.058E-02	2.040E-02	2.022E-02	2.005E-02	1.987E-02	
39	3.200E-02	2.160E-02	2.136E-02	2.112E-02	2.093E-02	2.074E-
02	2.055E-02	2.037E-02	2.018E-02	2.000E-02	1.983E-02	
38	3.000E-02	2.160E-02	2.135E-02	2.111E-02	2.091E-02	2.071E-
02	2.052E-02	2.033E-02	2.014E-02	1.995E-02	1.977E-02	
37	2.800E-02	2.160E-02	2.134E-02	2.109E-02	2.088E-02	2.068E-
02	2.048E-02	2.029E-02	2.009E-02	1.990E-02	1.971E-02	
36	2.600E-02	2.160E-02	2.133E-02	2.107E-02	2.086E-02	2.065E-
02	2.044E-02	2.024E-02	2.004E-02	1.984E-02	1.965E-02	
35	2.400E-02	2.160E-02	2.132E-02	2.105E-02	2.083E-02	2.061E-
02	2.040E-02	2.019E-02	1.998E-02	1.978E-02	1.957E-02	
34	2.200E-02	2.160E-02	2.131E-02	2.103E-02	2.080E-02	2.057E-
02	2.035E-02	2.014E-02	1.993E-02	1.972E-02	1.951E-02	
33	2.000E-02	2.160E-02	2.123E-02	2.108E-02	2.100E-02	2.098E-
02	2.101E-02	2.111E-02	2.125E-02	2.144E-02	2.168E-02	
32	1.950E-02	2.160E-02	2.163E-02	3.179E-02	3.805E-02	4.389E-
02	4.952E-02	5.500E-02	6.029E-02	6.535E-02	7.016E-02	
31	1.850E-02	1.351E-01	1.351E-01	1.523E-01	1.693E-01	1.838E-
01	1.957E-01	2.055E-01	2.137E-01	2.205E-01	2.263E-01	
30	1.800E-02	9.921E-02	9.921E-02	1.164E-01	1.027E-01	9.356E-
02	8.794E-02	8.477E-02	8.334E-02	8.314E-02	8.286E-02	
29	1.700E-02	3.026E-02	3.026E-02	3.136E-02	2.925E-02	2.728E-
02	2.568E-02	2.447E-02	2.362E-02	2.311E-02	2.286E-02	
28	1.600E-02	1.158E-02	1.158E-02	1.097E-02	1.051E-02	1.006E-
02	9.656E-03	9.330E-03	9.091E-03	8.943E-03	8.886E-03	
27	1.500E-02	7.477E-03	7.477E-03	6.876E-03	6.586E-03	6.308E-
03	6.051E-03	5.830E-03	5.651E-03	5.517E-03	5.430E-03	
26	1.400E-02	6.460E-03	6.460E-03	5.938E-03	5.634E-03	5.350E-
03	5.094E-03	4.874E-03	4.693E-03	4.553E-03	4.451E-03	
25	1.300E-02	5.935E-03	5.935E-03	5.579E-03	5.272E-03	4.995E-
03	4.756E-03	4.558E-03	4.403E-03	4.288E-03	4.213E-03	
24	1.200E-02	4.854E-03	4.854E-03	4.691E-03	4.523E-03	4.374E-



03	4.253E-03	4.161E-03	4.100E-03	4.069E-03	4.069E-03		
23	1.100E-02	3.800E-03	3.800E-03	3.780E-03	3.740E-03	3.708E-	
03	3.687E-03	3.682E-03	3.694E-03	3.726E-03	3.778E-03		
22	1.000E-02	3.318E-03	3.318E-03	3.414E-03	3.309E-03	3.219E-	
03	3.147E-03	3.096E-03	3.065E-03	3.055E-03	3.066E-03		
21	9.000E-03	1.988E-03	1.988E-03	2.055E-03	2.065E-03	2.068E-	
03	2.070E-03	2.074E-03	2.083E-03	2.098E-03	2.121E-03		
20	8.000E-03	1.551E-03	1.551E-03	1.608E-03	1.638E-03	1.659E-	
03	1.675E-03	1.688E-03	1.702E-03	1.718E-03	1.739E-03		
19	6.700E-03	1.855E-03	1.855E-03	1.919E-03	1.944E-03	1.949E-	
03	1.943E-03	1.931E-03	1.918E-03	1.907E-03	1.901E-03		
18	5.500E-03	3.875E-03	3.875E-03	4.035E-03	3.921E-03	3.761E-	
03	3.596E-03	3.439E-03	3.293E-03	3.160E-03	3.048E-03		
17	4.500E-03	1.133E-02	1.133E-02	1.273E-02	1.138E-02	1.025E-	
02	9.367E-03	8.710E-03	8.252E-03	7.919E-03	7.486E-03		
16	3.700E-03	2.875E-02	2.875E-02	3.561E-02	3.110E-02	2.721E-	
02	2.396E-02	2.127E-02	1.907E-02	1.728E-02	1.575E-02		
15	3.100E-03	6.220E-02	6.220E-02	7.694E-02	6.149E-02	5.003E-	
02	4.152E-02	3.515E-02	3.034E-02	2.671E-02	2.395E-02		
14	2.600E-03	6.846E-02	6.846E-02	8.418E-02	6.865E-02	5.794E-	
02	5.046E-02	4.517E-02	4.141E-02	3.873E-02	3.682E-02		
13	2.200E-03	6.948E-02	6.948E-02	8.771E-02	8.587E-02	8.408E-	
02	8.258E-02	8.141E-02	8.059E-02	8.007E-02	7.977E-02		
12	1.900E-03	1.344E-01	1.344E-01	2.011E-01	2.116E-01	2.118E-	
01	2.104E-01	2.093E-01	2.089E-01	2.089E-01	2.091E-01		
11	1.700E-03	2.481E-01	2.481E-01	7.203E-01	6.256E-01	5.727E-	
01	5.466E-01	5.333E-01	5.261E-01	5.216E-01	5.179E-01		
10	1.500E-03	2.604E-01	2.462E-01	5.167E-01	5.254E-01	5.172E-	
01	5.061E-01	4.946E-01	4.837E-01	4.737E-01	4.645E-01		
9	1.400E-03	2.604E-01	2.232E-01	2.429E-01	2.478E-01	2.481E-	
01	2.458E-01	2.421E-01	2.376E-01	2.329E-01	2.282E-01		
8	1.200E-03	2.604E-01	2.226E-01	1.987E-01	1.798E-01	1.643E-	
01	1.516E-01	1.409E-01	1.318E-01	1.240E-01	1.173E-01		
7	1.000E-03	2.604E-01	2.193E-01	1.917E-01	1.690E-01	1.502E-	
01	1.345E-01	1.213E-01	1.100E-01	1.004E-01	9.214E-02		
6	8.000E-04	2.604E-01	2.156E-01	1.865E-01	1.625E-01	1.427E-	
01	1.262E-01	1.124E-01	1.007E-01	9.078E-02	8.224E-02		
5	6.000E-04	2.604E-01	2.106E-01	1.793E-01	1.538E-01	1.333E-	
01	1.166E-01	1.027E-01	9.113E-02	8.138E-02	7.309E-02		
4	4.000E-04	2.604E-01	2.030E-01	1.681E-01	1.410E-01	1.198E-	
01	1.030E-01	8.950E-02	7.845E-02	6.931E-02	6.168E-02		
3	2.000E-04	2.604E-01	1.849E-01	1.436E-01	1.153E-01	9.477E-	
02	7.948E-02	6.778E-02	5.863E-02	5.134E-02	4.542E-02		
2	1.000E-04	2.604E-01	1.597E-01	1.178E-01	9.125E-02	7.333E-	
02	6.062E-02	5.124E-02	4.410E-02	3.851E-02	3.404E-02		
1	0.000E+00	2.604E-01	1.597E-01	1.178E-01	9.125E-02	7.333E-	
02	6.062E-02	5.124E-02	4.410E-02	3.851E-02	3.404E-02		
0		X=	1.000E-03	1.100E-03	1.200E-03	1.300E-03	1.400E-
03	1.500E-03	1.600E-03	1.700E-03	1.800E-03	1.900E-03		
0		K=	11	12	13	14	15
16		17	18	19	20		
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
58	7.200E-02	2.210E-02	2.214E-02	2.218E-02	2.221E-02	2.225E-	
02	2.229E-02	2.233E-02	2.237E-02	2.241E-02	2.245E-02		
57	7.000E-02	2.026E-02	2.013E-02	2.001E-02	1.990E-02	1.978E-	
02	1.966E-02	1.955E-02	1.943E-02	1.932E-02	1.921E-02		
56	6.800E-02	2.023E-02	2.010E-02	1.998E-02	1.986E-02	1.974E-	
02	1.962E-02	1.950E-02	1.938E-02	1.926E-02	1.915E-02		
55	6.600E-02	2.021E-02	2.008E-02	1.996E-02	1.983E-02	1.971E-	
02	1.959E-02	1.947E-02	1.935E-02	1.923E-02	1.911E-02		
54	6.400E-02	2.019E-02	2.006E-02	1.993E-02	1.981E-02	1.968E-	
02	1.956E-02	1.944E-02	1.932E-02	1.920E-02	1.908E-02		
53	6.200E-02	2.017E-02	2.004E-02	1.991E-02	1.978E-02	1.965E-	
02	1.953E-02	1.941E-02	1.928E-02	1.916E-02	1.904E-02		

52	6.000E-02	2.014E-02	2.001E-02	1.988E-02	1.975E-02	1.962E-
02	1.950E-02	1.937E-02	1.925E-02	1.912E-02	1.900E-02	
51	5.800E-02	2.012E-02	1.999E-02	1.985E-02	1.972E-02	1.959E-
02	1.947E-02	1.934E-02	1.921E-02	1.909E-02	1.896E-02	
50	5.600E-02	2.010E-02	1.996E-02	1.983E-02	1.969E-02	1.956E-
02	1.943E-02	1.930E-02	1.917E-02	1.905E-02	1.892E-02	
49	5.400E-02	2.007E-02	1.993E-02	1.980E-02	1.966E-02	1.953E-
02	1.940E-02	1.927E-02	1.914E-02	1.901E-02	1.888E-02	
48	5.200E-02	2.019E-02	2.007E-02	1.994E-02	1.982E-02	1.969E-
02	1.957E-02	1.945E-02	1.933E-02	1.921E-02	1.909E-02	
47	4.900E-02	2.028E-02	2.016E-02	2.004E-02	1.992E-02	1.980E-
02	1.968E-02	1.957E-02	1.945E-02	1.934E-02	1.923E-02	
46	4.600E-02	2.012E-02	1.998E-02	1.985E-02	1.972E-02	1.959E-
02	1.946E-02	1.933E-02	1.921E-02	1.908E-02	1.896E-02	
45	4.400E-02	1.992E-02	1.977E-02	1.962E-02	1.947E-02	1.933E-
02	1.918E-02	1.904E-02	1.890E-02	1.876E-02	1.862E-02	
44	4.200E-02	1.988E-02	1.973E-02	1.957E-02	1.942E-02	1.927E-
02	1.913E-02	1.898E-02	1.884E-02	1.870E-02	1.855E-02	
43	4.000E-02	1.984E-02	1.968E-02	1.953E-02	1.937E-02	1.922E-
02	1.907E-02	1.892E-02	1.878E-02	1.863E-02	1.849E-02	
42	3.800E-02	1.980E-02	1.964E-02	1.948E-02	1.932E-02	1.917E-
02	1.901E-02	1.886E-02	1.871E-02	1.856E-02	1.842E-02	
41	3.600E-02	1.975E-02	1.959E-02	1.943E-02	1.927E-02	1.911E-
02	1.895E-02	1.880E-02	1.864E-02	1.849E-02	1.834E-02	
40	3.400E-02	1.970E-02	1.954E-02	1.937E-02	1.920E-02	1.904E-
02	1.888E-02	1.872E-02	1.857E-02	1.841E-02	1.826E-02	
39	3.200E-02	1.965E-02	1.948E-02	1.931E-02	1.914E-02	1.897E-
02	1.881E-02	1.865E-02	1.849E-02	1.833E-02	1.817E-02	
38	3.000E-02	1.959E-02	1.941E-02	1.924E-02	1.907E-02	1.889E-
02	1.873E-02	1.856E-02	1.840E-02	1.823E-02	1.807E-02	
37	2.800E-02	1.953E-02	1.934E-02	1.916E-02	1.899E-02	1.881E-
02	1.864E-02	1.847E-02	1.830E-02	1.813E-02	1.797E-02	
36	2.600E-02	1.946E-02	1.927E-02	1.908E-02	1.890E-02	1.872E-
02	1.854E-02	1.836E-02	1.819E-02	1.802E-02	1.785E-02	
35	2.400E-02	1.938E-02	1.918E-02	1.899E-02	1.880E-02	1.862E-
02	1.843E-02	1.825E-02	1.807E-02	1.790E-02	1.773E-02	
34	2.200E-02	1.932E-02	1.912E-02	1.893E-02	1.874E-02	1.856E-
02	1.838E-02	1.820E-02	1.803E-02	1.786E-02	1.769E-02	
33	2.000E-02	2.195E-02	2.225E-02	2.258E-02	2.294E-02	2.331E-
02	2.370E-02	2.411E-02	2.452E-02	2.495E-02	2.543E-02	
32	1.950E-02	7.469E-02	7.892E-02	8.284E-02	8.644E-02	8.974E-
02	9.275E-02	9.548E-02	9.800E-02	1.004E-01	1.032E-01	
31	1.850E-02	2.311E-01	2.351E-01	2.385E-01	2.415E-01	2.443E-
01	2.473E-01	2.508E-01	2.555E-01	2.626E-01	2.737E-01	
30	1.800E-02	8.329E-02	8.428E-02	8.575E-02	8.772E-02	9.026E-
02	9.353E-02	9.780E-02	1.035E-01	1.111E-01	1.215E-01	
29	1.700E-02	2.290E-02	2.320E-02	2.378E-02	2.463E-02	2.578E-
02	2.725E-02	2.908E-02	3.133E-02	3.405E-02	3.733E-02	
28	1.600E-02	8.919E-03	9.044E-03	9.262E-03	9.575E-03	9.988E-
03	1.051E-02	1.114E-02	1.189E-02	1.277E-02	1.380E-02	
27	1.500E-02	5.388E-03	5.393E-03	5.444E-03	5.541E-03	5.686E-
03	5.881E-03	6.130E-03	6.434E-03	6.800E-03	7.232E-03	
26	1.400E-02	4.388E-03	4.363E-03	4.375E-03	4.424E-03	4.510E-
03	4.635E-03	4.800E-03	5.009E-03	5.263E-03	5.567E-03	
25	1.300E-02	4.176E-03	4.176E-03	4.214E-03	4.290E-03	4.403E-
03	4.556E-03	4.751E-03	4.991E-03	5.278E-03	5.617E-03	
24	1.200E-02	4.101E-03	4.164E-03	4.261E-03	4.392E-03	4.560E-
03	4.766E-03	5.014E-03	5.308E-03	5.650E-03	6.045E-03	
23	1.100E-02	3.852E-03	3.950E-03	4.074E-03	4.225E-03	4.405E-
03	4.616E-03	4.860E-03	5.142E-03	5.463E-03	5.826E-03	
22	1.000E-02	3.098E-03	3.150E-03	3.223E-03	3.317E-03	3.431E-
03	3.566E-03	3.723E-03	3.902E-03	4.103E-03	4.328E-03	
21	9.000E-03	2.152E-03	2.193E-03	2.245E-03	2.306E-03	2.378E-
03	2.462E-03	2.557E-03	2.664E-03	2.784E-03	2.917E-03	
20	8.000E-03	1.764E-03	1.744E-03	1.831E-03	1.874E-03	1.924E-
03	1.981E-03	2.046E-03	2.119E-03	2.201E-03	2.291E-03	

19	6.700E-03	1.899E-03	1.903E-03	1.913E-03	1.930E-03	1.954E-	
03	1.986E-03	2.025E-03	2.072E-03	2.127E-03	2.191E-03		
18	5.500E-03	2.955E-03	2.881E-03	2.823E-03	2.782E-03	2.757E-	
03	2.747E-03	2.752E-03	2.772E-03	2.807E-03	2.858E-03		
17	4.500E-03	7.103E-03	6.769E-03	6.483E-03	6.243E-03	6.048E-	
03	5.896E-03	5.786E-03	5.716E-03	5.687E-03	5.697E-03		
16	3.700E-03	1.446E-02	1.338E-02	1.248E-02	1.176E-02	1.118E-	
02	1.075E-02	1.044E-02	1.024E-02	1.016E-02	1.018E-02		
15	3.100E-03	2.185E-02	2.028E-02	1.912E-02	1.830E-02	1.775E-	
02	1.745E-02	1.737E-02	1.751E-02	1.786E-02	1.841E-02		
14	2.600E-03	3.549E-02	3.458E-02	3.400E-02	3.371E-02	3.368E-	
02	3.393E-02	3.448E-02	3.540E-02	3.681E-02	3.881E-02		
13	2.200E-03	7.965E-02	7.965E-02	7.976E-02	7.998E-02	8.034E-	
02	8.094E-02	8.196E-02	8.371E-02	8.675E-02	9.197E-02		
12	1.900E-03	2.094E-01	2.097E-01	2.099E-01	2.100E-01	2.100E-	
01	2.101E-01	2.103E-01	2.114E-01	2.148E-01	2.246E-01		
11	1.700E-03	5.144E-01	5.108E-01	5.070E-01	5.029E-01	4.985E-	
01	4.940E-01	4.893E-01	4.849E-01	4.821E-01	4.896E-01		
10	1.500E-03	4.561E-01	4.482E-01	4.408E-01	4.337E-01	4.269E-	
01	4.203E-01	4.140E-01	4.078E-01	4.017E-01	3.963E-01		
9	1.400E-03	2.238E-01	2.196E-01	2.158E-01	2.122E-01	2.089E-	
01	2.058E-01	2.029E-01	2.002E-01	1.976E-01	1.951E-01		
8	1.200E-03	1.114E-01	1.063E-01	1.017E-01	9.771E-02	9.415E-	
02	9.098E-02	8.815E-02	8.562E-02	8.335E-02	8.128E-02		
7	1.000E-03	8.499E-02	7.877E-02	7.333E-02	6.856E-02	6.435E-	
02	6.062E-02	5.732E-02	5.437E-02	5.174E-02	4.938E-02		
6	8.000E-04	7.486E-02	6.845E-02	6.285E-02	5.794E-02	5.361E-	
02	4.977E-02	4.637E-02	4.334E-02	4.063E-02	3.819E-02		
5	6.000E-04	6.599E-02	5.987E-02	5.456E-02	4.993E-02	4.587E-	
02	4.228E-02	3.911E-02	3.629E-02	3.378E-02	3.152E-02		
4	4.000E-04	5.525E-02	4.978E-02	4.509E-02	4.104E-02	3.753E-	
02	3.446E-02	3.175E-02	2.937E-02	2.725E-02	2.536E-02		
3	2.000E-04	4.054E-02	3.647E-02	3.302E-02	3.008E-02	2.754E-	
02	2.533E-02	2.340E-02	2.169E-02	2.017E-02	1.882E-02		
2	1.000E-04	3.039E-02	2.737E-02	2.484E-02	2.268E-02	2.083E-	
02	1.922E-02	1.781E-02	1.657E-02	1.547E-02	1.449E-02		
1	0.000E+00	3.039E-02	2.737E-02	2.484E-02	2.268E-02	2.083E-	
02	1.922E-02	1.781E-02	1.657E-02	1.547E-02	1.449E-02		
0		X=	2.000E-03	2.200E-03	2.400E-03	2.600E-03	2.800E-
03	3.000E-03	3.300E-03	3.600E-03	3.900E-03	4.200E-03		
0		K=	21	22	23	24	25
26		27	28	29	30		
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
58	7.200E-02	2.257E-02	2.281E-02	2.305E-02	2.328E-02	2.352E-	
02	2.388E-02	2.440E-02	2.492E-02	2.544E-02	2.596E-02		
57	7.000E-02	1.910E-02	1.894E-02	1.879E-02	1.865E-02	1.850E-	
02	1.834E-02	1.818E-02	1.802E-02	1.786E-02	1.770E-02		
56	6.800E-02	1.903E-02	1.887E-02	1.871E-02	1.855E-02	1.840E-	
02	1.823E-02	1.805E-02	1.787E-02	1.769E-02	1.751E-02		
55	6.600E-02	1.899E-02	1.883E-02	1.867E-02	1.851E-02	1.836E-	
02	1.818E-02	1.800E-02	1.781E-02	1.763E-02	1.746E-02		
54	6.400E-02	1.896E-02	1.879E-02	1.863E-02	1.847E-02	1.831E-	
02	1.814E-02	1.795E-02	1.776E-02	1.758E-02	1.740E-02		
53	6.200E-02	1.892E-02	1.875E-02	1.859E-02	1.843E-02	1.827E-	
02	1.809E-02	1.790E-02	1.771E-02	1.753E-02	1.735E-02		
52	6.000E-02	1.888E-02	1.871E-02	1.854E-02	1.838E-02	1.822E-	
02	1.804E-02	1.785E-02	1.766E-02	1.747E-02	1.729E-02		
51	5.800E-02	1.884E-02	1.867E-02	1.850E-02	1.833E-02	1.817E-	
02	1.799E-02	1.779E-02	1.760E-02	1.741E-02	1.723E-02		
50	5.600E-02	1.880E-02	1.862E-02	1.845E-02	1.828E-02	1.812E-	
02	1.793E-02	1.773E-02	1.754E-02	1.735E-02	1.716E-02		
49	5.400E-02	1.875E-02	1.858E-02	1.841E-02	1.824E-02	1.807E-	
02	1.788E-02	1.769E-02	1.749E-02	1.730E-02	1.711E-02		
48	5.200E-02	1.897E-02	1.880E-02	1.864E-02	1.848E-02	1.832E-	

02	1.815E-02	1.796E-02	1.778E-02	1.759E-02	1.741E-02		
47	4.900E-02	1.912E-02	1.896E-02	1.880E-02	1.865E-02	1.850E-	
02	1.833E-02	1.815E-02	1.798E-02	1.780E-02	1.763E-02		
46	4.600E-02	1.883E-02	1.866E-02	1.849E-02	1.832E-02	1.816E-	
02	1.798E-02	1.778E-02	1.759E-02	1.740E-02	1.721E-02		
45	4.400E-02	1.848E-02	1.829E-02	1.811E-02	1.792E-02	1.774E-	
02	1.755E-02	1.733E-02	1.712E-02	1.692E-02	1.672E-02		
44	4.200E-02	1.841E-02	1.822E-02	1.803E-02	1.784E-02	1.766E-	
02	1.745E-02	1.723E-02	1.702E-02	1.681E-02	1.660E-02		
43	4.000E-02	1.835E-02	1.815E-02	1.795E-02	1.776E-02	1.757E-	
02	1.737E-02	1.715E-02	1.693E-02	1.671E-02	1.650E-02		
42	3.800E-02	1.827E-02	1.807E-02	1.787E-02	1.768E-02	1.749E-	
02	1.728E-02	1.705E-02	1.683E-02	1.661E-02	1.640E-02		
41	3.600E-02	1.819E-02	1.799E-02	1.778E-02	1.759E-02	1.739E-	
02	1.718E-02	1.695E-02	1.672E-02	1.650E-02	1.628E-02		
40	3.400E-02	1.811E-02	1.790E-02	1.769E-02	1.749E-02	1.729E-	
02	1.707E-02	1.684E-02	1.661E-02	1.638E-02	1.616E-02		
39	3.200E-02	1.801E-02	1.780E-02	1.759E-02	1.738E-02	1.718E-	
02	1.696E-02	1.672E-02	1.648E-02	1.626E-02	1.603E-02		
38	3.000E-02	1.791E-02	1.769E-02	1.748E-02	1.727E-02	1.706E-	
02	1.683E-02	1.659E-02	1.635E-02	1.612E-02	1.589E-02		
37	2.800E-02	1.780E-02	1.758E-02	1.736E-02	1.714E-02	1.693E-	
02	1.670E-02	1.645E-02	1.621E-02	1.597E-02	1.574E-02		
36	2.600E-02	1.768E-02	1.745E-02	1.723E-02	1.701E-02	1.679E-	
02	1.655E-02	1.630E-02	1.605E-02	1.581E-02	1.558E-02		
35	2.400E-02	1.755E-02	1.732E-02	1.709E-02	1.686E-02	1.664E-	
02	1.640E-02	1.615E-02	1.590E-02	1.565E-02	1.542E-02		
34	2.200E-02	1.753E-02	1.731E-02	1.711E-02	1.691E-02	1.672E-	
02	1.652E-02	1.634E-02	1.616E-02	1.599E-02	1.584E-02		
33	2.000E-02	2.607E-02	2.743E-02	2.891E-02	3.047E-02	3.209E-	
02	3.440E-02	3.759E-02	4.089E-02	4.418E-02	4.738E-02		
32	1.950E-02	1.078E-01	1.191E-01	1.288E-01	1.374E-01	1.450E-	
01	1.571E-01	1.736E-01	1.870E-01	1.974E-01	2.051E-01		
31	1.850E-02	2.924E-01	3.310E-01	3.563E-01	3.842E-01	4.149E-	
01	4.561E-01	5.179E-01	5.513E-01	5.666E-01	5.703E-01		
30	1.800E-02	1.352E-01	1.690E-01	1.921E-01	2.147E-01	1.996E-	
01	1.983E-01	2.076E-01	2.187E-01	2.277E-01	2.349E-01		
29	1.700E-02	4.124E-02	5.062E-02	6.202E-02	6.942E-02	7.468E-	
02	8.365E-02	9.119E-02	1.016E-01	1.096E-01	1.218E-01		
28	1.600E-02	1.496E-02	1.760E-02	2.056E-02	2.384E-02	2.749E-	
02	3.183E-02	3.927E-02	4.745E-02	5.418E-02	6.553E-02		
27	1.500E-02	7.733E-03	8.870E-03	1.016E-02	1.164E-02	1.335E-	
02	1.533E-02	1.879E-02	2.293E-02	2.810E-02	3.524E-02		
26	1.400E-02	5.923E-03	6.731E-03	7.656E-03	8.724E-03	9.963E-	
03	1.140E-02	1.388E-02	1.683E-02	2.045E-02	2.499E-02		
25	1.300E-02	6.004E-03	6.866E-03	7.848E-03	8.989E-03	1.032E-	
02	1.185E-02	1.453E-02	1.781E-02	2.198E-02	2.740E-02		
24	1.200E-02	6.481E-03	7.403E-03	8.431E-03	9.626E-03	1.101E-	
02	1.259E-02	1.528E-02	1.854E-02	2.267E-02	2.800E-02		
23	1.100E-02	6.212E-03	6.977E-03	7.800E-03	8.747E-03	9.830E-	
03	1.102E-02	1.289E-02	1.502E-02	1.756E-02	2.061E-02		
22	1.000E-02	4.570E-03	5.074E-03	5.616E-03	6.223E-03	6.903E-	
03	7.648E-03	8.823E-03	1.010E-02	1.155E-02	1.323E-02		
21	9.000E-03	3.063E-03	3.376E-03	3.710E-03	4.071E-03	4.465E-	
03	4.893E-03	5.571E-03	6.291E-03	7.085E-03	7.981E-03		
20	8.000E-03	2.390E-03	2.597E-03	2.817E-03	3.055E-03	3.316E-	
03	3.597E-03	4.039E-03	4.509E-03	5.027E-03	5.606E-03		
19	6.700E-03	2.261E-03	2.406E-03	2.559E-03	2.728E-03	2.916E-	
03	3.120E-03	3.432E-03	3.760E-03	4.123E-03	4.533E-03		
18	5.500E-03	2.923E-03	3.069E-03	3.230E-03	3.410E-03	3.613E-	
03	3.841E-03	4.195E-03	4.548E-03	4.921E-03	5.333E-03		
17	4.500E-03	5.747E-03	5.920E-03	6.150E-03	6.435E-03	6.775E-	
03	7.171E-03	7.807E-03	8.431E-03	9.059E-03	9.719E-03		
16	3.700E-03	1.030E-02	1.073E-02	1.129E-02	1.196E-02	1.273E-	
02	1.361E-02	1.497E-02	1.620E-02	1.732E-02	1.839E-02		
15	3.100E-03	1.919E-03	2.104E-02	2.289E-02	2.477E-02	2.679E-	

02	2.910E-02	3.254E-02	3.521E-02	3.725E-02	3.904E-02		
14	2.600E-03	4.153E-02	4.771E-02	5.306E-02	5.779E-02	6.272E-	
02	6.911E-02	7.899E-02	8.553E-02	8.965E-02	9.263E-02		
13	2.200E-03	1.006E-01	1.213E-01	1.361E-01	1.466E-01	1.566E-	
01	1.741E-01	2.029E-01	2.183E-01	2.259E-01	2.296E-01		
12	1.900E-03	2.510E-01	3.170E-01	3.545E-01	3.741E-01	3.873E-	
01	4.323E-01	5.066E-01	5.359E-01	5.440E-01	5.424E-01		
11	1.700E-03	5.607E-01	7.179E-01	7.842E-01	8.068E-01	8.092E-	
01	9.007E-01	1.030E+00	1.059E+00	1.048E+00	1.020E+00		
10	1.500E-03	4.383E-01	5.282E-01	5.825E-01	6.108E-01	6.218E-	
01	6.802E-01	7.677E-01	8.007E-01	8.018E-01	7.855E-01		
9	1.400E-03	2.056E-01	2.358E-01	2.628E-01	2.832E-01	2.965E-	
01	3.246E-01	3.681E-01	3.965E-01	4.105E-01	4.137E-01		
8	1.200E-03	8.117E-02	8.484E-02	8.969E-02	9.483E-02	9.954E-	
02	1.077E-01	1.205E-01	1.320E-01	1.411E-01	1.473E-01		
7	1.000E-03	4.731E-02	4.604E-02	4.538E-02	4.523E-02	4.543E-	
02	4.683E-02	4.983E-02	5.319E-02	5.649E-02	5.942E-02		
6	8.000E-04	3.570E-02	3.340E-02	3.151E-02	2.998E-02	2.876E-	
02	2.798E-02	2.783E-02	2.807E-02	2.860E-02	2.928E-02		
5	6.000E-04	2.916E-02	2.686E-02	2.489E-02	2.320E-02	2.174E-	
02	2.047E-02	1.949E-02	1.877E-02	1.829E-02	1.801E-02		
4	4.000E-04	2.341E-02	2.154E-02	1.992E-02	1.850E-02	1.726E-	
02	1.613E-02	1.515E-02	1.434E-02	1.367E-02	1.313E-02		
3	2.000E-04	1.760E-02	1.655E-02	1.554E-02	1.458E-02	1.369E-	
02	1.294E-02	1.230E-02	1.167E-02	1.108E-02	1.055E-02		
2	1.000E-04	1.366E-02	1.299E-02	1.233E-02	1.168E-02	1.105E-	
02	1.054E-02	1.012E-02	9.674E-03	9.240E-03	8.830E-03		
1	0.000E+00	1.366E-02	1.299E-02	1.233E-02	1.168E-02	1.105E-	
02	1.054E-02	1.012E-02	9.674E-03	9.240E-03	8.830E-03		
0		X=	4.500E-03	4.800E-03	5.200E-03	5.600E-03	6.000E-
03	6.500E-03	7.000E-03	7.500E-03	8.000E-03	8.500E-03		
0		K=	31	32	33	34	35
36		37	38	39	40		
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
58	7.200E-02	2.648E-02	2.718E-02	2.807E-02	2.896E-02	3.008E-	
02	3.143E-02	3.279E-02	3.417E-02	3.556E-02	3.695E-02		
57	7.000E-02	1.755E-02	1.740E-02	1.724E-02	1.709E-02	1.694E-	
02	1.680E-02	1.666E-02	1.653E-02	1.642E-02	1.631E-02		
56	6.800E-02	1.734E-02	1.716E-02	1.696E-02	1.678E-02	1.658E-	
02	1.638E-02	1.618E-02	1.599E-02	1.580E-02	1.561E-02		
55	6.600E-02	1.728E-02	1.710E-02	1.690E-02	1.671E-02	1.651E-	
02	1.630E-02	1.610E-02	1.590E-02	1.570E-02	1.551E-02		
54	6.400E-02	1.723E-02	1.704E-02	1.684E-02	1.665E-02	1.644E-	
02	1.624E-02	1.603E-02	1.583E-02	1.563E-02	1.544E-02		
53	6.200E-02	1.717E-02	1.698E-02	1.678E-02	1.658E-02	1.638E-	
02	1.617E-02	1.596E-02	1.576E-02	1.556E-02	1.536E-02		
52	6.000E-02	1.711E-02	1.691E-02	1.671E-02	1.651E-02	1.631E-	
02	1.610E-02	1.589E-02	1.568E-02	1.548E-02	1.528E-02		
51	5.800E-02	1.704E-02	1.685E-02	1.664E-02	1.644E-02	1.624E-	
02	1.602E-02	1.581E-02	1.560E-02	1.540E-02	1.520E-02		
50	5.600E-02	1.698E-02	1.678E-02	1.657E-02	1.637E-02	1.616E-	
02	1.594E-02	1.573E-02	1.552E-02	1.532E-02	1.512E-02		
49	5.400E-02	1.692E-02	1.673E-02	1.652E-02	1.632E-02	1.611E-	
02	1.589E-02	1.568E-02	1.547E-02	1.527E-02	1.507E-02		
48	5.200E-02	1.724E-02	1.705E-02	1.685E-02	1.666E-02	1.646E-	
02	1.625E-02	1.604E-02	1.584E-02	1.564E-02	1.545E-02		
47	4.900E-02	1.746E-02	1.728E-02	1.709E-02	1.690E-02	1.671E-	
02	1.650E-02	1.630E-02	1.611E-02	1.592E-02	1.573E-02		
46	4.600E-02	1.703E-02	1.683E-02	1.663E-02	1.643E-02	1.622E-	
02	1.600E-02	1.579E-02	1.558E-02	1.538E-02	1.518E-02		
45	4.400E-02	1.652E-02	1.631E-02	1.609E-02	1.587E-02	1.565E-	
02	1.542E-02	1.520E-02	1.498E-02	1.477E-02	1.456E-02		
44	4.200E-02	1.640E-02	1.619E-02	1.596E-02	1.574E-02	1.551E-	
02	1.528E-02	1.505E-02	1.483E-02	1.461E-02	1.439E-02		

43	4.000E-02	1.630E-02	1.608E-02	1.585E-02	1.563E-02	1.540E-02
02	1.516E-02	1.493E-02	1.470E-02	1.448E-02	1.426E-02	
42	3.800E-02	1.619E-02	1.597E-02	1.574E-02	1.551E-02	1.528E-02
02	1.504E-02	1.480E-02	1.457E-02	1.435E-02	1.413E-02	
41	3.600E-02	1.607E-02	1.585E-02	1.561E-02	1.538E-02	1.515E-02
02	1.490E-02	1.466E-02	1.443E-02	1.420E-02	1.398E-02	
40	3.400E-02	1.595E-02	1.572E-02	1.548E-02	1.525E-02	1.501E-02
02	1.476E-02	1.452E-02	1.428E-02	1.405E-02	1.383E-02	
39	3.200E-02	1.581E-02	1.558E-02	1.534E-02	1.510E-02	1.486E-02
02	1.461E-02	1.436E-02	1.413E-02	1.389E-02	1.367E-02	
38	3.000E-02	1.567E-02	1.543E-02	1.519E-02	1.495E-02	1.470E-02
02	1.445E-02	1.420E-02	1.396E-02	1.373E-02	1.350E-02	
37	2.800E-02	1.551E-02	1.527E-02	1.502E-02	1.478E-02	1.453E-02
02	1.427E-02	1.403E-02	1.378E-02	1.355E-02	1.332E-02	
36	2.600E-02	1.535E-02	1.510E-02	1.485E-02	1.461E-02	1.435E-02
02	1.410E-02	1.385E-02	1.360E-02	1.336E-02	1.313E-02	
35	2.400E-02	1.518E-02	1.494E-02	1.469E-02	1.445E-02	1.420E-02
02	1.394E-02	1.370E-02	1.346E-02	1.323E-02	1.300E-02	
34	2.200E-02	1.569E-02	1.556E-02	1.544E-02	1.532E-02	1.522E-02
02	1.513E-02	1.505E-02	1.496E-02	1.487E-02	1.477E-02	
33	2.000E-02	5.039E-02	5.398E-02	5.820E-02	6.211E-02	6.649E-02
02	7.136E-02	7.577E-02	7.965E-02	8.296E-02	8.577E-02	
32	1.950E-02	2.106E-01	2.191E-01	2.298E-01	2.370E-01	2.469E-01
01	2.584E-01	2.657E-01	2.698E-01	2.719E-01	2.733E-01	
31	1.850E-02	5.688E-01	5.846E-01	6.110E-01	6.136E-01	6.295E-01
01	6.461E-01	6.352E-01	6.088E-01	5.743E-01	5.360E-01	
30	1.800E-02	2.409E-01	2.490E-01	2.610E-01	2.783E-01	3.105E-01
01	3.417E-01	3.518E-01	3.493E-01	3.385E-01	3.236E-01	
29	1.700E-02	1.283E-01	1.462E-01	1.588E-01	1.890E-01	1.683E-01
01	1.508E-01	1.426E-01	1.415E-01	1.479E-01	1.596E-01	
28	1.600E-02	7.573E-02	9.429E-02	9.997E-02	1.050E-01	1.061E-01
01	1.058E-01	1.071E-01	1.140E-01	1.309E-01	1.098E-01	
27	1.500E-02	4.118E-02	5.005E-02	5.985E-02	6.850E-02	7.452E-02
02	8.037E-02	8.511E-02	9.062E-02	9.627E-02	1.022E-01	
26	1.400E-02	3.061E-02	3.774E-02	4.513E-02	5.588E-02	6.528E-02
02	7.359E-02	7.979E-02	8.562E-02	9.220E-02	1.009E-01	
25	1.300E-02	3.471E-02	4.383E-02	5.486E-02	6.432E-02	7.571E-02
02	7.780E-02	8.293E-02	8.921E-02	9.697E-02	1.117E-01	
24	1.200E-02	3.499E-02	4.440E-02	6.079E-02	8.383E-02	7.737E-02
02	7.433E-02	8.716E-02	9.924E-02	1.023E-01	1.178E-01	
23	1.100E-02	2.428E-02	2.864E-02	3.529E-02	4.329E-02	5.227E-02
02	6.067E-02	7.478E-02	1.005E-01	1.156E-01	1.532E-01	
22	1.000E-02	1.518E-02	1.745E-02	2.085E-02	2.480E-02	2.962E-02
02	3.648E-02	4.548E-02	5.910E-02	7.924E-02	1.144E-01	
21	9.000E-03	9.007E-03	1.018E-02	1.194E-02	1.401E-02	1.655E-02
02	2.045E-02	2.567E-02	3.347E-02	4.594E-02	6.787E-02	
20	8.000E-03	6.261E-03	7.006E-03	8.118E-03	9.419E-03	1.102E-02
02	1.352E-02	1.688E-02	2.175E-02	2.922E-02	4.124E-02	
19	6.700E-03	5.003E-03	5.537E-03	6.324E-03	7.234E-03	8.340E-03
03	1.001E-02	1.217E-02	1.516E-02	1.949E-02	2.597E-02	
18	5.500E-03	5.804E-03	6.350E-03	7.139E-03	7.997E-03	8.995E-03
03	1.040E-02	1.207E-02	1.434E-02	1.764E-02	2.264E-02	
17	4.500E-03	1.046E-02	1.131E-02	1.257E-02	1.389E-02	1.536E-02
02	1.731E-02	1.937E-02	2.199E-02	2.592E-02	3.249E-02	
16	3.700E-03	1.957E-02	2.099E-02	2.311E-02	2.523E-02	2.761E-02
02	3.059E-02	3.308E-02	3.551E-02	3.863E-02	4.410E-02	
15	3.100E-03	4.108E-02	4.402E-02	4.851E-02	5.250E-02	5.725E-02
02	6.313E-02	6.699E-02	6.971E-02	7.225E-02	7.616E-02	
14	2.600E-03	9.612E-02	1.034E-01	1.148E-01	1.229E-01	1.341E-01
01	1.482E-01	1.554E-01	1.592E-01	1.614E-01	1.633E-01	
13	2.200E-03	2.333E-01	2.512E-01	2.797E-01	2.935E-01	3.179E-01
01	3.489E-01	3.595E-01	3.614E-01	3.597E-01	3.559E-01	
12	1.900E-03	5.368E-01	5.740E-01	6.298E-01	6.437E-01	6.838E-01
01	7.314E-01	7.335E-01	7.179E-01	6.957E-01	6.705E-01	
11	1.700E-03	9.851E-01	1.028E+00	1.095E+00	1.085E+00	1.118E+00
00	1.157E+00	1.124E+00	1.067E+00	1.004E+00	9.412E-01	

10	1.500E-03	7.605E-01	7.795E-01	8.138E-01	8.147E-01	8.334E-
01	8.578E-01	8.376E-01	7.979E-01	7.514E-01	7.039E-01	
9	1.400E-03	4.100E-01	4.218E-01	4.462E-01	4.555E-01	4.731E-
01	4.955E-01	4.979E-01	4.869E-01	4.689E-01	4.478E-01	
8	1.200E-03	1.510E-01	1.573E-01	1.672E-01	1.745E-01	1.842E-
01	1.961E-01	2.032E-01	2.058E-01	2.047E-01	2.013E-01	
7	1.000E-03	6.180E-02	6.497E-02	6.923E-02	7.294E-02	7.758E-
02	8.323E-02	8.775E-02	9.082E-02	9.245E-02	9.291E-02	
6	8.000E-04	3.001E-02	3.119E-02	3.290E-02	3.455E-02	3.668E-
02	3.934E-02	4.176E-02	4.375E-02	4.524E-02	4.623E-02	
5	6.000E-04	1.787E-02	1.801E-02	1.847E-02	1.901E-02	1.986E-
02	2.104E-02	2.221E-02	2.329E-02	2.423E-02	2.498E-02	
4	4.000E-04	1.269E-02	1.244E-02	1.238E-02	1.241E-02	1.264E-
02	1.309E-02	1.358E-02	1.408E-02	1.455E-02	1.496E-02	
3	2.000E-04	1.008E-02	9.756E-03	9.565E-03	9.405E-03	9.388E-
03	9.517E-03	9.668E-03	9.832E-03	9.988E-03	1.012E-02	
2	1.000E-04	8.455E-03	8.193E-03	8.041E-03	7.905E-03	7.885E-
03	7.985E-03	8.097E-03	8.220E-03	8.343E-03	8.452E-03	
1	0.000E+00	8.455E-03	8.193E-03	8.041E-03	7.905E-03	7.885E-
03	7.985E-03	8.097E-03	8.220E-03	8.343E-03	8.452E-03	
0	X=	9.000E-03	9.500E-03	1.000E-02	1.500E-02	2.000E-
02	3.000E-02	4.000E-02	5.500E-02	6.000E-02	7.500E-02	
0	K=	41	42	43	44	45
46	47	48	49	50		
I	Y					
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
58	7.200E-02	3.835E-02	3.976E-02	6.945E-02	1.817E-01	4.781E-
01	1.025E+00	1.790E+00	2.099E+00	2.320E+00	2.473E+00	
57	7.000E-02	1.621E-02	1.611E-02	1.696E-02	2.344E-02	5.163E-
02	1.326E-01	2.979E-01	4.024E-01	4.892E-01	5.562E-01	
56	6.800E-02	1.543E-02	1.525E-02	1.493E-02	1.513E-02	1.890E-
02	3.626E-02	8.676E-02	1.296E-01	1.723E-01	2.102E-01	
55	6.600E-02	1.532E-02	1.514E-02	1.473E-02	1.427E-02	1.425E-
02	1.695E-02	2.907E-02	4.247E-02	5.874E-02	7.582E-02	
54	6.400E-02	1.525E-02	1.506E-02	1.464E-02	1.411E-02	1.358E-
02	1.351E-02	1.565E-02	1.878E-02	2.351E-02	2.942E-02	
53	6.200E-02	1.517E-02	1.498E-02	1.456E-02	1.402E-02	1.342E-
02	1.287E-02	1.278E-02	1.309E-02	1.398E-02	1.543E-02	
52	6.000E-02	1.509E-02	1.490E-02	1.447E-02	1.394E-02	1.332E-
02	1.269E-02	1.214E-02	1.177E-02	1.160E-02	1.163E-02	
51	5.800E-02	1.501E-02	1.482E-02	1.439E-02	1.384E-02	1.323E-
02	1.259E-02	1.195E-02	1.143E-02	1.099E-02	1.064E-02	
50	5.600E-02	1.492E-02	1.473E-02	1.430E-02	1.376E-02	1.315E-
02	1.251E-02	1.187E-02	1.133E-02	1.083E-02	1.038E-02	
49	5.400E-02	1.487E-02	1.468E-02	1.426E-02	1.374E-02	1.315E-
02	1.253E-02	1.191E-02	1.136E-02	1.086E-02	1.038E-02	
48	5.200E-02	1.525E-02	1.507E-02	1.464E-02	1.410E-02	1.348E-
02	1.283E-02	1.218E-02	1.162E-02	1.109E-02	1.060E-02	
47	4.900E-02	1.554E-02	1.536E-02	1.494E-02	1.440E-02	1.378E-
02	1.313E-02	1.246E-02	1.189E-02	1.135E-02	1.084E-02	
46	4.600E-02	1.498E-02	1.479E-02	1.436E-02	1.382E-02	1.323E-
02	1.262E-02	1.200E-02	1.145E-02	1.093E-02	1.043E-02	
45	4.400E-02	1.435E-02	1.415E-02	1.373E-02	1.321E-02	1.264E-
02	1.208E-02	1.151E-02	1.098E-02	1.049E-02	1.001E-02	
44	4.200E-02	1.418E-02	1.398E-02	1.353E-02	1.298E-02	1.239E-
02	1.181E-02	1.123E-02	1.071E-02	1.021E-02	9.742E-03	
43	4.000E-02	1.405E-02	1.384E-02	1.339E-02	1.283E-02	1.224E-
02	1.166E-02	1.108E-02	1.055E-02	1.006E-02	9.583E-03	
42	3.800E-02	1.391E-02	1.370E-02	1.324E-02	1.269E-02	1.212E-
02	1.155E-02	1.099E-02	1.046E-02	9.969E-03	9.495E-03	
41	3.600E-02	1.377E-02	1.355E-02	1.310E-02	1.256E-02	1.200E-
02	1.147E-02	1.093E-02	1.042E-02	9.924E-03	9.453E-03	
40	3.400E-02	1.361E-02	1.340E-02	1.294E-02	1.242E-02	1.190E-
02	1.140E-02	1.091E-02	1.040E-02	9.919E-03	9.453E-03	
39	3.200E-02	1.345E-02	1.323E-02	1.278E-02	1.228E-02	1.181E-

02	1.137E-02	1.093E-02	1.044E-02	9.964E-03	9.509E-03		
38	3.000E-02	1.327E-02	1.306E-02	1.261E-02	1.215E-02	1.175E-	
02	1.139E-02	1.102E-02	1.055E-02	1.010E-02	9.675E-03		
37	2.800E-02	1.309E-02	1.287E-02	1.245E-02	1.204E-02	1.174E-	
02	1.149E-02	1.123E-02	1.083E-02	1.047E-02	1.019E-02		
36	2.600E-02	1.291E-02	1.269E-02	1.229E-02	1.198E-02	1.184E-	
02	1.180E-02	1.188E-02	1.184E-02	1.188E-02	1.214E-02		
35	2.400E-02	1.278E-02	1.256E-02	1.227E-02	1.223E-02	1.263E-	
02	1.357E-02	1.549E-02	1.714E-02	1.845E-02	1.995E-02		
34	2.200E-02	1.467E-02	1.457E-02	1.585E-02	1.849E-02	2.348E-	
02	3.159E-02	4.135E-02	4.584E-02	4.655E-02	4.708E-02		
33	2.000E-02	8.820E-02	8.967E-02	1.333E-01	1.954E-01	2.334E-	
01	2.267E-01	2.017E-01	1.669E-01	1.370E-01	1.182E-01		
32	1.950E-02	2.749E-01	2.661E-01	3.900E-01	4.738E-01	4.700E-	
01	3.869E-01	3.071E-01	2.327E-01	1.817E-01	1.523E-01		
31	1.850E-02	4.967E-01	4.781E-01	8.974E-01	1.275E+00	1.194E+	
00	8.610E-01	6.166E-01	4.187E-01	3.053E-01	2.437E-01		
30	1.800E-02	3.072E-01	3.106E-01	9.398E-01	1.557E+00	1.559E+	
00	1.130E+00	8.249E-01	5.448E-01	3.904E-01	3.068E-01		
29	1.700E-02	1.747E-01	2.379E-01	6.704E-01	1.254E+00	1.481E+	
00	1.474E+00	1.185E+00	7.770E-01	5.584E-01	4.379E-01		
28	1.600E-02	1.131E-01	1.618E-01	3.282E-01	6.818E-01	1.094E+	
00	1.437E+00	1.298E+00	8.697E-01	6.544E-01	5.319E-01		
27	1.500E-02	1.160E-01	1.253E-01	2.053E-01	4.510E-01	7.812E-	
01	1.081E+00	1.122E+00	8.332E-01	6.911E-01	5.951E-01		
26	1.400E-02	1.128E-01	1.282E-01	1.903E-01	3.467E-01	5.620E-	
01	7.206E-01	8.744E-01	7.509E-01	6.578E-01	5.675E-01		
25	1.300E-02	1.336E-01	1.849E-01	2.508E-01	3.506E-01	4.899E-	
01	5.999E-01	7.135E-01	6.008E-01	5.150E-01	4.277E-01		
24	1.200E-02	1.708E-01	2.659E-01	4.073E-01	6.390E-01	6.536E-	
01	6.148E-01	5.913E-01	4.305E-01	3.586E-01	2.965E-01		
23	1.100E-02	2.466E-01	4.667E-01	6.803E-01	1.424E+00	1.242E+	
00	6.794E-01	4.876E-01	3.401E-01	2.841E-01	2.125E-01		
22	1.000E-02	1.867E-01	3.520E-01	6.526E-01	1.149E+00	9.034E-	
01	7.370E-01	5.380E-01	4.511E-01	4.105E-01	2.416E-01		
21	9.000E-03	1.101E-01	1.994E-01	4.054E-01	1.376E+00	8.013E-	
01	6.593E-01	4.621E-01	6.416E-01	6.725E-01	3.240E-01		
20	8.000E-03	6.146E-02	9.710E-02	1.617E-01	4.701E-01	4.361E-	
01	6.974E-01	4.258E-01	6.022E-01	5.523E-01	2.896E-01		
19	6.700E-03	3.596E-02	5.195E-02	7.761E-02	1.874E-01	2.085E-	
01	3.212E-01	2.962E-01	6.788E-01	5.232E-01	2.523E-01		
18	5.500E-03	3.057E-02	4.375E-02	6.617E-02	1.603E-01	2.231E-	
01	3.252E-01	3.348E-01	3.647E-01	2.808E-01	2.171E-01		
17	4.500E-03	4.457E-02	6.794E-02	1.124E-01	3.148E-01	4.913E-	
01	7.163E-01	6.905E-01	4.032E-01	2.760E-01	2.613E-01		
16	3.700E-03	5.673E-02	9.099E-02	1.876E-01	4.684E-01	9.296E-	
01	1.860E+00	1.716E+00	8.065E-01	4.629E-01	3.827E-01		
15	3.100E-03	8.751E-02	1.348E-01	3.545E-01	7.908E-01	1.478E+	
00	3.084E+00	3.562E+00	1.774E+00	8.928E-01	5.852E-01		
14	2.600E-03	1.687E-01	2.139E-01	7.761E-01	1.558E+00	2.286E+	
00	3.200E+00	5.222E+00	3.799E+00	1.657E+00	8.246E-01		
13	2.200E-03	3.516E-01	3.571E-01	1.573E+00	2.761E+00	3.333E+	
00	3.250E+00	5.272E+00	4.853E+00	2.499E+00	1.058E+00		
12	1.900E-03	6.441E-01	6.243E-01	2.576E+00	3.898E+00	4.011E+	
00	3.410E+00	4.164E+00	5.813E+00	4.136E+00	1.168E+00		
11	1.700E-03	8.801E-01	8.296E-01	3.129E+00	4.202E+00	3.909E+	
00	3.125E+00	3.321E+00	6.767E+00	5.182E+00	1.109E+00		
10	1.500E-03	6.577E-01	6.174E-01	2.219E+00	3.084E+00	2.963E+	
00	2.466E+00	2.609E+00	5.727E+00	4.680E+00	1.169E+00		
9	1.400E-03	4.257E-01	4.044E-01	1.454E+00	2.249E+00	2.354E+	
00	2.087E+00	2.239E+00	4.613E+00	4.057E+00	1.334E+00		
8	1.200E-03	1.963E-01	1.897E-01	6.505E-01	1.197E+00	1.461E+	
00	1.457E+00	1.601E+00	2.968E+00	3.031E+00	1.901E+00		
7	1.000E-03	9.240E-02	9.050E-02	2.861E-01	6.010E-01	8.340E-	
01	9.260E-01	1.045E+00	1.857E+00	2.116E+00	2.691E+00		
6	8.000E-04	4.674E-02	4.640E-02	1.347E-01	3.129E-01	4.794E-	



01	5.816E-01	6.902E-01	1.235E+00	1.552E+00	2.361E+00		
5	6.000E-04	2.552E-02	2.561E-02	6.896E-02	1.735E-01	2.888E-	
01	3.773E-01	4.731E-01	7.982E-01	1.174E+00	1.665E+00		
4	4.000E-04	1.530E-02	1.538E-02	3.876E-02	1.035E-01	1.846E-	
01	2.573E-01	3.389E-01	5.408E-01	8.040E-01	1.173E+00		
3	2.000E-04	1.021E-02	1.015E-02	2.450E-02	6.738E-02	1.263E-	
01	1.855E-01	2.557E-01	3.900E-01	5.668E-01	8.416E-01		
2	1.000E-04	8.535E-03	8.512E-03	2.063E-02	5.710E-02	1.086E-	
01	1.624E-01	2.273E-01	3.399E-01	4.915E-01	7.292E-01		
1	0.000E+00	8.535E-03	8.512E-03	2.063E-02	5.710E-02	1.086E-	
01	1.624E-01	2.273E-01	3.399E-01	4.915E-01	7.292E-01		
0		X=	8.000E-02	9.500E-02	1.100E-01	1.250E-01	1.350E-
01	1.450E-01	1.550E-01	1.650E-01	1.750E-01			
0		K=	51	52	53	54	55
56	57	58	59				
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			
58	7.200E-02	2.576E+00	3.171E+00	3.538E+00	3.498E+00	3.252E+	
00	3.095E+00	2.994E+00	2.311E+00	2.311E+00			
57	7.000E-02	6.065E-01	7.848E-01	9.257E-01	9.470E-01	8.960E-	
01	8.536E-01	8.211E-01	6.733E-01	6.733E-01			
56	6.800E-02	2.420E-01	3.271E-01	4.046E-01	4.311E-01	4.210E-	
01	4.080E-01	3.954E-01	3.394E-01	3.394E-01			
55	6.600E-02	9.235E-02	1.307E-01	1.702E-01	1.907E-01	1.949E-	
01	1.953E-01	1.936E-01	1.760E-01	1.760E-01			
54	6.400E-02	3.610E-02	5.165E-02	6.963E-02	8.180E-02	8.756E-	
02	9.143E-02	9.381E-02	9.049E-02	9.049E-02			
53	6.200E-02	1.743E-02	2.277E-02	2.980E-02	3.553E-02	3.917E-	
02	4.229E-02	4.485E-02	4.577E-02	4.577E-02			
52	6.000E-02	1.190E-02	1.329E-02	1.551E-02	1.762E-02	1.921E-	
02	2.079E-02	2.230E-02	2.363E-02	2.363E-02			
51	5.800E-02	1.038E-02	1.043E-02	1.083E-02	1.133E-02	1.176E-	
02	1.228E-02	1.285E-02	1.359E-02	1.359E-02			
50	5.600E-02	9.977E-03	9.628E-03	9.425E-03	9.316E-03	9.246E-	
03	9.240E-03	9.295E-03	9.474E-03	9.474E-03			
49	5.400E-02	9.942E-03	9.480E-03	9.085E-03	8.768E-03	8.510E-	
03	8.292E-03	8.114E-03	7.978E-03	7.978E-03			
48	5.200E-02	1.014E-02	9.622E-03	9.152E-03	8.758E-03	8.429E-	
03	8.127E-03	7.851E-03	7.562E-03	7.562E-03			
47	4.900E-02	1.036E-02	9.801E-03	9.286E-03	8.850E-03	8.487E-	
03	8.145E-03	7.824E-03	7.459E-03	7.459E-03			
46	4.600E-02	9.963E-03	9.431E-03	8.932E-03	8.503E-03	8.142E-	
03	7.801E-03	7.481E-03	7.114E-03	7.114E-03			
45	4.400E-02	9.559E-03	9.057E-03	8.581E-03	8.168E-03	7.814E-	
03	7.482E-03	7.169E-03	6.814E-03	6.814E-03			
44	4.200E-02	9.295E-03	8.803E-03	8.338E-03	7.934E-03	7.587E-	
03	7.260E-03	6.951E-03	6.600E-03	6.600E-03			
43	4.000E-02	9.136E-03	8.646E-03	8.185E-03	7.784E-03	7.439E-	
03	7.114E-03	6.807E-03	6.456E-03	6.456E-03			
42	3.800E-02	9.046E-03	8.559E-03	8.099E-03	7.701E-03	7.357E-	
03	7.032E-03	6.726E-03	6.374E-03	6.374E-03			
41	3.600E-02	9.004E-03	8.523E-03	8.070E-03	7.677E-03	7.337E-	
03	7.016E-03	6.713E-03	6.366E-03	6.366E-03			
40	3.400E-02	9.008E-03	8.540E-03	8.106E-03	7.733E-03	7.408E-	
03	7.104E-03	6.816E-03	6.488E-03	6.488E-03			
39	3.200E-02	9.075E-03	8.649E-03	8.273E-03	7.960E-03	7.683E-	
03	7.426E-03	7.180E-03	6.904E-03	6.904E-03			
38	3.000E-02	9.287E-03	8.994E-03	8.792E-03	8.644E-03	8.491E-	
03	8.346E-03	8.188E-03	8.011E-03	8.011E-03			
37	2.800E-02	9.976E-03	1.009E-02	1.035E-02	1.059E-02	1.069E-	
02	1.074E-02	1.070E-02	1.063E-02	1.063E-02			
36	2.600E-02	1.246E-02	1.361E-02	1.484E-02	1.576E-02	1.619E-	
02	1.639E-02	1.632E-02	1.613E-02	1.613E-02			
35	2.400E-02	2.115E-02	2.403E-02	2.655E-02	2.810E-02	2.841E-	
02	2.814E-02	2.737E-02	2.624E-02	2.624E-02			

34	2.200E-02	4.673E-02	5.031E-02	5.328E-02	5.402E-02	5.218E-
02	4.956E-02	4.640E-02	4.215E-02	4.215E-02		
33	2.000E-02	1.049E-01	1.057E-01	1.044E-01	9.775E-02	8.738E-
02	7.766E-02	6.901E-02	5.947E-02	5.947E-02		
32	1.950E-02	1.325E-01	1.330E-01	1.276E-01	1.155E-01	9.999E-
02	8.683E-02	7.616E-02	6.410E-02	6.410E-02		
31	1.850E-02	2.041E-01	1.996E-01	1.808E-01	1.548E-01	1.275E-
01	1.065E-01	9.222E-02	7.532E-02	7.532E-02		
30	1.800E-02	2.529E-01	2.426E-01	2.123E-01	1.773E-01	1.424E-
01	1.170E-01	1.019E-01	8.157E-02	8.157E-02		
29	1.700E-02	3.566E-01	3.295E-01	2.729E-01	2.220E-01	1.715E-
01	1.377E-01	1.242E-01	9.423E-02	9.423E-02		
28	1.600E-02	4.365E-01	3.861E-01	3.060E-01	2.534E-01	1.913E-
01	1.526E-01	1.454E-01	9.856E-02	9.856E-02		
27	1.500E-02	4.912E-01	4.050E-01	3.137E-01	2.740E-01	2.222E-
01	1.788E-01	1.415E-01	9.441E-02	9.441E-02		
26	1.400E-02	4.595E-01	3.916E-01	3.226E-01	2.536E-01	1.987E-
01	1.616E-01	1.144E-01	8.979E-02	8.979E-02		
25	1.300E-02	3.362E-01	3.073E-01	2.816E-01	2.076E-01	1.554E-
01	1.354E-01	9.793E-02	9.065E-02	9.065E-02		
24	1.200E-02	2.343E-01	2.218E-01	2.110E-01	1.594E-01	1.384E-
01	1.266E-01	9.518E-02	9.061E-02	9.061E-02		
23	1.100E-02	1.836E-01	2.250E-01	2.191E-01	1.702E-01	1.433E-
01	1.317E-01	9.703E-02	8.734E-02	8.734E-02		
22	1.000E-02	2.117E-01	2.712E-01	2.565E-01	1.975E-01	1.623E-
01	1.342E-01	9.924E-02	8.481E-02	8.481E-02		
21	9.000E-03	2.980E-01	3.796E-01	3.272E-01	2.497E-01	1.961E-
01	1.404E-01	1.001E-01	8.272E-02	8.272E-02		
20	8.000E-03	3.416E-01	4.710E-01	4.000E-01	3.117E-01	2.387E-
01	1.478E-01	1.025E-01	8.149E-02	8.149E-02		
19	6.700E-03	2.890E-01	3.921E-01	3.374E-01	2.726E-01	2.245E-
01	1.585E-01	1.104E-01	8.089E-02	8.089E-02		
18	5.500E-03	2.801E-01	3.551E-01	2.918E-01	2.285E-01	1.763E-
01	1.266E-01	1.093E-01	7.365E-02	7.365E-02		
17	4.500E-03	3.133E-01	4.221E-01	3.679E-01	2.977E-01	2.558E-
01	1.909E-01	1.081E-01	5.963E-02	5.963E-02		
16	3.700E-03	3.751E-01	4.643E-01	3.908E-01	2.923E-01	2.212E-
01	1.579E-01	8.943E-02	4.908E-02	4.908E-02		
15	3.100E-03	4.629E-01	4.937E-01	3.841E-01	2.687E-01	1.901E-
01	1.356E-01	8.243E-02	4.210E-02	4.210E-02		
14	2.600E-03	5.237E-01	4.812E-01	3.478E-01	2.318E-01	1.579E-
01	1.132E-01	7.218E-02	3.585E-02	3.585E-02		
13	2.200E-03	5.130E-01	4.157E-01	2.884E-01	1.877E-01	1.258E-
01	9.093E-02	5.975E-02	3.030E-02	3.030E-02		
12	1.900E-03	4.396E-01	3.365E-01	2.305E-01	1.491E-01	9.967E-
02	7.278E-02	4.904E-02	2.595E-02	2.595E-02		
11	1.700E-03	4.084E-01	2.869E-01	1.922E-01	1.241E-01	8.318E-
02	6.129E-02	4.216E-02	2.316E-02	2.316E-02		
10	1.500E-03	4.304E-01	2.478E-01	1.576E-01	1.017E-01	6.855E-
02	5.102E-02	3.593E-02	2.059E-02	2.059E-02		
9	1.400E-03	4.670E-01	2.327E-01	1.425E-01	9.206E-02	6.228E-
02	4.659E-02	3.322E-02	1.944E-02	1.944E-02		
8	1.200E-03	5.655E-01	2.059E-01	1.176E-01	7.631E-02	5.211E-
02	3.936E-02	2.865E-02	1.745E-02	1.745E-02		
7	1.000E-03	5.731E-01	1.702E-01	9.538E-02	6.285E-02	4.349E-
02	3.322E-02	2.461E-02	1.569E-02	1.569E-02		
6	8.000E-04	4.403E-01	1.409E-01	7.769E-02	5.188E-02	3.639E-
02	2.810E-02	2.115E-02	1.414E-02	1.414E-02		
5	6.000E-04	3.399E-01	1.156E-01	6.417E-02	4.325E-02	3.068E-
02	2.393E-02	1.830E-02	1.279E-02	1.279E-02		
4	4.000E-04	2.685E-01	9.588E-02	5.386E-02	3.661E-02	2.620E-
02	2.063E-02	1.602E-02	1.166E-02	1.166E-02		
3	2.000E-04	2.151E-01	8.050E-02	4.597E-02	3.152E-02	2.273E-
02	1.808E-02	1.425E-02	1.073E-02	1.073E-02		
2	1.000E-04	1.877E-01	7.444E-02	4.315E-02	2.971E-02	2.148E-
02	1.716E-02	1.361E-02	1.041E-02	1.041E-02		



31	1.850E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.087E-10	1.000E-10	1.676E-03	1.000E-10		
30	1.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	4.038E-02	1.000E-10		
29	1.700E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
28	1.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
27	1.500E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
26	1.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
25	1.300E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
24	1.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	7.184E-10	1.000E-10	1.000E-10	1.078E-09	1.000E-10	
23	1.100E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.953E-08
08	1.000E-10	3.747E-07	1.000E-10	4.975E-07	1.000E-10		
22	1.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.493E-05
05	1.000E-10	2.423E-04	1.000E-10	2.790E-04	1.000E-10		
21	9.000E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
20	8.000E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
19	6.700E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
18	5.500E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
17	4.500E-03	1.000E-10	1.000E-10	7.962E-10	1.000E-10	1.000E-10	9.979E-10
10	1.000E-10	1.133E-09	1.000E-10	3.036E-09	1.000E-10		
16	3.700E-03	1.000E-10	1.000E-10	2.961E-07	1.000E-10	1.000E-10	2.519E-07
07	1.000E-10	2.318E-07	1.000E-10	1.883E-07	1.000E-10		
15	3.100E-03	1.000E-10	1.000E-10	1.764E-08	1.000E-10	1.000E-10	1.598E-08
08	1.000E-10	1.111E-08	1.000E-10	9.311E-09	1.000E-10		
14	2.600E-03	1.000E-10	1.000E-10	7.956E-10	1.000E-10	1.000E-10	5.692E-10
10	1.000E-10	4.867E-10	1.000E-10	3.899E-10	1.000E-10		
13	2.200E-03	1.000E-10	1.000E-10	1.289E-10	1.000E-10	1.000E-10	2.543E-10
10	1.000E-10	1.056E-09	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
12	1.900E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.478E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
11	1.700E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
10	1.500E-03	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
9	1.400E-03	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
8	1.200E-03	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
7	1.000E-03	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
6	8.000E-04	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
5	6.000E-04	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
4	4.000E-04	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
3	2.000E-04	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
2	1.000E-04	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
1	0.000E+00	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
0		X=	1.000E-03	1.100E-03	1.200E-03	1.300E-03	1.400E-03
03	1.500E-03	1.600E-03	1.700E-03	1.800E-03	1.900E-03		
0		K=	11	12	13	14	15
16	17		18	19	20		







22	1.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	3.919E-06	1.000E-10	7.907E-09	1.000E-10		
21	9.000E-03	1.000E-10	1.000E-10	5.641E-10	1.000E-10	1.000E-	
10	1.000E-10	3.887E-05	1.000E-10	8.831E-08	1.000E-10		
20	8.000E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	2.083E-07	1.000E-10	1.437E-06	1.000E-10		
19	6.700E-03	1.000E-10	1.000E-10	4.806E-10	1.000E-10	1.797E-	
08	1.000E-10	8.393E-06	1.000E-10	4.266E-05	1.000E-10		
18	5.500E-03	4.486E-09	1.000E-10	1.143E-07	1.000E-10	3.286E-	
06	1.000E-10	3.373E-04	1.000E-10	1.276E-03	1.000E-10		
17	4.500E-03	1.279E-06	1.000E-10	1.749E-05	1.000E-10	3.839E-	
04	1.000E-10	8.445E-03	1.000E-10	2.297E-02	1.000E-10		
16	3.700E-03	6.023E-06	1.000E-10	7.511E-04	1.000E-10	1.545E-	
02	1.000E-10	8.153E-02	1.000E-10	1.714E-01	1.000E-10		
15	3.100E-03	5.149E-09	1.000E-10	7.136E-09	1.000E-10	1.010E-	
08	1.000E-10	1.000E-10	1.830E-09	1.000E-10	5.126E-09		
14	2.600E-03	1.000E-10	1.000E-10	1.000E-10	4.492E-10	1.000E-	
10	1.000E-10	1.215E-10	1.000E-10	1.000E-10	2.333E-10		
13	2.200E-03	1.000E-10	1.000E-10	6.448E-08	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
12	1.900E-03	2.483E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
11	1.700E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
10	1.500E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
9	1.400E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
8	1.200E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
7	1.000E-03	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
6	8.000E-04	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
5	6.000E-04	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
4	4.000E-04	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
3	2.000E-04	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
2	1.000E-04	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
1	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
0		X=	4.500E-03	4.800E-03	5.200E-03	5.600E-03	6.000E-
03	6.500E-03	7.000E-03	7.500E-03	8.000E-03	8.500E-03		
0		K=	31	32	33	34	35
36		37	38	39	40		
I	Y						
59	7.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
58	7.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
57	7.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
56	6.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
55	6.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
54	6.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
53	6.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
52	6.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
51	5.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	



10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
50	5.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
49	5.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
48	5.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
47	4.900E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
46	4.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
45	4.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
44	4.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
43	4.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
42	3.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
41	3.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
40	3.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
39	3.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
38	3.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
37	2.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
36	2.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
35	2.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
34	2.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
33	2.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
32	1.950E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
31	1.850E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
30	1.800E-02	1.579E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
29	1.700E-02	1.000E-10	1.758E-02	1.000E-10	1.000E-10	1.558E-01	1.000E-
10	1.000E-10	2.522E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
28	1.600E-02	1.000E-10	7.314E-03	1.000E-10	1.000E-10	7.844E-02	1.000E-
10	1.265E-01	1.000E-10	1.444E-01	1.000E-10	1.000E-10	1.000E-10	
27	1.500E-02	1.129E-03	1.000E-10	1.000E-10	1.000E-10	5.705E-03	1.000E-
10	6.504E-02	1.000E-10	1.605E-01	1.000E-10	1.000E-10	7.066E-03	
26	1.400E-02	5.886E-04	1.000E-10	1.000E-10	1.000E-10	8.040E-03	1.000E-
10	5.759E-02	1.000E-10	9.088E-02	1.000E-10	1.000E-10	1.512E-01	
25	1.300E-02	4.061E-10	1.000E-10	2.365E-01	1.000E-10	1.000E-10	1.000E-
10	2.739E-03	1.000E-10	4.307E-04	1.000E-10	1.000E-10	6.633E-02	
24	1.200E-02	4.519E-10	1.000E-10	1.000E-10	1.000E-10	1.048E-06	1.000E-
10	2.111E-01	4.730E-02	1.000E-10	1.000E-10	1.000E-10	1.725E-01	
23	1.100E-02	3.534E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	2.225E-01	1.000E-10	1.000E-10	1.000E-10	1.920E-01	
22	1.000E-02	1.746E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	2.316E-10	1.000E-10	1.000E-10	8.191E-10	1.000E-10	1.000E-10	
21	9.000E-03	2.824E-10	1.000E-10	3.591E-07	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.938E-08	1.000E-10	1.000E-10	1.000E-10	
20	8.000E-03	1.933E-09	1.000E-10	8.144E-07	1.000E-10	1.000E-10	4.783E-
10	1.000E-10	1.000E-10	8.100E-09	1.000E-10	1.000E-10	3.922E-09	
19	6.700E-03	4.064E-08	1.000E-10	4.620E-06	1.000E-10	1.000E-10	4.333E-
10	1.000E-10	1.000E-10	1.324E-07	1.000E-10	1.000E-10	2.383E-10	
18	5.500E-03	9.104E-07	1.000E-10	2.688E-05	1.000E-10	1.000E-10	1.000E-











10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
38	3.000E-02	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
37	2.800E-02	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
36	2.600E-02	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
35	2.400E-02	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-10	2.975E-
10	7.692E-10	1.507E-09	2.586E-09	4.086E-09	6.087E-09		
34	2.200E-02	0.000E+00	1.000E-10	2.400E-08	6.681E-08		1.402E-
07	2.506E-07	4.030E-07	6.017E-07	8.502E-07	1.151E-06		
33	2.000E-02	0.000E+00	1.000E-10	8.622E-06	2.058E-05		3.697E-
05	5.717E-05	8.080E-05	1.075E-04	1.371E-04	1.692E-04		
32	1.950E-02	0.000E+00	1.000E-10	5.334E-04	9.658E-04		1.372E-
03	1.747E-03	2.096E-03	2.423E-03	2.729E-03	3.016E-03		
31	1.850E-02	5.717E-02	5.717E-02	5.557E-02	5.470E-02		5.382E-
02	5.294E-02	5.209E-02	5.126E-02	5.046E-02	4.970E-02		
30	1.800E-02	8.393E-02	8.393E-02	8.154E-02	8.028E-02		7.903E-
02	7.780E-02	7.661E-02	7.545E-02	7.432E-02	7.326E-02		
29	1.700E-02	1.095E-01	1.095E-01	1.088E-01	1.083E-01		1.076E-
01	1.069E-01	1.061E-01	1.053E-01	1.044E-01	1.035E-01		
28	1.600E-02	1.222E-01	1.222E-01	1.219E-01	1.216E-01		1.212E-
01	1.207E-01	1.201E-01	1.195E-01	1.188E-01	1.181E-01		
27	1.500E-02	1.306E-01	1.306E-01	1.302E-01	1.300E-01		1.296E-
01	1.292E-01	1.287E-01	1.282E-01	1.275E-01	1.268E-01		
26	1.400E-02	1.376E-01	1.376E-01	1.373E-01	1.371E-01		1.367E-
01	1.363E-01	1.357E-01	1.352E-01	1.345E-01	1.338E-01		
25	1.300E-02	1.449E-01	1.449E-01	1.445E-01	1.442E-01		1.439E-
01	1.434E-01	1.428E-01	1.421E-01	1.414E-01	1.406E-01		
24	1.200E-02	1.531E-01	1.531E-01	1.528E-01	1.525E-01		1.521E-
01	1.516E-01	1.510E-01	1.504E-01	1.496E-01	1.487E-01		
23	1.100E-02	1.632E-01	1.632E-01	1.632E-01	1.630E-01		1.628E-
01	1.624E-01	1.619E-01	1.613E-01	1.606E-01	1.597E-01		
22	1.000E-02	1.780E-01	1.780E-01	1.780E-01	1.779E-01		1.777E-
01	1.775E-01	1.771E-01	1.767E-01	1.762E-01	1.756E-01		
21	9.000E-03	1.964E-01	1.964E-01	1.963E-01	1.962E-01		1.961E-
01	1.959E-01	1.957E-01	1.954E-01	1.951E-01	1.947E-01		
20	8.000E-03	2.173E-01	2.173E-01	2.173E-01	2.172E-01		2.172E-
01	2.171E-01	2.170E-01	2.169E-01	2.167E-01	2.164E-01		
19	6.700E-03	2.487E-01	2.487E-01	2.487E-01	2.487E-01		2.488E-
01	2.489E-01	2.490E-01	2.491E-01	2.492E-01	2.493E-01		
18	5.500E-03	2.810E-01	2.810E-01	2.814E-01	2.817E-01		2.822E-
01	2.826E-01	2.831E-01	2.836E-01	2.841E-01	2.846E-01		
17	4.500E-03	3.155E-01	3.155E-01	3.171E-01	3.181E-01		3.193E-
01	3.206E-01	3.220E-01	3.233E-01	3.250E-01	3.272E-01		
16	3.700E-03	3.607E-01	3.607E-01	3.672E-01	3.710E-01		3.750E-
01	3.792E-01	3.836E-01	3.883E-01	3.933E-01	3.981E-01		
15	3.100E-03	4.391E-01	4.391E-01	4.504E-01	4.566E-01		4.629E-
01	4.692E-01	4.754E-01	4.814E-01	4.872E-01	4.928E-01		
14	2.600E-03	5.254E-01	5.254E-01	5.452E-01	5.550E-01		5.644E-
01	5.732E-01	5.814E-01	5.889E-01	5.958E-01	6.022E-01		
13	2.200E-03	6.240E-01	6.240E-01	6.586E-01	6.730E-01		6.847E-
01	6.944E-01	7.024E-01	7.093E-01	7.152E-01	7.203E-01		
12	1.900E-03	8.118E-01	8.118E-01	8.215E-01	8.240E-01		8.256E-
01	8.269E-01	8.280E-01	8.291E-01	8.301E-01	8.311E-01		
11	1.700E-03	9.964E-01	9.964E-01	9.592E-01	9.426E-01		9.314E-
01	9.236E-01	9.181E-01	9.141E-01	9.111E-01	9.088E-01		
10	1.500E-03	1.000E+00	1.000E+00	9.971E-01	9.934E-01		9.895E-
01	9.857E-01	9.822E-01	9.789E-01	9.758E-01	9.729E-01		
9	1.400E-03	1.000E+00	1.000E+00	9.996E-01	9.987E-01		9.975E-
01	9.960E-01	9.943E-01	9.925E-01	9.906E-01	9.886E-01		
8	1.200E-03	1.000E+00	1.000E+00	1.000E+00	9.999E-01		9.998E-
01	9.996E-01	9.993E-01	9.990E-01	9.986E-01	9.981E-01		
7	1.000E-03	1.000E+00	1.000E+00	1.000E+00	1.000E+00		1.000E+
00	1.000E+00	9.999E-01	9.999E-01	9.998E-01	9.997E-01		
6	8.000E-04	1.000E+00	1.000E+00	1.000E+00	1.000E+00		1.000E+





34	2.200E-02	1.507E-06	1.919E-06	2.388E-06	2.915E-06	3.500E-
06	4.145E-06	4.848E-06	5.611E-06	6.439E-06	7.361E-06	
33	2.000E-02	2.036E-04	2.402E-04	2.787E-04	3.190E-04	3.610E-
04	4.044E-04	4.493E-04	4.954E-04	5.430E-04	5.932E-04	
32	1.950E-02	3.287E-03	3.542E-03	3.783E-03	4.010E-03	4.225E-
03	4.428E-03	4.620E-03	4.801E-03	4.974E-03	5.141E-03	
31	1.850E-02	4.896E-02	4.826E-02	4.759E-02	4.694E-02	4.632E-
02	4.572E-02	4.514E-02	4.458E-02	4.403E-02	4.350E-02	
30	1.800E-02	7.224E-02	7.124E-02	7.028E-02	6.934E-02	6.842E-
02	6.753E-02	6.665E-02	6.578E-02	6.492E-02	6.408E-02	
29	1.700E-02	1.026E-01	1.016E-01	1.007E-01	9.968E-02	9.869E-
02	9.768E-02	9.666E-02	9.563E-02	9.459E-02	9.354E-02	
28	1.600E-02	1.173E-01	1.164E-01	1.156E-01	1.147E-01	1.137E-
01	1.127E-01	1.117E-01	1.107E-01	1.097E-01	1.086E-01	
27	1.500E-02	1.261E-01	1.253E-01	1.244E-01	1.236E-01	1.226E-
01	1.217E-01	1.207E-01	1.196E-01	1.186E-01	1.175E-01	
26	1.400E-02	1.330E-01	1.321E-01	1.312E-01	1.303E-01	1.293E-
01	1.282E-01	1.272E-01	1.260E-01	1.249E-01	1.237E-01	
25	1.300E-02	1.397E-01	1.388E-01	1.378E-01	1.367E-01	1.356E-
01	1.344E-01	1.331E-01	1.319E-01	1.306E-01	1.292E-01	
24	1.200E-02	1.477E-01	1.467E-01	1.456E-01	1.444E-01	1.432E-
01	1.418E-01	1.405E-01	1.391E-01	1.376E-01	1.361E-01	
23	1.100E-02	1.588E-01	1.578E-01	1.567E-01	1.556E-01	1.543E-
01	1.530E-01	1.517E-01	1.502E-01	1.488E-01	1.473E-01	
22	1.000E-02	1.749E-01	1.741E-01	1.733E-01	1.724E-01	1.714E-
01	1.704E-01	1.693E-01	1.681E-01	1.669E-01	1.656E-01	
21	9.000E-03	1.942E-01	1.937E-01	1.931E-01	1.924E-01	1.917E-
01	1.909E-01	1.901E-01	1.892E-01	1.883E-01	1.873E-01	
20	8.000E-03	2.161E-01	2.158E-01	2.154E-01	2.149E-01	2.144E-
01	2.138E-01	2.132E-01	2.125E-01	2.118E-01	2.111E-01	
19	6.700E-03	2.493E-01	2.492E-01	2.492E-01	2.491E-01	2.489E-
01	2.487E-01	2.485E-01	2.482E-01	2.479E-01	2.476E-01	
18	5.500E-03	2.851E-01	2.857E-01	2.862E-01	2.867E-01	2.871E-
01	2.876E-01	2.880E-01	2.884E-01	2.887E-01	2.890E-01	
17	4.500E-03	3.294E-01	3.316E-01	3.336E-01	3.356E-01	3.375E-
01	3.393E-01	3.410E-01	3.426E-01	3.442E-01	3.457E-01	
16	3.700E-03	4.027E-01	4.070E-01	4.111E-01	4.149E-01	4.186E-
01	4.221E-01	4.253E-01	4.284E-01	4.313E-01	4.340E-01	
15	3.100E-03	4.981E-01	5.032E-01	5.079E-01	5.124E-01	5.165E-
01	5.204E-01	5.240E-01	5.274E-01	5.306E-01	5.335E-01	
14	2.600E-03	6.079E-01	6.132E-01	6.181E-01	6.225E-01	6.265E-
01	6.302E-01	6.335E-01	6.366E-01	6.395E-01	6.421E-01	
13	2.200E-03	7.247E-01	7.287E-01	7.322E-01	7.353E-01	7.380E-
01	7.405E-01	7.428E-01	7.448E-01	7.466E-01	7.482E-01	
12	1.900E-03	8.321E-01	8.330E-01	8.339E-01	8.346E-01	8.354E-
01	8.360E-01	8.366E-01	8.371E-01	8.375E-01	8.378E-01	
11	1.700E-03	9.070E-01	9.056E-01	9.043E-01	9.033E-01	9.024E-
01	9.015E-01	9.008E-01	9.000E-01	8.993E-01	8.986E-01	
10	1.500E-03	9.703E-01	9.679E-01	9.656E-01	9.635E-01	9.615E-
01	9.596E-01	9.578E-01	9.562E-01	9.546E-01	9.530E-01	
9	1.400E-03	9.867E-01	9.848E-01	9.829E-01	9.811E-01	9.793E-
01	9.776E-01	9.759E-01	9.743E-01	9.727E-01	9.712E-01	
8	1.200E-03	9.975E-01	9.969E-01	9.963E-01	9.956E-01	9.949E-
01	9.942E-01	9.934E-01	9.926E-01	9.918E-01	9.910E-01	
7	1.000E-03	9.996E-01	9.995E-01	9.993E-01	9.992E-01	9.990E-
01	9.987E-01	9.985E-01	9.982E-01	9.979E-01	9.976E-01	
6	8.000E-04	9.999E-01	9.999E-01	9.999E-01	9.999E-01	9.998E-
01	9.998E-01	9.997E-01	9.996E-01	9.995E-01	9.995E-01	
5	6.000E-04	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+
00	1.000E+00	9.999E-01	9.999E-01	9.999E-01	9.999E-01	
4	4.000E-04	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+
00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	
3	2.000E-04	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+
00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	
2	1.000E-04	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+
00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	

1	0.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+
00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	
0	X=	2.000E-03	2.200E-03	2.400E-03	2.600E-03	2.800E-	
03	3.000E-03	3.300E-03	3.600E-03	3.900E-03	4.200E-03		
0	K=	21	22	23	24	25	
26	27	28	29	30			
I	Y						
59	7.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
58	7.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
57	7.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
56	6.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
55	6.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
54	6.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
53	6.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
52	6.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
51	5.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
50	5.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
49	5.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
48	5.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
47	4.900E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
46	4.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
45	4.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
44	4.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
43	4.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
42	3.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
41	3.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
40	3.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
39	3.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
38	3.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
37	2.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
36	2.600E-02	1.816E-10	5.427E-10	1.009E-09	1.594E-09	2.314E-	
09	3.463E-09	5.244E-09	7.467E-09	1.017E-08	1.338E-08		
35	2.400E-02	8.756E-08	1.187E-07	1.559E-07	1.994E-07	2.494E-	
07	3.231E-07	4.278E-07	5.482E-07	6.839E-07	8.340E-07		
34	2.200E-02	8.532E-06	1.065E-05	1.299E-05	1.554E-05	1.829E-	
05	2.207E-05	2.701E-05	3.224E-05	3.771E-05	4.336E-05		
33	2.000E-02	6.511E-04	7.527E-04	8.568E-04	9.628E-04	1.070E-	
03	1.206E-03	1.370E-03	1.532E-03	1.690E-03	1.844E-03		
32	1.950E-02	5.310E-03	5.598E-03	5.852E-03	6.076E-03	6.275E-	
03	6.498E-03	6.723E-03	6.906E-03	7.052E-03	7.163E-03		
31	1.850E-02	4.297E-02	4.195E-02	4.089E-02	3.996E-02	3.907E-	
02	3.820E-02	3.696E-02	3.575E-02	3.460E-02	3.348E-02		
30	1.800E-02	6.323E-02	6.159E-02	5.980E-02	5.800E-02	5.649E-	



58	7.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
57	7.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
56	6.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
55	6.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
54	6.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
53	6.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
52	6.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
51	5.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
50	5.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
49	5.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
48	5.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
47	4.900E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
46	4.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
45	4.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
44	4.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
43	4.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
42	3.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
41	3.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
40	3.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
39	3.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
38	3.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
37	2.800E-02	1.000E-10	1.063E-10	2.602E-10	4.492E-10	7.120E-10	7.120E-10
10	1.069E-09	1.495E-09	1.990E-09	2.556E-09	3.194E-09	4.718E-09	4.718E-09
36	2.600E-02	1.711E-08	2.224E-08	2.913E-08	3.701E-08	4.718E-08	4.718E-08
08	5.999E-08	7.417E-08	8.962E-08	1.062E-07	1.239E-07	1.239E-07	1.239E-07
35	2.400E-02	9.978E-07	1.208E-06	1.469E-06	1.746E-06	2.079E-06	2.079E-06
06	2.466E-06	2.865E-06	3.273E-06	3.685E-06	4.101E-06	4.101E-06	4.101E-06
34	2.200E-02	4.914E-05	5.607E-05	6.407E-05	7.199E-05	8.082E-05	8.082E-05
05	9.038E-05	9.961E-05	1.085E-04	1.170E-04	1.251E-04	1.251E-04	1.251E-04
33	2.000E-02	1.993E-03	2.160E-03	2.341E-03	2.509E-03	2.684E-03	2.684E-03
03	2.861E-03	3.019E-03	3.159E-03	3.281E-03	3.387E-03	3.387E-03	3.387E-03
32	1.950E-02	7.248E-03	7.323E-03	7.374E-03	7.384E-03	7.369E-03	7.369E-03
03	7.328E-03	7.261E-03	7.173E-03	7.064E-03	6.941E-03	6.941E-03	6.941E-03
31	1.850E-02	3.242E-02	3.138E-02	3.006E-02	2.876E-02	2.742E-02	2.742E-02
02	2.600E-02	2.464E-02	2.333E-02	2.206E-02	2.084E-02	2.084E-02	2.084E-02
30	1.800E-02	4.539E-02	4.376E-02	4.166E-02	3.964E-02	3.776E-02	3.776E-02
02	3.558E-02	3.352E-02	3.158E-02	2.971E-02	2.797E-02	2.797E-02	2.797E-02
29	1.700E-02	6.629E-02	6.365E-02	6.017E-02	5.680E-02	5.370E-02	5.370E-02
02	5.037E-02	4.729E-02	4.448E-02	4.186E-02	3.936E-02	3.936E-02	3.936E-02
28	1.600E-02	8.013E-02	7.698E-02	7.266E-02	6.853E-02	6.463E-02	6.463E-02
02	6.023E-02	5.626E-02	5.262E-02	4.924E-02	4.598E-02	4.598E-02	4.598E-02
27	1.500E-02	8.775E-02	8.452E-02	8.012E-02	7.585E-02	7.178E-02	7.178E-02
02	6.697E-02	6.260E-02	5.852E-02	5.470E-02	5.106E-02	5.106E-02	5.106E-02
26	1.400E-02	9.186E-02	8.845E-02	8.413E-02	8.003E-02	7.583E-02	7.583E-02
02	7.103E-02	6.658E-02	6.254E-02	5.872E-02	5.512E-02	5.512E-02	5.512E-02

25	1.300E-02	9.404E-02	9.071E-02	8.620E-02	8.204E-02	7.806E-
02	7.350E-02	6.942E-02	6.553E-02	6.203E-02	5.876E-02	
24	1.200E-02	9.758E-02	9.403E-02	8.966E-02	8.565E-02	8.169E-
02	7.697E-02	7.315E-02	6.952E-02	6.595E-02	6.287E-02	
23	1.100E-02	1.075E-01	1.037E-01	9.889E-02	9.443E-02	9.030E-
02	8.549E-02	8.113E-02	7.718E-02	7.344E-02	7.000E-02	
22	1.000E-02	1.293E-01	1.254E-01	1.203E-01	1.155E-01	1.110E-
01	1.056E-01	1.006E-01	9.611E-02	9.195E-02	8.818E-02	
21	9.000E-03	1.553E-01	1.516E-01	1.468E-01	1.421E-01	1.375E-
01	1.321E-01	1.269E-01	1.221E-01	1.177E-01	1.136E-01	
20	8.000E-03	1.836E-01	1.803E-01	1.759E-01	1.716E-01	1.673E-
01	1.622E-01	1.573E-01	1.526E-01	1.480E-01	1.437E-01	
19	6.700E-03	2.282E-01	2.255E-01	2.217E-01	2.179E-01	2.142E-
01	2.095E-01	2.050E-01	2.007E-01	1.964E-01	1.921E-01	
18	5.500E-03	2.826E-01	2.808E-01	2.780E-01	2.751E-01	2.720E-
01	2.680E-01	2.639E-01	2.600E-01	2.562E-01	2.523E-01	
17	4.500E-03	3.582E-01	3.577E-01	3.566E-01	3.550E-01	3.532E-
01	3.505E-01	3.476E-01	3.446E-01	3.414E-01	3.381E-01	
16	3.700E-03	4.648E-01	4.657E-01	4.663E-01	4.665E-01	4.662E-
01	4.655E-01	4.644E-01	4.632E-01	4.618E-01	4.600E-01	
15	3.100E-03	5.670E-01	5.682E-01	5.694E-01	5.702E-01	5.706E-
01	5.707E-01	5.705E-01	5.703E-01	5.698E-01	5.690E-01	
14	2.600E-03	6.693E-01	6.702E-01	6.711E-01	6.718E-01	6.722E-
01	6.722E-01	6.721E-01	6.720E-01	6.717E-01	6.712E-01	
13	2.200E-03	7.620E-01	7.621E-01	7.621E-01	7.620E-01	7.617E-
01	7.610E-01	7.603E-01	7.595E-01	7.588E-01	7.580E-01	
12	1.900E-03	8.353E-01	8.343E-01	8.332E-01	8.320E-01	8.307E-
01	8.291E-01	8.274E-01	8.258E-01	8.243E-01	8.228E-01	
11	1.700E-03	8.829E-01	8.811E-01	8.790E-01	8.771E-01	8.749E-
01	8.725E-01	8.701E-01	8.678E-01	8.657E-01	8.636E-01	
10	1.500E-03	9.257E-01	9.231E-01	9.203E-01	9.176E-01	9.147E-
01	9.115E-01	9.085E-01	9.057E-01	9.029E-01	9.003E-01	
9	1.400E-03	9.429E-01	9.402E-01	9.372E-01	9.343E-01	9.313E-
01	9.280E-01	9.248E-01	9.218E-01	9.189E-01	9.161E-01	
8	1.200E-03	9.692E-01	9.666E-01	9.638E-01	9.611E-01	9.581E-
01	9.549E-01	9.518E-01	9.487E-01	9.458E-01	9.429E-01	
7	1.000E-03	9.849E-01	9.830E-01	9.808E-01	9.786E-01	9.762E-
01	9.735E-01	9.707E-01	9.681E-01	9.654E-01	9.628E-01	
6	8.000E-04	9.932E-01	9.920E-01	9.905E-01	9.890E-01	9.872E-
01	9.852E-01	9.831E-01	9.809E-01	9.787E-01	9.765E-01	
5	6.000E-04	9.971E-01	9.964E-01	9.955E-01	9.945E-01	9.934E-
01	9.919E-01	9.904E-01	9.888E-01	9.871E-01	9.854E-01	
4	4.000E-04	9.988E-01	9.984E-01	9.979E-01	9.973E-01	9.965E-
01	9.956E-01	9.945E-01	9.933E-01	9.921E-01	9.907E-01	
3	2.000E-04	9.994E-01	9.992E-01	9.989E-01	9.985E-01	9.980E-
01	9.973E-01	9.965E-01	9.956E-01	9.946E-01	9.935E-01	
2	1.000E-04	9.996E-01	9.994E-01	9.991E-01	9.988E-01	9.983E-
01	9.977E-01	9.970E-01	9.961E-01	9.952E-01	9.941E-01	
1	0.000E+00	9.996E-01	9.994E-01	9.991E-01	9.988E-01	9.983E-
01	9.977E-01	9.970E-01	9.961E-01	9.952E-01	9.941E-01	
0	X=	9.000E-03	9.500E-03	1.000E-02	1.500E-02	2.000E-
02	3.000E-02	4.000E-02	5.500E-02	6.000E-02	7.500E-02	
0	K=	41	42	43	44	45
46	47	48	49	50		
I	Y					
59	7.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
58	7.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
57	7.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
56	6.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
55	6.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
54	6.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-

10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
53	6.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
52	6.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
51	5.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
50	5.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
49	5.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
48	5.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
47	4.900E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
46	4.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
45	4.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
44	4.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	
43	4.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	2.439E-10	
42	3.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	1.000E-10	1.332E-10	5.054E-10	1.767E-09		
41	3.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	1.000E-10	2.568E-10	1.017E-09	3.312E-09	1.068E-08		
40	3.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-
10	2.387E-10	1.969E-09	7.199E-09	2.155E-08	6.338E-08		
39	3.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.069E-10	5.317E-
10	2.469E-09	1.538E-08	5.135E-08	1.391E-07	3.681E-07		
38	3.000E-02	1.000E-10	1.000E-10	1.000E-10	4.048E-10	1.935E-09	6.647E-
09	2.466E-08	1.227E-07	3.669E-07	8.844E-07	2.072E-06		
37	2.800E-02	3.901E-09	4.679E-09	1.318E-08	3.554E-08		8.781E-
08	2.576E-07	1.004E-06	2.606E-06	5.473E-06	1.115E-05		
36	2.600E-02	1.425E-07	1.620E-07	3.297E-07	6.370E-07		1.204E-
06	2.823E-06	8.366E-06	1.811E-05	3.227E-05	5.594E-05		
35	2.400E-02	4.516E-06	4.937E-06	7.922E-06	1.173E-05		1.768E-
05	3.266E-05	6.931E-05	1.181E-04	1.730E-04	2.494E-04		
34	2.200E-02	1.328E-04	1.406E-04	1.862E-04	2.263E-04		2.768E-
04	3.677E-04	5.062E-04	6.425E-04	7.565E-04	9.027E-04		
33	2.000E-02	3.477E-03	3.552E-03	3.795E-03	3.736E-03		3.348E-
03	2.886E-03	2.554E-03	2.462E-03	2.407E-03	2.473E-03		
32	1.950E-02	6.807E-03	6.665E-03	6.349E-03	5.554E-03		4.593E-
03	3.778E-03	3.241E-03	3.067E-03	2.953E-03	2.999E-03		
31	1.850E-02	1.965E-02	1.851E-02	1.508E-02	1.116E-02		8.050E-
03	6.076E-03	4.939E-03	4.538E-03	4.277E-03	4.263E-03		
30	1.800E-02	2.631E-02	2.472E-02	1.965E-02	1.424E-02		9.868E-
03	7.296E-03	5.861E-03	5.354E-03	5.023E-03	4.986E-03		
29	1.700E-02	3.687E-02	3.382E-02	2.766E-02	1.960E-02		1.348E-
02	9.775E-03	7.811E-03	7.147E-03	6.698E-03	6.629E-03		
28	1.600E-02	4.275E-02	3.903E-02	3.431E-02	2.361E-02		1.691E-
02	1.230E-02	9.950E-03	9.217E-03	8.677E-03	8.596E-03		
27	1.500E-02	4.752E-02	4.408E-02	4.055E-02	2.730E-02		2.012E-
02	1.524E-02	1.256E-02	1.180E-02	1.114E-02	1.104E-02		
26	1.400E-02	5.178E-02	4.869E-02	4.584E-02	3.085E-02		2.323E-
02	1.860E-02	1.606E-02	1.522E-02	1.434E-02	1.414E-02		
25	1.300E-02	5.570E-02	5.282E-02	5.015E-02	3.529E-02		2.735E-
02	2.278E-02	2.056E-02	1.959E-02	1.839E-02	1.799E-02		
24	1.200E-02	6.001E-02	5.719E-02	5.458E-02	4.100E-02		3.326E-
02	2.868E-02	2.638E-02	2.505E-02	2.335E-02	2.270E-02		
23	1.100E-02	6.687E-02	6.398E-02	6.115E-02	4.874E-02		4.136E-
02	3.691E-02	3.438E-02	3.210E-02	2.966E-02	2.862E-02		
22	1.000E-02	3.482E-02	3.190E-02	2.924E-02	2.256E-02		5.389E-
02	4.905E-02	4.580E-02	4.128E-02	3.776E-02	3.622E-02		
21	9.000E-03	1.099E-01	1.067E-01	1.041E-01	8.375E-02		7.479E-

02	6.794E-02	6.295E-02	5.396E-02	4.877E-02	4.621E-02		
20	8.000E-03	1.396E-01	1.358E-01	1.322E-01	1.098E-01	1.007E-	
01	9.449E-02	8.757E-02	7.213E-02	6.408E-02	5.955E-02		
19	6.700E-03	1.879E-01	1.838E-01	1.797E-01	1.572E-01	1.431E-	
01	1.381E-01	1.268E-01	1.034E-01	9.307E-01	8.503E-02		
18	5.500E-03	2.485E-01	2.446E-01	2.407E-01	2.204E-01	2.009E-	
01	1.926E-01	1.718E-01	1.411E-01	1.267E-01	1.156E-01		
17	4.500E-03	3.347E-01	3.310E-01	3.267E-01	2.933E-01	2.664E-	
01	2.549E-01	2.215E-01	1.861E-01	1.610E-01	1.456E-01		
16	3.700E-03	4.577E-01	4.545E-01	4.493E-01	3.904E-01	3.543E-	
01	3.180E-01	2.701E-01	2.319E-01	1.971E-01	1.763E-01		
15	3.100E-03	5.676E-01	5.649E-01	5.587E-01	5.115E-01	4.686E-	
01	3.913E-01	3.259E-01	2.731E-01	2.298E-01	2.038E-01		
14	2.600E-03	6.704E-01	6.685E-01	6.598E-01	6.203E-01	5.721E-	
01	4.899E-01	4.061E-01	3.135E-01	2.616E-01	2.298E-01		
13	2.200E-03	7.571E-01	7.558E-01	7.440E-01	7.083E-01	6.565E-	
01	5.712E-01	4.731E-01	3.565E-01	2.892E-01	2.526E-01		
12	1.900E-03	8.213E-01	8.197E-01	8.061E-01	7.717E-01	7.178E-	
01	6.308E-01	5.236E-01	4.058E-01	3.114E-01	2.706E-01		
11	1.700E-03	8.615E-01	8.595E-01	8.448E-01	8.109E-01	7.563E-	
01	6.686E-01	5.567E-01	4.377E-01	3.302E-01	2.828E-01		
10	1.500E-03	8.977E-01	8.953E-01	8.798E-01	8.466E-01	7.919E-	
01	7.041E-01	5.884E-01	4.684E-01	3.586E-01	2.956E-01		
9	1.400E-03	9.134E-01	9.108E-01	8.953E-01	8.626E-01	8.082E-	
01	7.206E-01	6.034E-01	4.831E-01	3.724E-01	3.020E-01		
8	1.200E-03	9.402E-01	9.375E-01	9.221E-01	8.909E-01	8.375E-	
01	7.508E-01	6.313E-01	5.108E-01	3.985E-01	3.143E-01		
7	1.000E-03	9.602E-01	9.577E-01	9.432E-01	9.136E-01	8.619E-	
01	7.764E-01	6.556E-01	5.351E-01	4.212E-01	3.252E-01		
6	8.000E-04	9.743E-01	9.721E-01	9.589E-01	9.313E-01	8.813E-	
01	7.974E-01	6.759E-01	5.553E-01	4.394E-01	3.355E-01		
5	6.000E-04	9.836E-01	9.817E-01	9.700E-01	9.442E-01	8.960E-	
01	8.135E-01	6.918E-01	5.712E-01	4.539E-01	3.483E-01		
4	4.000E-04	9.892E-01	9.877E-01	9.772E-01	9.530E-01	9.063E-	
01	8.249E-01	7.031E-01	5.827E-01	4.646E-01	3.581E-01		
3	2.000E-04	9.922E-01	9.909E-01	9.813E-01	9.581E-01	9.123E-	
01	8.317E-01	7.099E-01	5.895E-01	4.711E-01	3.642E-01		
2	1.000E-04	9.930E-01	9.917E-01	9.823E-01	9.594E-01	9.138E-	
01	8.334E-01	7.116E-01	5.912E-01	4.726E-01	3.657E-01		
1	0.000E+00	9.930E-01	9.917E-01	9.823E-01	9.594E-01	9.138E-	
01	8.334E-01	7.116E-01	5.912E-01	4.726E-01	3.657E-01		
0		X=	8.000E-02	9.500E-02	1.100E-01	1.250E-01	1.350E-
01	1.450E-01	1.550E-01	1.650E-01	1.750E-01			
0		K=	51	52	53	54	55
56	57	58	59				
I	Y						
59	7.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10			
58	7.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10			
57	7.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10			
56	6.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10			
55	6.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10			
54	6.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10			
53	6.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10			
52	6.000E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10			
51	5.800E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10			
50	5.600E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10			

49	5.400E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
48	5.200E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10
10	1.000E-10	1.000E-10	1.519E-10	1.519E-10	1.519E-10	1.519E-10	1.519E-10
47	4.900E-02	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.107E-10
10	2.910E-10	5.769E-10	1.319E-09	1.319E-09	1.319E-09	1.319E-09	1.319E-09
46	4.600E-02	1.000E-10	1.000E-10	1.000E-10	2.366E-10	6.990E-10	1.356E-10
09	2.494E-09	4.315E-09	8.927E-09	8.927E-09	8.927E-09	8.927E-09	8.927E-09
45	4.400E-02	1.000E-10	2.648E-10	1.307E-09	3.389E-09	6.300E-09	6.300E-09
09	1.116E-08	1.860E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08	3.629E-08
44	4.200E-02	1.321E-10	1.326E-09	5.833E-09	1.436E-08	2.584E-08	2.584E-08
08	4.430E-08	7.145E-08	1.322E-07	1.322E-07	1.322E-07	1.322E-07	1.322E-07
43	4.000E-02	8.851E-10	6.469E-09	2.537E-08	5.900E-08	1.026E-08	1.026E-08
07	1.699E-07	2.646E-07	4.633E-07	4.633E-07	4.633E-07	4.633E-07	4.633E-07
42	3.800E-02	5.220E-09	3.082E-08	1.077E-07	2.359E-07	3.953E-07	3.953E-07
07	6.302E-07	9.463E-07	1.566E-06	1.566E-06	1.566E-06	1.566E-06	1.566E-06
41	3.600E-02	2.916E-08	1.432E-07	4.449E-07	9.133E-07	1.470E-07	1.470E-07
06	2.251E-06	3.252E-06	5.083E-06	5.083E-06	5.083E-06	5.083E-06	5.083E-06
40	3.400E-02	1.588E-07	6.474E-07	1.777E-06	3.404E-06	5.242E-06	5.242E-06
06	7.691E-06	1.067E-05	1.574E-05	1.574E-05	1.574E-05	1.574E-05	1.574E-05
39	3.200E-02	8.372E-07	2.824E-06	6.814E-06	1.211E-05	1.779E-05	1.779E-05
05	2.494E-05	3.319E-05	4.616E-05	4.616E-05	4.616E-05	4.616E-05	4.616E-05
38	3.000E-02	4.231E-06	1.176E-05	2.480E-05	4.071E-05	5.682E-05	5.682E-05
05	7.589E-05	9.675E-05	1.269E-04	1.269E-04	1.269E-04	1.269E-04	1.269E-04
37	2.800E-02	2.017E-05	4.599E-05	8.439E-05	1.272E-04	1.681E-04	1.681E-04
04	2.134E-04	2.604E-04	3.230E-04	3.230E-04	3.230E-04	3.230E-04	3.230E-04
36	2.600E-02	8.833E-05	1.647E-04	2.617E-04	3.610E-04	4.505E-04	4.505E-04
04	5.433E-04	6.352E-04	7.483E-04	7.483E-04	7.483E-04	7.483E-04	7.483E-04
35	2.400E-02	3.392E-04	5.176E-04	7.139E-04	9.027E-04	1.066E-03	1.066E-03
03	1.226E-03	1.380E-03	1.562E-03	1.562E-03	1.562E-03	1.562E-03	1.562E-03
34	2.200E-02	1.060E-03	1.354E-03	1.661E-03	1.961E-03	2.222E-03	2.222E-03
03	2.468E-03	2.707E-03	2.995E-03	2.995E-03	2.995E-03	2.995E-03	2.995E-03
33	2.000E-02	2.603E-03	2.956E-03	3.363E-03	3.808E-03	4.213E-03	4.213E-03
03	4.588E-03	4.961E-03	5.430E-03	5.430E-03	5.430E-03	5.430E-03	5.430E-03
32	1.950E-02	3.127E-03	3.514E-03	3.958E-03	4.462E-03	4.921E-03	4.921E-03
03	5.335E-03	5.754E-03	6.273E-03	6.273E-03	6.273E-03	6.273E-03	6.273E-03
31	1.850E-02	4.381E-03	4.847E-03	5.386E-03	6.027E-03	6.616E-03	6.616E-03
03	7.127E-03	7.653E-03	8.272E-03	8.272E-03	8.272E-03	8.272E-03	8.272E-03
30	1.800E-02	5.106E-03	5.626E-03	6.225E-03	6.955E-03	7.622E-03	7.622E-03
03	8.188E-03	8.775E-03	9.446E-03	9.446E-03	9.446E-03	9.446E-03	9.446E-03
29	1.700E-02	6.770E-03	7.427E-03	8.177E-03	9.120E-03	9.975E-03	9.975E-03
03	1.067E-02	1.139E-02	1.217E-02	1.217E-02	1.217E-02	1.217E-02	1.217E-02
28	1.600E-02	8.783E-03	9.639E-03	1.059E-02	1.181E-02	1.289E-02	1.289E-02
02	1.374E-02	1.459E-02	1.541E-02	1.541E-02	1.541E-02	1.541E-02	1.541E-02
27	1.500E-02	1.129E-02	1.243E-02	1.366E-02	1.518E-02	1.649E-02	1.649E-02
02	1.755E-02	1.842E-02	1.919E-02	1.919E-02	1.919E-02	1.919E-02	1.919E-02
26	1.400E-02	1.446E-02	1.597E-02	1.758E-02	1.928E-02	2.069E-02	2.069E-02
02	2.195E-02	2.287E-02	2.358E-02	2.358E-02	2.358E-02	2.358E-02	2.358E-02
25	1.300E-02	1.836E-02	2.025E-02	2.223E-02	2.414E-02	2.571E-02	2.571E-02
02	2.710E-02	2.804E-02	2.859E-02	2.859E-02	2.859E-02	2.859E-02	2.859E-02
24	1.200E-02	2.319E-02	2.555E-02	2.784E-02	2.990E-02	3.177E-02	3.177E-02
02	3.340E-02	3.418E-02	3.425E-02	3.425E-02	3.425E-02	3.425E-02	3.425E-02
23	1.100E-02	2.920E-02	3.236E-02	3.504E-02	3.703E-02	3.895E-02	3.895E-02
02	4.062E-02	4.107E-02	4.041E-02	4.041E-02	4.041E-02	4.041E-02	4.041E-02
22	1.000E-02	3.695E-02	4.092E-02	4.373E-02	4.549E-02	4.719E-02	4.719E-02
02	4.875E-02	4.871E-02	4.710E-02	4.710E-02	4.710E-02	4.710E-02	4.710E-02
21	9.000E-03	4.705E-02	5.148E-02	5.412E-02	5.547E-02	5.686E-02	5.686E-02
02	5.818E-02	5.739E-02	5.457E-02	5.457E-02	5.457E-02	5.457E-02	5.457E-02
20	8.000E-03	6.032E-02	6.503E-02	6.710E-02	6.771E-02	6.854E-02	6.854E-02
02	6.940E-02	6.744E-02	6.313E-02	6.313E-02	6.313E-02	6.313E-02	6.313E-02
19	6.700E-03	8.486E-02	8.843E-02	8.843E-02	8.843E-02	8.843E-02	8.843E-02
02	8.646E-02	8.253E-02	7.632E-02	7.632E-02	7.632E-02	7.632E-02	7.632E-02
18	5.500E-03	1.128E-01	1.127E-01	1.097E-01	1.062E-01	1.038E-01	1.038E-01
01	1.020E-01	9.778E-02	9.038E-02	9.038E-02	9.038E-02	9.038E-02	9.038E-02
17	4.500E-03	1.398E-01	1.350E-01	1.284E-01	1.222E-01	1.180E-01	1.180E-01
01	1.145E-01	1.101E-01	1.022E-01	1.022E-01	1.022E-01	1.022E-01	1.022E-01



16	3.700E-03	1.566E-01	1.561E-01	1.452E-01	1.363E-01	1.301E-
01	1.250E-01	1.194E-01	1.105E-01	1.105E-01		
15	3.100E-03	1.898E-01	1.737E-01	1.589E-01	1.474E-01	1.395E-
01	1.329E-01	1.262E-01	1.164E-01	1.164E-01		
14	2.600E-03	2.109E-01	1.893E-01	1.705E-01	1.566E-01	1.472E-
01	1.392E-01	1.316E-01	1.209E-01	1.209E-01		
13	2.200E-03	2.288E-01	2.020E-01	1.797E-01	1.637E-01	1.530E-
01	1.440E-01	1.356E-01	1.243E-01	1.243E-01		
12	1.900E-03	2.424E-01	2.114E-01	1.863E-01	1.688E-01	1.571E-
01	1.473E-01	1.384E-01	1.265E-01	1.265E-01		
11	1.700E-03	2.514E-01	2.174E-01	1.905E-01	1.719E-01	1.596E-
01	1.493E-01	1.400E-01	1.279E-01	1.279E-01		
10	1.500E-03	2.602E-01	2.232E-01	1.944E-01	1.749E-01	1.619E-
01	1.512E-01	1.416E-01	1.292E-01	1.292E-01		
9	1.400E-03	2.645E-01	2.259E-01	1.962E-01	1.762E-01	1.630E-
01	1.521E-01	1.423E-01	1.297E-01	1.297E-01		
8	1.200E-03	2.727E-01	2.311E-01	1.996E-01	1.788E-01	1.650E-
01	1.536E-01	1.436E-01	1.308E-01	1.308E-01		
7	1.000E-03	2.800E-01	2.356E-01	2.026E-01	1.809E-01	1.667E-
01	1.550E-01	1.447E-01	1.317E-01	1.317E-01		
6	8.000E-04	2.858E-01	2.394E-01	2.051E-01	1.828E-01	1.682E-
01	1.562E-01	1.457E-01	1.325E-01	1.325E-01		
5	6.000E-04	2.907E-01	2.423E-01	2.071E-01	1.842E-01	1.693E-
01	1.571E-01	1.464E-01	1.331E-01	1.331E-01		
4	4.000E-04	2.946E-01	2.445E-01	2.085E-01	1.853E-01	1.702E-
01	1.578E-01	1.470E-01	1.335E-01	1.335E-01		
3	2.000E-04	2.971E-01	2.459E-01	2.093E-01	1.859E-01	1.707E-
01	1.582E-01	1.473E-01	1.338E-01	1.338E-01		
2	1.000E-04	2.978E-01	2.462E-01	2.096E-01	1.861E-01	1.708E-
01	1.583E-01	1.474E-01	1.338E-01	1.338E-01		
1	0.000E+00	2.978E-01	2.462E-01	2.096E-01	1.861E-01	1.708E-
01	1.583E-01	1.474E-01	1.338E-01	1.338E-01		

TEMPERATURE

	K=	0.000E+00	1.000E-04	2.000E-04	3.000E-04	4.000E-
0						
04		5.000E-04	6.000E-04	7.000E-04	8.000E-04	9.000E-04
0	K=	1	2	3	4	5
6		7	8	9	10	
I	Y					
59		7.600E-02	3.000E+02	3.000E-02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
58		7.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
57		7.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
56		6.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
55		6.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
54		6.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
53		6.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
52		6.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
51		5.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
50		5.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
49		5.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
48		5.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
47		4.900E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02

46	4.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
45	4.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
44	4.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
43	4.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
42	3.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
41	3.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
40	3.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
39	3.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
38	3.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
37	2.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
36	2.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
35	2.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
34	2.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
33	2.000E-02	3.000E+02	3.000E+02	3.002E+02	3.006E+02	3.006E+02	3.011E+
02	3.016E+02	3.023E+02	3.031E+02	3.039E+02	3.048E+02	3.048E+02	
32	1.950E-02	3.000E+02	3.000E+02	3.152E+02	3.275E+02	3.275E+02	3.391E+
02	3.498E+02	3.597E+02	3.691E+02	3.778E+02	3.860E+02	3.860E+02	
31	1.850E-02	3.000E+02	3.005E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
30	1.800E-02	3.000E+02	3.014E+02	3.001E+02	3.003E+02	3.003E+02	3.004E+
02	3.005E+02	3.006E+02	3.006E+02	1.972E+03	3.006E+02	3.006E+02	
29	1.700E-02	3.000E+02	3.459E+02	3.197E+02	3.228E+02	3.228E+02	3.264E+
02	3.299E+02	3.329E+02	3.353E+02	3.369E+02	3.378E+02	3.378E+02	
28	1.600E-02	3.000E+02	4.507E+02	3.989E+02	4.047E+02	4.047E+02	4.110E+
02	4.170E+02	4.223E+02	4.266E+02	4.295E+02	4.309E+02	4.309E+02	
27	1.500E-02	3.000E+02	5.127E+02	4.549E+02	4.622E+02	4.622E+02	4.698E+
02	4.773E+02	4.843E+02	4.903E+02	4.950E+02	4.984E+02	4.984E+02	
26	1.400E-02	3.000E+02	5.236E+02	4.649E+02	4.740E+02	4.740E+02	4.834E+
02	4.925E+02	5.010E+02	5.084E+02	5.147E+02	5.195E+02	5.195E+02	
25	1.300E-02	3.000E+02	5.212E+02	4.597E+02	4.693E+02	4.693E+02	4.789E+
02	4.878E+02	4.958E+02	5.026E+02	5.079E+02	5.118E+02	5.118E+02	
24	1.200E-02	3.000E+02	5.397E+02	4.716E+02	4.780E+02	4.780E+02	4.840E+
02	4.892E+02	4.934E+02	4.964E+02	4.982E+02	4.987E+02	4.987E+02	
23	1.100E-02	3.000E+02	5.645E+02	4.890E+02	4.909E+02	4.909E+02	4.926E+
02	4.938E+02	4.943E+02	4.940E+02	4.929E+02	4.908E+02	4.908E+02	
22	1.000E-02	3.000E+02	5.623E+02	4.829E+02	4.882E+02	4.882E+02	4.931E+
02	4.971E+02	5.002E+02	5.022E+02	5.030E+02	5.026E+02	5.026E+02	
21	9.000E-03	3.000E+02	6.291E+02	5.445E+02	5.436E+02	5.436E+02	5.434E+
02	5.433E+02	5.431E+02	5.426E+02	5.414E+02	5.397E+02	5.397E+02	
20	8.000E-03	3.000E+02	6.625E+02	5.786E+02	5.753E+02	5.753E+02	5.729E+
02	5.713E+02	5.699E+02	5.685E+02	5.669E+02	5.649E+02	5.649E+02	
19	6.700E-03	3.000E+02	5.898E+02	5.151E+02	5.130E+02	5.130E+02	5.125E+
02	5.130E+02	5.139E+02	5.149E+02	5.158E+02	5.164E+02	5.164E+02	
18	5.500E-03	3.000E+02	4.155E+02	3.690E+02	3.715E+02	3.715E+02	3.753E+
02	3.794E+02	3.837E+02	3.880E+02	3.922E+02	3.959E+02	3.959E+02	
17	4.500E-03	3.000E+02	3.114E+02	3.032E+02	3.043E+02	3.043E+02	3.056E+
02	3.069E+02	3.082E+02	3.092E+02	3.100E+02	1.111E+03	1.111E+03	
16	3.700E-03	3.000E+02	1.052E+03	1.040E+03	1.034E+03	1.034E+03	1.027E+
03	1.020E+03	1.013E+03	1.006E+03	9.975E+02	9.897E+02	9.897E+02	
15	3.100E-03	3.000E+02	9.276E+02	9.109E+02	9.022E+02	9.022E+02	8.934E+
02	8.846E+02	8.759E+02	8.678E+02	8.599E+02	8.524E+02	8.524E+02	
14	2.600E-03	3.000E+02	8.098E+02	7.350E+02	7.729E+02	7.729E+02	7.615E+
02	7.508E+02	7.411E+02	7.322E+02	7.241E+02	7.167E+02	7.167E+02	

13	2.200E-03	3.000E+02	6.916E+02	6.530E+02	6.372E+02	6.246E+
02	6.142E+02	6.055E+02	5.982E+02	5.920E+02	5.866E+02	
12	1.900E-03	3.000E+02	4.919E+02	4.821E+02	4.795E+02	4.778E+
02	4.766E+02	4.754E+02	4.744E+02	4.733E+02	4.723E+02	
11	1.700E-03	3.000E+02	3.038E+02	3.420E+02	3.591E+02	3.705E+
02	3.785E+02	3.841E+02	3.881E+02	3.912E+02	3.935E+02	
10	1.500E-03	3.000E+02	3.000E+02	3.030E+02	3.069E+02	3.109E+
02	3.148E+02	3.184E+02	3.219E+02	3.250E+02	3.280E+02	
9	1.400E-03	3.000E+02	3.000E+02	3.004E+02	3.013E+02	3.026E+
02	3.041E+02	3.059E+02	3.078E+02	3.097E+02	3.117E+02	
8	1.200E-03	3.000E+02	3.000E+02	3.000E+02	3.001E+02	3.002E+
02	3.004E+02	3.007E+02	3.011E+02	3.015E+02	3.020E+02	
7	1.000E-03	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.001E+02	3.001E+02	3.002E+02	3.003E+02	
6	8.000E-04	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
5	6.000E-04	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
4	4.000E-04	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
3	2.000E-04	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
2	1.000E-04	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
1	0.000E+00	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
0	X=	1.000E-03	1.100E-03	1.200E-03	1.300E-03	1.400E-
03	1.500E-03	1.600E-03	1.700E-03	1.800E-03	1.900E-03	
0	K=	11	12	13	14	15
16	17	18	19	20		
I	Y					
59	7.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
58	7.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
57	7.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
56	6.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
55	6.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
54	6.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
53	6.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
52	6.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
51	5.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
50	5.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
49	5.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
48	5.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
47	4.900E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
46	4.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
45	4.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
44	4.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
43	4.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
42	3.900E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+

02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
41	3.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+	
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
40	3.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+	
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
39	3.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+	
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
38	3.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+	
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
37	2.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+	
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
36	2.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+	
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
35	2.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+	
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
34	2.200E-02	3.000E+02	3.001E+02	3.001E+02	3.001E+02	3.001E+	
02	3.001E+02	3.001E+02	3.002E+02	3.002E+02	3.002E+02		
33	2.000E-02	3.058E+02	3.068E+02	3.079E+02	3.091E+02	3.103E+	
02	3.115E+02	3.128E+02	3.141E+02	3.155E+02	3.169E+02		
32	1.950E-02	3.937E+02	4.010E+02	4.078E+02	4.144E+02	4.204E+	
02	4.263E+02	4.317E+02	4.370E+02	4.418E+02	4.467E+02		
31	1.850E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+	
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
30	1.800E-02	3.006E+02	3.006E+02	3.005E+02	3.005E+02	3.004E+	
02	3.004E+02	3.003E+02	3.002E+02	3.002E+02	3.001E+02		
29	1.700E-02	3.378E+02	3.371E+02	3.356E+02	3.334E+02	3.307E+	
02	3.276E+02	3.243E+02	3.209E+02	3.174E+02	3.142E+02		
28	1.600E-02	4.309E+02	4.292E+02	4.261E+02	4.217E+02	4.160E+	
02	4.093E+02	4.017E+02	3.936E+02	3.852E+02	3.766E+02		
27	1.500E-02	5.002E+02	5.005E+02	4.994E+02	4.969E+02	4.929E+	
02	4.875E+02	4.808E+02	4.729E+02	4.640E+02	4.542E+02		
26	1.400E-02	5.227E+02	5.244E+02	5.244E+02	5.228E+02	5.195E+	
02	5.148E+02	5.086E+02	5.010E+02	4.924E+02	4.831E+02		
25	1.300E-02	5.140E+02	5.145E+02	5.134E+02	5.106E+02	5.062E+	
02	5.004E+02	4.933E+02	4.849E+02	4.756E+02	4.653E+02		
24	1.200E-02	4.978E+02	4.956E+02	4.920E+02	4.872E+02	4.811E+	
02	4.740E+02	4.660E+02	4.571E+02	4.475E+02	4.375E+02		
23	1.100E-02	4.878E+02	4.839E+02	4.791E+02	4.734E+02	4.669E+	
02	4.597E+02	4.519E+02	4.436E+02	4.349E+02	4.259E+02		
22	1.000E-02	5.012E+02	4.986E+02	4.950E+02	4.905E+02	4.852E+	
02	4.791E+02	4.724E+02	4.652E+02	4.576E+02	4.497E+02		
21	9.000E-03	5.372E+02	5.341E+02	5.303E+02	5.257E+02	5.206E+	
02	5.149E+02	5.086E+02	5.019E+02	4.948E+02	4.873E+02		
20	8.000E-03	5.625E+02	5.596E+02	5.562E+02	5.522E+02	5.478E+	
02	5.429E+02	5.375E+02	5.316E+02	5.254E+02	5.188E+02		
19	6.700E-03	5.165E+02	5.162E+02	5.153E+02	5.140E+02	5.120E+	
02	5.095E+02	5.065E+02	5.030E+02	4.990E+02	4.945E+02		
18	5.500E-03	3.991E+02	4.018E+02	4.039E+02	4.054E+02	4.063E+	
02	4.066E+02	4.063E+02	4.054E+02	4.039E+02	4.019E+02		
17	4.500E-03	1.107E+03	1.103E+03	1.100E+03	1.096E+03	1.093E+	
03	1.089E+03	1.086E+03	1.083E+03	1.081E+03	1.078E+03		
16	3.700E-03	9.826E+02	9.759E+02	9.696E+02	9.637E+02	9.580E+	
02	9.527E+02	9.477E+02	9.432E+02	9.390E+02	9.350E+02		
15	3.100E-03	8.452E+02	8.386E+02	8.325E+02	8.267E+02	8.213E+	
02	8.162E+02	8.115E+02	8.072E+02	8.033E+02	7.996E+02		
14	2.600E-03	7.100E+02	7.040E+02	6.984E+02	6.934E+02	6.888E+	
02	6.847E+02	6.809E+02	6.774E+02	6.743E+02	6.713E+02		
13	2.200E-03	5.819E+02	5.778E+02	5.741E+02	5.709E+02	5.680E+	
02	5.654E+02	5.630E+02	5.609E+02	5.590E+02	5.573E+02		
12	1.900E-03	4.713E+02	4.704E+02	4.695E+02	4.687E+02	4.680E+	
02	4.673E+02	4.668E+02	4.663E+02	4.658E+02	4.655E+02		
11	1.700E-03	3.953E+02	3.968E+02	3.980E+02	3.991E+02	4.000E+	
02	4.009E+02	4.017E+02	4.024E+02	4.031E+02	4.038E+02		
10	1.500E-03	3.307E+02	3.332E+02	3.355E+02	3.377E+02	3.397E+	
02	3.417E+02	3.435E+02	3.452E+02	3.468E+02	3.484E+02		
9	1.400E-03	3.137E+02	3.157E+02	3.177E+02	3.196E+02	3.214E+	



37	2.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
36	2.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
35	2.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
34	2.200E-02	3.002E+02	3.003E+02	3.004E+02	3.004E+02	3.004E+02	3.005E+
02	3.006E+02	3.008E+02	3.009E+02	3.011E+02	3.012E+02	3.012E+02	
33	2.000E-02	3.186E+02	3.215E+02	3.244E+02	3.244E+02	3.274E+02	3.305E+
02	3.344E+02	3.390E+02	3.437E+02	3.482E+02	3.526E+02	3.526E+02	
32	1.950E-02	4.513E+02	4.596E+02	4.668E+02	4.732E+02	4.732E+02	4.788E+
02	4.852E+02	4.916E+02	4.968E+02	5.010E+02	5.042E+02	5.042E+02	
31	1.850E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
30	1.800E-02	2.185E+03	3.005E+02	2.231E+03	3.002E+02	3.002E+02	3.002E+
02	3.006E+02	3.010E+02	3.008E+02	3.007E+02	3.006E+02	3.006E+02	
29	1.700E-02	3.277E+02	3.328E+02	3.219E+02	3.219E+02	1.883E+03	1.869E+
03	1.908E+03	3.233E+02	1.945E+03	2.062E+03	1.858E+03	1.858E+03	
28	1.600E-02	4.195E+02	4.404E+02	4.173E+02	3.976E+02	3.976E+02	3.805E+
02	3.906E+02	3.882E+02	1.860E+03	1.885E+03	1.898E+03	1.898E+03	
27	1.500E-02	5.182E+02	5.523E+02	5.261E+02	5.008E+02	5.008E+02	4.765E+
02	4.946E+02	4.935E+02	4.584E+02	4.259E+02	1.853E+03	1.853E+03	
26	1.400E-02	5.523E+02	5.905E+02	5.653E+02	5.401E+02	5.401E+02	5.153E+
02	5.365E+02	5.374E+02	5.008E+02	4.661E+02	4.334E+02	4.334E+02	
25	1.300E-02	5.294E+02	5.631E+02	5.385E+02	5.140E+02	5.140E+02	4.900E+
02	5.091E+02	5.089E+02	4.731E+02	4.390E+02	4.070E+02	4.070E+02	
24	1.200E-02	4.953E+02	5.269E+02	5.033E+02	4.804E+02	4.804E+02	4.593E+
02	4.776E+02	4.795E+02	4.486E+02	4.192E+02	3.918E+02	3.918E+02	
23	1.100E-02	4.815E+02	5.147E+02	4.956E+02	4.766E+02	4.766E+02	4.581E+
02	4.784E+02	4.853E+02	4.620E+02	4.391E+02	4.170E+02	4.170E+02	
22	1.000E-02	5.099E+02	5.463E+02	5.283E+02	5.106E+02	5.106E+02	4.932E+
02	5.170E+02	5.272E+02	5.039E+02	4.816E+02	4.601E+02	4.601E+02	
21	9.000E-03	5.520E+02	5.906E+02	5.737E+02	5.572E+02	5.572E+02	5.410E+
02	5.682E+02	5.815E+02	5.599E+02	5.391E+02	5.186E+02	5.186E+02	
20	8.000E-03	5.853E+02	6.259E+02	6.116E+02	5.974E+02	5.974E+02	5.832E+
02	6.121E+02	6.281E+02	6.089E+02	5.900E+02	5.711E+02	5.711E+02	
19	6.700E-03	5.564E+02	5.965E+02	5.863E+02	5.759E+02	5.759E+02	5.651E+
02	5.936E+02	6.110E+02	5.963E+02	5.814E+02	5.662E+02	5.662E+02	
18	5.500E-03	4.485E+02	4.813E+02	4.740E+02	4.664E+02	4.664E+02	4.585E+
02	4.813E+02	4.954E+02	4.841E+02	4.732E+02	4.627E+02	4.627E+02	
17	4.500E-03	1.075E+03	1.071E+03	1.067E+03	1.064E+03	1.064E+03	1.061E+
03	1.059E+03	1.054E+03	1.056E+03	1.055E+03	1.055E+03	1.055E+03	
16	3.700E-03	9.312E+02	9.245E+02	9.181E+02	9.134E+02	9.134E+02	9.059E+
02	9.053E+02	9.017E+02	8.972E+02	8.992E+02	8.923E+02	8.923E+02	
15	3.100E-03	7.962E+02	7.900E+02	7.847E+02	7.800E+02	7.800E+02	7.761E+
02	7.728E+02	7.686E+02	7.652E+02	7.625E+02	7.602E+02	7.602E+02	
14	2.600E-03	6.687E+02	6.640E+02	6.600E+02	6.567E+02	6.567E+02	6.538E+
02	6.514E+02	6.484E+02	6.461E+02	6.442E+02	6.426E+02	6.426E+02	
13	2.200E-03	5.558E+02	5.532E+02	5.510E+02	5.493E+02	5.493E+02	5.479E+
02	5.467E+02	5.454E+02	5.445E+02	5.438E+02	5.434E+02	5.434E+02	
12	1.900E-03	4.652E+02	4.648E+02	4.646E+02	4.645E+02	4.645E+02	4.646E+
02	4.648E+02	4.653E+02	4.659E+02	4.666E+02	4.673E+02	4.673E+02	
11	1.700E-03	4.046E+02	4.060E+02	4.073E+02	4.085E+02	4.085E+02	4.097E+
02	4.112E+02	4.130E+02	4.148E+02	4.165E+02	4.181E+02	4.181E+02	
10	1.500E-03	3.506E+02	3.533E+02	3.558E+02	3.582E+02	3.582E+02	3.604E+
02	3.630E+02	3.660E+02	3.688E+02	3.714E+02	3.739E+02	3.739E+02	
9	1.400E-03	3.319E+02	3.347E+02	3.373E+02	3.397E+02	3.397E+02	3.420E+
02	3.448E+02	3.479E+02	3.508E+02	3.536E+02	3.562E+02	3.562E+02	
8	1.200E-03	3.106E+02	3.124E+02	3.141E+02	3.159E+02	3.159E+02	3.176E+
02	3.198E+02	3.223E+02	3.248E+02	3.272E+02	3.295E+02	3.295E+02	
7	1.000E-03	3.030E+02	3.037E+02	3.046E+02	3.054E+02	3.054E+02	3.064E+
02	3.076E+02	3.091E+02	3.107E+02	3.123E+02	3.139E+02	3.139E+02	
6	8.000E-04	3.007E+02	3.010E+02	3.013E+02	3.017E+02	3.017E+02	3.020E+
02	3.026E+02	3.034E+02	3.042E+02	3.051E+02	3.060E+02	3.060E+02	
5	6.000E-04	3.002E+02	3.002E+02	3.003E+02	3.005E+02	3.005E+02	3.006E+
02	3.008E+02	3.012E+02	3.015E+02	3.020E+02	3.025E+02	3.025E+02	



02	3.815E+02	3.860E+02	3.900E+02	3.935E+02	3.965E+02		
32	1.950E-02	5.066E+02	5.087E+02	5.101E+02	5.104E+02	5.100E+	
02	5.089E+02	5.070E+02	5.044E+02	5.013E+02	4.978E+02		
31	1.850E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+	
02	3.000E+02	3.001E+02	3.001E+02	3.001E+02	3.001E+02		
30	1.800E-02	3.005E+02	3.008E+02	3.010E+02	3.008E+02	3.008E+	
02	3.008E+02	3.006E+02	3.006E+02	3.007E+02	3.007E+02		
29	1.700E-02	3.101E+02	1.909E+03	1.727E+03	2.260E+03	1.631E+	
03	1.582E+03	3.202E+02	3.195E+02	3.169E+02	3.136E+02		
28	1.600E-02	3.304E+02	1.898E+03	1.912E+03	2.069E+03	1.793E+	
03	2.202E+03	1.669E+03	2.216E+03	1.559E+03	1.486E+03		
27	1.500E-02	3.752E+02	1.891E+03	1.917E+03	1.844E+03	1.899E+	
03	2.070E+03	1.763E+03	2.246E+03	1.646E+03	1.628E+03		
26	1.400E-02	4.034E+02	1.868E+03	3.932E+02	1.888E+03	1.942E+	
03	2.027E+03	1.822E+03	2.142E+03	1.705E+03	2.258E+03		
25	1.300E-02	3.777E+02	3.698E+02	1.889E+03	3.477E+02	1.929E+	
03	1.863E+03	1.864E+03	1.813E+03	1.754E+03	2.021E+03		
24	1.200E-02	3.670E+02	3.595E+02	3.445E+02	3.243E+02	1.908E+	
03	1.997E+03	1.984E+03	1.865E+03	1.813E+03	2.190E+03		
23	1.100E-02	3.963E+02	3.965E+02	3.888E+02	3.666E+02	3.604E+	
02	1.886E+03	1.942E+03	1.934E+03	1.924E+03	2.091E+03		
22	1.000E-02	4.394E+02	4.432E+02	4.394E+02	4.160E+02	4.099E+	
02	3.983E+02	3.733E+02	3.490E+02	3.289E+02	3.131E+02		
21	9.000E-03	4.983E+02	5.059E+02	5.038E+02	4.775E+02	4.712E+	
02	4.556E+02	4.220E+02	3.886E+02	3.567E+02	3.291E+02		
20	8.000E-03	5.520E+02	5.621E+02	5.623E+02	5.364E+02	5.316E+	
02	5.161E+02	4.788E+02	4.395E+02	3.997E+02	3.627E+02		
19	6.700E-03	5.503E+02	5.614E+02	5.640E+02	5.422E+02	5.402E+	
02	5.291E+02	4.977E+02	4.639E+02	4.286E+02	3.932E+02		
18	5.500E-03	4.517E+02	4.612E+02	4.645E+02	4.499E+02	4.510E+	
02	4.471E+02	4.287E+02	4.086E+02	3.865E+02	3.634E+02		
17	4.500E-03	1.056E+03	1.057E+03	1.059E+03	1.061E+03	1.065E+	
03	1.069E+03	1.074E+03	1.080E+03	1.086E+03	1.092E+03		
16	3.700E-03	8.907E+02	8.869E+02	8.886E+02	8.873E+02	8.887E+	
02	8.898E+02	8.880E+02	8.929E+02	8.949E+02	8.975E+02		
15	3.100E-03	7.584E+02	7.569E+02	7.555E+02	7.545E+02	7.539E+	
02	7.538E+02	7.541E+02	7.544E+02	7.549E+02	7.559E+02		
14	2.600E-03	6.413E+02	6.403E+02	6.393E+02	6.385E+02	6.381E+	
02	6.381E+02	6.382E+02	6.384E+02	6.386E+02	6.392E+02		
13	2.200E-03	5.431E+02	5.429E+02	5.429E+02	5.431E+02	5.434E+	
02	5.441E+02	5.449E+02	5.456E+02	5.463E+02	5.472E+02		
12	1.900E-03	4.681E+02	4.690E+02	4.702E+02	4.714E+02	4.727E+	
02	4.744E+02	4.761E+02	4.777E+02	4.792E+02	4.807E+02		
11	1.700E-03	4.198E+02	4.216E+02	4.237E+02	4.257E+02	4.279E+	
02	4.304E+02	4.328E+02	4.351E+02	4.372E+02	4.394E+02		
10	1.500E-03	3.763E+02	3.790E+02	3.819E+02	3.846E+02	3.876E+	
02	3.907E+02	3.938E+02	3.967E+02	3.995E+02	4.022E+02		
9	1.400E-03	3.588E+02	3.616E+02	3.646E+02	3.675E+02	3.707E+	
02	3.740E+02	3.772E+02	3.803E+02	3.832E+02	3.861E+02		
8	1.200E-03	3.318E+02	3.344E+02	3.373E+02	3.401E+02	3.432E+	
02	3.465E+02	3.497E+02	3.528E+02	3.558E+02	3.587E+02		
7	1.000E-03	3.156E+02	3.176E+02	3.198E+02	3.221E+02	3.246E+	
02	3.274E+02	3.302E+02	3.330E+02	3.357E+02	3.384E+02		
6	8.000E-04	3.071E+02	3.083E+02	3.098E+02	3.114E+02	3.132E+	
02	3.154E+02	3.175E+02	3.198E+02	3.220E+02	3.243E+02		
5	6.000E-04	3.030E+02	3.037E+02	3.046E+02	3.056E+02	3.069E+	
02	3.083E+02	3.099E+02	3.116E+02	3.133E+02	3.151E+02		
4	4.000E-04	3.013E+02	3.017E+02	3.022E+02	3.028E+02	3.036E+	
02	3.046E+02	3.057E+02	3.069E+02	3.082E+02	3.096E+02		
3	2.000E-04	3.006E+02	3.008E+02	3.012E+02	3.016E+02	3.021E+	
02	3.028E+02	3.036E+02	3.045E+02	3.056E+02	3.068E+02		
2	1.000E-04	3.005E+02	3.006E+02	3.009E+02	3.013E+02	3.017E+	
02	3.024E+02	3.031E+02	3.040E+02	3.050E+02	3.061E+02		
1	0.000E+00	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+	
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
0		X= 9.000E-03	9.500E-03	1.000E-02	1.500E-02	2.000E-	



	02	3.000E-02	4.000E-02	5.500E-02	6.000E-02	7.500E-02	
0		K=	41	42	43	44	45
46		47	48	49	50		
I		Y					
59		7.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
58		7.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
57		7.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
56		6.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
55		6.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
54		6.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
53		6.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
52		6.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
51		5.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
50		5.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
49		5.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
48		5.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
47		4.900E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
46		4.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
45		4.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
44		4.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
43		4.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
42		3.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
41		3.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
40		3.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
39		3.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
38		3.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.001E+02	3.000E+
37		2.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.000E+02	3.000E+02	3.001E+02	3.002E+02	3.003E+02	3.000E+
36		2.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02		3.001E+02	3.002E+02	3.005E+02	3.009E+02	3.016E+02	3.000E+
35		2.400E-02	3.001E+02	3.001E+02	3.002E+02	3.003E+02	3.005E+
02		3.009E+02	3.020E+02	3.034E+02	3.049E+02	3.071E+02	3.005E+
34		2.200E-02	3.038E+02	3.040E+02	3.053E+02	3.064E+02	3.079E+
02		3.105E+02	3.144E+02	3.183E+02	3.216E+02	3.257E+02	3.079E+
33		2.000E-02	3.991E+02	4.012E+02	4.082E+02	4.065E+02	3.954E+
02		3.823E+02	3.728E+02	3.702E+02	3.686E+02	3.705E+02	3.954E+
32		1.950E-02	4.940E+02	4.899E+02	4.909E+02	4.583E+02	4.309E+
02		4.077E+02	3.924E+02	3.874E+02	3.842E+02	3.855E+02	4.309E+
31		1.850E-02	3.001E+02	3.001E+02	7.297E+02	6.180E+02	5.294E+
02		4.732E+02	4.408E+02	4.293E+02	4.219E+02	4.215E+02	5.294E+
30		1.800E-02	3.009E+02	3.008E+02	3.036E+02	7.058E+02	5.812E+
02		5.079E+02	4.670E+02	4.526E+02	4.432E+02	4.421E+02	5.812E+
29		1.700E-02	3.105E+02	3.046E+02	3.175E+02	3.120E+02	6.843E+
02		5.786E+02	5.226E+02	5.037E+02	4.909E+02	4.889E+02	6.843E+

28	1.600E-02	3.259E+02	3.115E+02	3.601E+02	3.363E+02	7.820E+
02	6.506E+02	5.836E+02	5.627E+02	5.473E+02	5.450E+02	
27	1.500E-02	1.520E+03	3.202E+02	4.142E+02	3.658E+02	3.411E+
02	7.343E+02	6.580E+02	6.364E+02	6.176E+02	6.146E+02	
26	1.400E-02	1.603E+03	2.116E+03	1.482E+03	3.912E+02	3.655E+
02	3.548E+02	7.576E+02	7.337E+02	7.086E+02	7.030E+02	
25	1.300E-02	1.661E+03	3.071E+02	1.704E+03	3.926E+02	3.813E+
02	3.758E+02	3.721E+02	3.651E+02	3.716E+02	3.836E+02	
24	1.200E-02	1.725E+03	3.018E+02	2.256E+03	3.411E+02	3.607E+
02	3.827E+02	4.021E+02	4.074E+02	4.181E+02	4.343E+02	
23	1.100E-02	1.826E+03	3.001E+02	1.741E+03	3.077E+02	3.223E+
02	3.817E+02	4.406E+02	4.504E+02	4.639E+02	4.978E+02	
22	1.000E-02	3.035E+02	3.004E+02	1.922E+03	1.762E+03	1.634E+
03	1.555E+03	1.481E+03	1.380E+03	1.300E+03	1.265E+03	
21	9.000E-03	3.102E+02	3.019E+02	3.258E+02	3.063E+02	1.944E+
03	1.842E+03	1.768E+03	1.635E+03	1.548E+03	1.491E+03	
20	8.000E-03	3.327E+02	3.128E+02	4.034E+02	3.579E+02	4.197E+
02	1.833E+03	1.873E+03	1.904E+03	1.785E+03	1.718E+03	
19	6.700E-03	3.607E+02	3.340E+02	4.849E+02	4.483E+02	5.065E+
02	4.827E+02	5.481E+02	3.863E+02	1.841E+03	1.888E+03	
18	5.500E-03	3.412E+02	3.223E+02	4.365E+02	4.055E+02	4.204E+
02	4.112E+02	4.452E+02	4.110E+02	4.558E+02	5.122E+02	
17	4.500E-03	1.098E+03	1.105E+03	1.112E+03	3.174E+02	3.171E+
02	3.147E+02	3.264E+02	3.493E+02	3.904E+02	4.011E+02	
16	3.700E-03	9.007E+02	9.104E+02	9.126E+02	1.002E+03	1.063E+
03	3.002E+02	3.007E+02	3.040E+02	3.166E+02	3.256E+02	
15	3.100E-03	7.576E+02	7.609E+02	7.684E+02	8.278E+02	8.854E+
02	1.001E+03	1.114E+03	3.000E+02	3.008E+02	3.032E+02	
14	2.600E-03	6.400E+02	6.422E+02	6.518E+02	6.958E+02	7.521E+
02	8.563E+02	9.773E+02	3.000E+02	3.000E+02	3.002E+02	
13	2.200E-03	5.481E+02	5.495E+02	5.617E+02	5.993E+02	6.553E+
02	7.533E+02	8.791E+02	1.059E+03	3.000E+02	3.000E+02	
12	1.900E-03	4.823E+02	4.839E+02	4.977E+02	5.330E+02	5.892E+
02	6.840E+02	8.120E+02	9.778E+02	3.000E+02	3.000E+02	
11	1.700E-03	4.414E+02	4.435E+02	4.584E+02	4.929E+02	5.490E+
02	6.420E+02	7.709E+02	9.296E+02	1.106E+03	3.000E+02	
10	1.500E-03	4.047E+02	4.072E+02	4.229E+02	4.566E+02	5.123E+
02	6.037E+02	7.328E+02	8.857E+02	1.055E+03	3.000E+02	
9	1.400E-03	3.888E+02	3.915E+02	4.072E+02	4.403E+02	4.956E+
02	5.862E+02	7.153E+02	8.655E+02	1.032E+03	3.000E+02	
8	1.200E-03	3.616E+02	3.643E+02	3.800E+02	4.117E+02	4.658E+
02	5.547E+02	6.834E+02	8.287E+02	9.890E+02	3.000E+02	
7	1.000E-03	3.411E+02	3.437E+02	3.585E+02	3.886E+02	4.411E+
02	5.281E+02	6.563E+02	7.977E+02	9.540E+02	1.115E+03	
6	8.000E-04	3.266E+02	3.289E+02	3.424E+02	3.707E+02	4.214E+
02	5.067E+02	6.341E+02	7.725E+02	9.271E+02	1.096E+03	
5	6.000E-04	3.170E+02	3.189E+02	3.310E+02	3.574E+02	4.065E+
02	4.902E+02	6.170E+02	7.532E+02	9.060E+02	1.073E+03	
4	4.000E-04	3.112E+02	3.128E+02	3.236E+02	3.484E+02	3.961E+
02	4.786E+02	6.048E+02	7.396E+02	8.910E+02	1.056E+03	
3	2.000E-04	3.080E+02	3.094E+02	3.193E+02	3.432E+02	3.900E+
02	4.717E+02	5.976E+02	7.315E+02	8.819E+02	1.046E+03	
2	1.000E-04	3.073E+02	3.086E+02	3.183E+02	3.419E+02	3.885E+
02	4.700E+02	5.958E+02	7.295E+02	8.797E+02	1.043E+03	
1	0.000E+00	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	
0	X=	8.000E-02	9.500E-02	1.100E-01	1.250E-01	1.350E-
01	1.450E-01	1.550E-01	1.650E-01	1.750E-01		
0	K=	51	52	53	54	55
56	57	58	59			
I	Y					
59	7.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
58	7.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
57	7.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+

02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
56	6.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
55	6.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
54	6.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
53	6.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
52	6.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
51	5.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
50	5.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
49	5.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
48	5.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
47	4.900E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
46	4.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
45	4.400E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
44	4.200E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
43	4.000E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
42	3.800E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		
41	3.600E-02	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.001E+02	3.001E+02	3.001E+02	3.000E+02		
40	3.400E-02	3.000E+02	3.000E+02	3.000E+02	3.001E+02	3.001E+
02	3.002E+02	3.003E+02	3.004E+02	3.000E+02		
39	3.200E-02	3.000E+02	3.001E+02	3.002E+02	3.003E+02	3.005E+
02	3.007E+02	3.009E+02	3.013E+02	3.000E+02		
38	3.000E-02	3.001E+02	3.003E+02	3.007E+02	3.012E+02	3.016E+
02	3.022E+02	3.028E+02	3.036E+02	3.000E+02		
37	2.800E-02	3.006E+02	3.013E+02	3.024E+02	3.036E+02	3.048E+
02	3.061E+02	3.074E+02	3.092E+02	3.000E+02		
36	2.600E-02	3.025E+02	3.047E+02	3.075E+02	3.103E+02	3.128E+
02	3.155E+02	3.181E+02	3.213E+02	3.000E+02		
35	2.400E-02	3.097E+02	3.148E+02	3.203E+02	3.257E+02	3.304E+
02	3.349E+02	3.393E+02	3.445E+02	3.000E+02		
34	2.200E-02	3.302E+02	3.386E+02	3.473E+02	3.559E+02	3.633E+
02	3.703E+02	3.771E+02	3.854E+02	3.000E+02		
33	2.000E-02	3.742E+02	3.842E+02	3.958E+02	4.085E+02	4.201E+
02	4.308E+02	4.414E+02	4.548E+02	3.000E+02		
32	1.950E-02	3.891E+02	4.001E+02	4.128E+02	4.272E+02	4.403E+
02	4.520E+02	4.640E+02	4.788E+02	3.000E+02		
31	1.850E-02	4.249E+02	4.381E+02	4.535E+02	4.718E+02	4.886E+
02	5.031E+02	5.181E+02	5.358E+02	3.000E+02		
30	1.800E-02	4.455E+02	4.603E+02	4.774E+02	4.982E+02	5.172E+
02	5.333E+02	5.501E+02	5.692E+02	3.000E+02		
29	1.700E-02	4.929E+02	5.117E+02	5.330E+02	5.599E+02	5.843E+
02	6.041E+02	6.247E+02	6.467E+02	3.000E+02		
28	1.600E-02	5.503E+02	5.747E+02	6.019E+02	6.365E+02	6.673E+
02	6.915E+02	7.159E+02	7.393E+02	3.000E+02		
27	1.500E-02	6.217E+02	6.541E+02	6.892E+02	7.327E+02	7.701E+
02	8.001E+02	4.988E+02	5.861E+02	3.000E+02		
26	1.400E-02	7.121E+02	7.551E+02	8.011E+02	4.649E+02	4.792E+
02	5.137E+02	5.640E+02	6.494E+02	3.000E+02		
25	1.300E-02	4.048E+02	4.644E+02	4.905E+02	5.221E+02	5.441E+
02	5.739E+02	6.279E+02	7.013E+02	3.000E+02		
24	1.200E-02	4.634E+02	5.389E+02	5.630E+02	5.936E+02	1.165E+

03	1.202E+03	1.219E+03	1.221E+03	3.000E+02		
23	1.100E-02	5.217E+02	1.178E+03	1.239E+03	1.284E+03	1.327E+
03	1.365E+03	1.375E+03	1.360E+03	3.000E+02		
22	1.000E-02	1.282E+03	1.371E+03	1.435E+03	1.474E+03	1.513E+
03	1.548E+03	1.547E+03	1.511E+03	3.000E+02		
21	9.000E-03	1.510E+03	1.598E+03	1.637E+03	1.657E+03	1.678E+
03	1.697E+03	1.686E+03	1.644E+03	3.000E+02		
20	8.000E-03	1.729E+03	1.799E+03	1.830E+03	1.839E+03	1.851E+
03	1.864E+03	1.835E+03	1.771E+03	3.000E+02		
19	6.700E-03	1.889E+03	1.868E+03	1.868E+03	1.876E+03	1.879E+
03	1.880E+03	1.903E+03	1.939E+03	3.000E+02		
18	5.500E-03	4.663E+02	4.978E+02	5.411E+02	5.588E+02	5.698E+
02	6.526E+02	1.814E+03	1.857E+03	3.000E+02		
17	4.500E-03	3.808E+02	3.946E+02	4.146E+02	4.214E+02	4.136E+
02	4.622E+02	5.826E+02	8.549E+02	3.000E+02		
16	3.700E-03	3.273E+02	3.396E+02	3.542E+02	3.655E+02	3.723E+
02	4.150E+02	5.168E+02	7.687E+02	3.000E+02		
15	3.100E-03	3.063E+02	3.148E+02	3.257E+02	3.366E+02	3.462E+
02	3.789E+02	4.491E+02	6.882E+02	3.000E+02		
14	2.600E-03	3.014E+02	3.062E+02	3.141E+02	3.233E+02	3.325E+
02	3.582E+02	4.109E+02	6.287E+02	3.000E+02		
13	2.200E-03	3.003E+02	3.028E+02	3.080E+02	3.149E+02	3.222E+
02	3.416E+02	3.814E+02	5.680E+02	3.000E+02		
12	1.900E-03	3.001E+02	3.012E+02	3.040E+02	3.082E+02	3.129E+
02	3.257E+02	3.530E+02	4.999E+02	3.000E+02		
11	1.700E-03	3.000E+02	3.006E+02	3.024E+02	3.053E+02	3.087E+
02	3.179E+02	3.379E+02	4.574E+02	3.000E+02		
10	1.500E-03	3.000E+02	3.002E+02	3.013E+02	3.030E+02	3.051E+
02	3.111E+02	3.243E+02	4.141E+02	3.000E+02		
9	1.400E-03	3.000E+02	3.002E+02	3.012E+02	3.030E+02	3.050E+
02	3.107E+02	3.230E+02	4.076E+02	3.000E+02		
8	1.200E-03	3.000E+02	3.005E+02	3.036E+02	3.075E+02	3.114E+
02	3.216E+02	3.401E+02	4.455E+02	3.000E+02		
7	1.000E-03	3.000E+02	3.005E+02	3.039E+02	3.077E+02	3.113E+
02	3.209E+02	3.380E+02	4.333E+02	3.000E+02		
6	8.000E-04	3.000E+02	3.005E+02	3.037E+02	3.070E+02	3.101E+
02	3.186E+02	3.333E+02	4.156E+02	3.000E+02		
5	6.000E-04	3.000E+02	3.003E+02	3.028E+02	3.053E+02	3.076E+
02	3.141E+02	3.254E+02	3.909E+02	3.000E+02		
4	4.000E-04	3.000E+02	3.001E+02	3.013E+02	3.027E+02	3.039E+
02	3.076E+02	3.143E+02	3.579E+02	3.000E+02		
3	2.000E-04	3.000E+02	3.000E+02	3.001E+02	3.002E+02	3.003E+
02	3.008E+02	3.019E+02	3.131E+02	3.000E+02		
2	1.000E-04	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.005E+02	3.000E+02		
1	0.000E+00	3.000E+02	3.000E+02	3.000E+02	3.000E+02	3.000E+
02	3.000E+02	3.000E+02	3.000E+02	3.000E+02		

CARBONMONOXIDE

0	X=	0.000E+00	1.000E-04	2.000E-04	3.000E-04	4.000E-
04		5.000E-04	6.000E-04	7.000E-04	8.000E-04	9.000E-04
0	K=	1	2	3	4	5
6		7	8	9	10	
I	Y					
59		7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+
00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	
58		7.200E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-
10		1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
57		7.000E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-
10		1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
56		6.800E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-
10		1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
55		6.600E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-
10		1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
54		6.400E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-

10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
53	6.200E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
52	6.000E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
51	5.800E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
50	5.600E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
49	5.400E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
48	5.200E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
47	4.900E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
46	4.600E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
45	4.400E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
44	4.200E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
43	4.000E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
42	3.800E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
41	3.600E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
40	3.400E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
39	3.200E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
38	3.000E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
37	2.800E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
36	2.600E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
35	2.400E-02	0.000E+00	1.135E-10	1.135E-10	1.135E-10	1.135E-10	4.611E-
10	1.284E-09	2.559E-09	4.463E-09	7.071E-09	1.054E-08		
34	2.200E-02	0.000E+00	1.135E-10	4.145E-08	1.153E-07	2.420E-	
07	4.323E-07	6.952E-07	1.038E-06	1.467E-06	1.986E-06		
33	2.000E-02	0.000E+00	1.135E-10	1.487E-05	3.550E-05	6.377E-	
05	9.863E-05	1.394E-04	1.855E-04	2.364E-04	2.918E-04		
32	1.950E-02	0.000E+00	1.135E-10	9.201E-04	1.666E-03	2.367E-	
03	3.014E-03	3.616E-03	4.180E-03	4.707E-03	5.204E-03		
31	1.850E-02	0.000E+00	3.037E-05	2.654E-06	1.482E-06	9.226E-	
07	6.311E-07	4.636E-07	3.601E-07	2.902E-07	2.447E-07		
30	1.800E-02	0.000E+00	1.090E-04	1.091E-05	1.913E-05	2.834E-	
05	3.640E-05	4.200E-05	4.475E-05	9.457E-02	4.474E-05		
29	1.700E-02	0.000E+00	4.024E-03	1.723E-03	1.998E-03	2.307E-	
03	2.605E-03	2.864E-03	3.067E-03	3.202E-03	3.273E-03		
28	1.600E-02	0.000E+00	1.355E-02	8.888E-03	9.403E-03	9.955E-	
03	1.049E-02	1.095E-02	1.132E-02	1.156E-02	1.167E-02		
27	1.500E-02	0.000E+00	1.935E-02	1.408E-02	1.475E-02	1.543E-	
02	1.611E-02	1.673E-02	1.726E-02	1.769E-02	1.798E-02		
26	1.400E-02	0.000E+00	2.048E-02	1.510E-02	1.593E-02	1.678E-	
02	1.761E-02	1.837E-02	1.904E-02	1.960E-02	2.002E-02		
25	1.300E-02	0.000E+00	2.042E-02	1.473E-02	1.561E-02	1.649E-	
02	1.730E-02	1.803E-02	1.864E-02	1.912E-02	1.946E-02		
24	1.200E-02	0.000E+00	2.230E-02	1.596E-02	1.655E-02	1.710E-	
02	1.758E-02	1.796E-02	1.823E-02	1.838E-02	1.841E-02		
23	1.100E-02	0.000E+00	2.482E-02	1.774E-02	1.791E-02	1.807E-	
02	1.817E-02	1.821E-02	1.818E-02	1.806E-02	1.785E-02		
22	1.000E-02	0.000E+00	2.493E-02	1.739E-02	1.789E-02	1.835E-	
02	1.873E-02	1.900E-02	1.920E-02	1.926E-02	1.923E-02		
21	9.000E-03	0.000E+00	3.173E-02	2.357E-02	2.348E-02	2.346E-	



49	5.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
48	5.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
47	4.900E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
46	4.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
45	4.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
44	4.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
43	4.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
42	3.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
41	3.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
40	3.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
39	3.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
38	3.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
37	2.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
36	2.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
35	2.400E-02	1.500E-08	2.061E-08	2.750E-08	3.582E-08	4.568E-08	5.722E-08
08	5.722E-08	7.057E-08	8.586E-08	1.033E-07	1.238E-07	1.504E-07	1.850E-07
34	2.200E-02	2.599E-06	3.310E-06	4.119E-06	5.028E-06	6.038E-06	7.150E-06
06	7.150E-06	8.363E-06	9.681E-06	1.111E-05	1.270E-05	1.447E-05	1.641E-05
33	2.000E-02	3.512E-04	4.143E-04	4.807E-04	5.504E-04	6.227E-04	6.977E-04
04	6.977E-04	7.750E-04	8.548E-04	9.367E-04	1.023E-03	1.115E-03	1.212E-03
32	1.950E-02	5.670E-03	6.111E-03	6.525E-03	6.919E-03	7.288E-03	7.640E-03
03	7.640E-03	7.969E-03	8.285E-03	8.580E-03	8.871E-03	9.138E-03	9.383E-03
31	1.850E-02	2.108E-07	1.861E-07	1.672E-07	1.520E-07	1.390E-07	1.268E-07
07	1.268E-07	1.140E-07	9.927E-08	8.145E-08	6.039E-08	4.248E-08	2.841E-08
30	1.800E-02	4.329E-05	4.081E-05	3.763E-05	3.393E-05	2.985E-05	2.545E-05
05	2.545E-05	2.083E-05	1.614E-05	1.161E-05	7.552E-06	4.411E-06	2.452E-06
29	1.700E-02	3.272E-03	3.201E-03	3.066E-03	2.871E-03	2.621E-03	2.341E-03
03	2.341E-03	2.044E-03	1.741E-03	1.445E-03	1.167E-03	8.611E-04	5.983E-04
28	1.600E-02	1.165E-02	1.148E-02	1.119E-02	1.077E-02	1.025E-02	9.638E-03
02	9.638E-03	8.958E-03	8.228E-03	7.470E-03	6.705E-03	5.983E-03	5.281E-03
27	1.500E-02	1.813E-02	1.814E-02	1.802E-02	1.776E-02	1.736E-02	1.684E-02
02	1.684E-02	1.620E-02	1.546E-02	1.463E-02	1.373E-02	1.276E-02	1.174E-02
26	1.400E-02	2.031E-02	2.044E-02	2.042E-02	2.025E-02	1.994E-02	1.949E-02
02	1.949E-02	1.891E-02	1.820E-02	1.740E-02	1.651E-02	1.554E-02	1.448E-02
25	1.300E-02	1.964E-02	1.967E-02	1.954E-02	1.927E-02	1.885E-02	1.830E-02
02	1.830E-02	1.763E-02	1.684E-02	1.597E-02	1.501E-02	1.397E-02	1.285E-02
24	1.200E-02	1.831E-02	1.808E-02	1.773E-02	1.726E-02	1.669E-02	1.601E-02
02	1.601E-02	1.525E-02	1.441E-02	1.351E-02	1.257E-02	1.159E-02	1.056E-02
23	1.100E-02	1.756E-02	1.718E-02	1.671E-02	1.616E-02	1.554E-02	1.486E-02
02	1.486E-02	1.411E-02	1.332E-02	1.250E-02	1.165E-02	1.076E-02	9.811E-03
22	1.000E-02	1.908E-02	1.883E-02	1.847E-02	1.803E-02	1.751E-02	1.692E-02
02	1.692E-02	1.627E-02	1.557E-02	1.484E-02	1.408E-02	1.328E-02	1.244E-02
21	9.000E-03	2.283E-02	2.252E-02	2.214E-02	2.170E-02	2.119E-02	2.063E-02
02	2.063E-02	2.001E-02	1.936E-02	1.866E-02	1.793E-02	1.717E-02	1.638E-02
20	8.000E-03	2.565E-02	2.536E-02	2.502E-02	2.463E-02	2.419E-02	2.370E-02
02	2.370E-02	2.316E-02	2.258E-02	2.196E-02	2.131E-02	2.063E-02	1.992E-02
19	6.700E-03	2.158E-02	2.155E-02	2.146E-02	2.133E-02	2.113E-02	2.088E-02
02	2.088E-02	2.058E-02	2.022E-02	1.982E-02	1.937E-02	1.887E-02	1.833E-02
18	5.500E-03	1.005E-02	1.032E-02	1.054E-02	1.070E-02	1.079E-02	1.082E-02
02	1.082E-02	1.079E-02	1.070E-02	1.055E-02	1.035E-02	1.010E-02	9.800E-03
17	4.500E-03	8.318E-02	8.283E-02	8.250E-02	8.217E-02	8.186E-02	8.157E-02
02	8.157E-02	8.128E-02	8.102E-02	8.076E-02	8.052E-02	8.028E-02	8.004E-02

16	3.700E-03	7.149E-02	7.083E-02	7.020E-02	6.961E-02	6.905E-02
02	6.852E-02	6.803E-02	6.757E-02	6.714E-02	6.673E-02	
15	3.100E-03	5.742E-02	5.671E-02	5.605E-02	5.544E-02	5.486E-02
02	5.432E-02	5.381E-02	5.335E-02	5.292E-02	5.252E-02	
14	2.600E-03	4.270E-02	4.203E-02	4.141E-02	4.085E-02	4.035E-02
02	3.989E-02	3.947E-02	3.908E-02	3.873E-02	3.841E-02	
13	2.200E-03	2.851E-02	2.806E-02	2.767E-02	2.731E-02	2.699E-02
02	2.671E-02	2.645E-02	2.622E-02	2.602E-02	2.583E-02	
12	1.900E-03	1.665E-02	1.656E-02	1.647E-02	1.638E-02	1.631E-02
02	1.624E-02	1.618E-02	1.613E-02	1.609E-02	1.605E-02	
11	1.700E-03	8.956E-03	9.101E-03	9.222E-03	9.325E-03	9.417E-03
03	9.500E-03	9.577E-03	9.649E-03	9.719E-03	9.790E-03	
10	1.500E-03	2.793E-03	3.027E-03	3.244E-03	3.447E-03	3.637E-03
03	3.816E-03	3.985E-03	4.146E-03	4.298E-03	4.444E-03	
9	1.400E-03	1.246E-03	1.426E-03	1.603E-03	1.775E-03	1.942E-03
03	2.103E-03	2.260E-03	2.412E-03	2.561E-03	2.705E-03	
8	1.200E-03	2.308E-04	2.863E-04	3.462E-04	4.100E-04	4.771E-04
04	5.471E-04	6.194E-04	6.938E-04	7.697E-04	8.469E-04	
7	1.000E-03	3.617E-05	4.835E-05	6.268E-05	7.917E-05	9.783E-05
05	1.186E-04	1.416E-04	1.665E-04	1.935E-04	2.223E-04	
6	8.000E-04	5.115E-06	7.324E-06	1.012E-05	1.359E-05	1.777E-05
05	2.273E-05	2.854E-05	3.521E-05	4.280E-05	5.132E-05	
5	6.000E-04	7.097E-07	1.073E-06	1.560E-06	2.202E-06	3.024E-06
06	4.053E-06	5.333E-06	6.876E-06	8.721E-06	1.091E-05	
4	4.000E-04	1.394E-07	1.897E-07	2.680E-07	3.798E-07	5.308E-07
07	7.321E-07	9.948E-07	1.325E-06	1.750E-06	2.270E-06	
3	2.000E-04	6.675E-08	7.793E-08	9.470E-08	1.115E-07	1.506E-07
07	2.009E-07	2.568E-07	3.351E-07	4.413E-07	5.755E-07	
2	1.000E-04	4.998E-08	5.557E-08	6.675E-08	7.793E-08	1.003E-07
07	1.171E-07	1.506E-07	1.897E-07	2.512E-07	3.183E-07	
1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
0		X=	2.000E-03	2.200E-03	2.400E-03	2.600E-03
03	3.000E-03	3.300E-03	3.600E-03	3.900E-03	4.200E-03	
0		K=	21	22	23	25
26	27	28	29	30		

I	Y					
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
58	7.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
57	7.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
56	6.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
55	6.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
54	6.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
53	6.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
52	6.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
51	5.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
50	5.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
49	5.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
48	5.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
47	4.900E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
46	4.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
45	4.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10



10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
44	4.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
43	4.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
42	3.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
41	3.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
40	3.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
39	3.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
38	3.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
37	2.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	
36	2.600E-02	2.575E-10	8.915E-10	1.706E-09	2.715E-09	3.986E-	
09	5.989E-09	9.077E-09	1.292E-08	1.759E-08	2.312E-08		
35	2.400E-02	1.511E-07	2.049E-07	2.690E-07	3.440E-07	4.302E-	
07	5.575E-07	7.380E-07	9.457E-07	1.180E-06	1.439E-06		
34	2.200E-02	1.472E-05	1.837E-05	2.241E-05	2.681E-05	3.155E-	
05	3.807E-05	4.659E-05	5.561E-05	6.504E-05	7.479E-05		
33	2.000E-02	1.123E-03	1.298E-03	1.478E-03	1.661E-03	1.846E-	
03	2.081E-03	2.363E-03	2.642E-03	2.915E-03	3.181E-03		
32	1.950E-02	9.159E-03	9.657E-03	1.010E-02	1.048E-02	1.082E-	
02	1.121E-02	1.160E-02	1.191E-02	1.216E-02	1.236E-02		
31	1.850E-02	5.310E-07	1.313E-06	8.523E-07	5.405E-07	3.337E-	
07	6.974E-07	9.236E-07	6.285E-07	5.204E-07	4.860E-07		
30	1.800E-02	2.678E-06	3.547E-05	6.125E-06	1.225E-05	1.652E-	
05	4.105E-05	6.599E-05	5.264E-05	4.369E-05	3.747E-05		
29	1.700E-02	2.260E-03	2.641E-03	1.736E-03	1.233E-01	7.001E-	
02	1.215E-01	1.606E-03	1.188E-01	3.826E-06	1.101E-01		
28	1.600E-02	1.044E-02	1.222E-02	1.016E-02	8.417E-03	6.867E-	
03	7.613E-03	7.240E-03	1.250E-01	5.973E-07	1.222E-01		
27	1.500E-02	1.939E-02	2.231E-02	1.990E-02	1.760E-02	1.540E-	
02	1.691E-02	1.670E-02	1.343E-02	1.043E-02	1.255E-01		
26	1.400E-02	2.270E-02	2.600E-02	2.362E-02	2.127E-02	1.898E-	
02	2.074E-02	2.067E-02	1.736E-02	1.416E-02	1.110E-02		
25	1.300E-02	2.081E-02	2.380E-02	2.144E-02	1.913E-02	1.688E-	
02	1.848E-02	1.831E-02	1.505E-02	1.200E-02	9.053E-03		
24	1.200E-02	1.783E-02	2.065E-02	1.845E-02	1.632E-02	1.432E-	
02	1.585E-02	1.588E-02	1.303E-02	1.037E-02	7.923E-03		
23	1.100E-02	1.676E-02	1.977E-02	1.795E-02	1.615E-02	1.441E-	
02	1.621E-02	1.676E-02	1.451E-02	1.234E-02	1.030E-02		
22	1.000E-02	1.972E-02	2.309E-02	2.135E-02	1.964E-02	1.797E-	
02	2.014E-02	2.099E-02	1.876E-02	1.663E-02	1.460E-02		
21	9.000E-03	2.411E-02	2.775E-02	2.609E-02	2.447E-02	2.289E-	
02	2.542E-02	2.659E-02	2.446E-02	2.243E-02	2.044E-02		
20	8.000E-03	2.777E-02	3.168E-02	3.025E-02	2.884E-02	2.742E-	
02	3.019E-02	3.164E-02	2.972E-02	2.783E-02	2.594E-02		
19	6.700E-03	2.552E-02	2.950E-02	2.847E-02	2.741E-02	2.632E-	
02	2.913E-02	3.081E-02	2.931E-02	2.780E-02	2.625E-02		
18	5.500E-03	1.508E-02	1.842E-02	1.767E-02	1.690E-02	1.610E-	
02	1.841E-02	1.982E-02	1.868E-02	1.753E-02	1.649E-02		
17	4.500E-03	8.029E-02	7.987E-02	7.953E-02	7.924E-02	7.894E-	
02	7.880E-02	7.744E-02	7.847E-02	7.646E-02	7.843E-02		
16	3.700E-03	6.635E-02	6.566E-02	6.496E-02	6.454E-02	6.272E-	
02	6.370E-02	5.883E-02	6.286E-02	5.396E-02	6.235E-02		
15	3.100E-03	5.214E-02	5.148E-02	5.090E-02	5.040E-02	4.997E-	
02	4.960E-02	4.915E-02	4.877E-02	4.848E-02	4.823E-02		
14	2.600E-03	3.811E-02	3.759E-02	3.715E-02	3.678E-02	3.647E-	
02	3.620E-02	3.587E-02	3.561E-02	3.539E-02	3.522E-02		
13	2.200E-03	2.566E-02	2.538E-02	2.515E-02	2.496E-02	2.480E-	
02	2.468E-02	2.454E-02	2.444E-02	2.437E-02	2.432E-02		
12	1.900E-03	1.602E-02	1.598E-02	1.596E-02	1.595E-02	1.596E-	



40	3.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
39	3.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
38	3.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10
37	2.800E-02	1.135E-10	1.247E-10	3.964E-10	7.273E-10	1.182E-09	1.182E-09
09	1.812E-09	2.537E-09	3.417E-09	4.410E-09	5.521E-09	5.521E-09	5.521E-09
36	2.600E-02	2.956E-08	3.842E-08	5.030E-08	6.390E-08	8.145E-08	8.145E-08
08	1.035E-07	1.280E-07	1.547E-07	1.833E-07	2.138E-07	2.138E-07	2.138E-07
35	2.400E-02	1.721E-06	2.084E-06	2.533E-06	3.012E-06	3.586E-06	3.586E-06
06	4.254E-06	4.943E-06	5.646E-06	6.358E-06	7.074E-06	7.074E-06	7.074E-06
34	2.200E-02	8.476E-05	9.672E-05	1.105E-04	1.242E-04	1.394E-04	1.394E-04
04	1.559E-04	1.718E-04	1.871E-04	2.018E-04	2.158E-04	2.158E-04	2.158E-04
33	2.000E-02	3.438E-03	3.726E-03	4.038E-03	4.328E-03	4.630E-03	4.630E-03
03	4.935E-03	5.208E-03	5.449E-03	5.660E-03	5.843E-03	5.843E-03	5.843E-03
32	1.950E-02	1.250E-02	1.263E-02	1.272E-02	1.274E-02	1.271E-02	1.271E-02
02	1.264E-02	1.253E-02	1.237E-02	1.218E-02	1.197E-02	1.197E-02	1.197E-02
31	1.850E-02	4.788E-07	9.492E-07	1.471E-06	1.380E-06	2.117E-06	2.117E-06
06	2.973E-06	3.067E-06	3.550E-06	4.388E-06	5.636E-06	5.636E-06	5.636E-06
30	1.800E-02	3.290E-05	5.005E-05	6.495E-05	4.938E-05	4.860E-05	4.860E-05
05	4.754E-05	4.045E-05	3.927E-05	4.152E-05	4.596E-05	4.596E-05	4.596E-05
29	1.700E-02	7.048E-04	9.330E-04	9.743E-04	1.150E-03	8.817E-03	8.817E-03
02	8.340E-02	1.308E-03	1.252E-03	1.080E-03	8.659E-04	8.659E-04	8.659E-04
28	1.600E-02	2.276E-03	1.169E-01	1.153E-01	6.487E-02	1.038E-01	1.038E-01
01	2.370E-02	9.184E-02	4.009E-06	8.167E-02	7.649E-02	7.649E-02	7.649E-02
27	1.500E-02	5.997E-03	1.227E-01	1.208E-01	1.154E-01	1.140E-01	1.140E-01
01	7.063E-02	1.009E-01	4.011E-06	8.960E-02	8.038E-02	8.038E-02	8.038E-02
26	1.400E-02	8.450E-03	1.244E-01	7.168E-03	1.176E-01	1.190E-01	1.190E-01
01	8.048E-02	1.066E-01	4.890E-02	9.535E-02	8.210E-06	8.210E-06	8.210E-06
25	1.300E-02	6.417E-03	5.625E-03	1.357E-05	3.612E-03	1.199E-03	1.199E-03
01	1.127E-01	1.107E-01	1.052E-01	1.001E-01	5.767E-02	5.767E-02	5.767E-02
24	1.200E-02	5.676E-03	4.908E-03	3.556E-03	1.886E-03	1.215E-03	1.215E-03
01	1.952E-05	8.912E-02	1.108E-01	1.057E-01	9.668E-06	9.668E-06	9.668E-06
23	1.100E-02	8.413E-03	8.371E-03	7.587E-03	5.512E-03	4.855E-03	4.855E-03
03	1.231E-01	1.517E-05	1.196E-01	1.164E-01	9.326E-07	9.326E-07	9.326E-07
22	1.000E-02	1.266E-02	1.295E-02	1.248E-02	1.028E-02	9.657E-02	9.657E-02
03	8.554E-03	6.323E-03	4.101E-03	2.350E-03	1.039E-03	1.039E-03	1.039E-03
21	9.000E-03	1.848E-02	1.913E-02	1.884E-02	1.634E-02	1.568E-02	1.568E-02
02	1.417E-02	1.106E-02	7.970E-03	5.052E-03	2.567E-03	2.567E-03	2.567E-03
20	8.000E-03	2.405E-02	2.496E-02	2.490E-02	2.236E-02	2.182E-02	2.182E-02
02	2.026E-02	1.670E-02	1.297E-02	9.236E-03	5.781E-03	5.781E-03	5.781E-03
19	6.700E-03	2.466E-02	2.570E-02	2.589E-02	2.370E-02	2.344E-02	2.344E-02
02	2.229E-02	1.918E-02	1.586E-02	1.240E-02	8.960E-03	8.960E-03	8.960E-03
18	5.500E-03	1.537E-02	1.631E-02	1.663E-02	1.513E-02	1.522E-02	1.522E-02
02	1.480E-02	1.293E-02	1.089E-02	8.652E-03	6.331E-03	6.331E-03	6.331E-03
17	4.500E-03	7.849E-02	7.858E-02	7.874E-02	7.900E-02	7.929E-02	7.929E-02
02	7.972E-02	8.020E-02	8.070E-02	8.122E-02	8.175E-02	8.175E-02	8.175E-02
16	3.700E-03	6.219E-02	6.124E-02	6.198E-02	5.927E-02	6.198E-02	6.198E-02
02	6.209E-02	6.094E-02	6.242E-02	6.263E-02	6.289E-02	6.289E-02	6.289E-02
15	3.100E-03	4.803E-02	4.787E-02	4.771E-02	4.760E-02	4.754E-02	4.754E-02
02	4.753E-02	4.755E-02	4.759E-02	4.765E-02	4.776E-02	4.776E-02	4.776E-02
14	2.600E-03	3.508E-02	3.496E-02	3.485E-02	3.477E-02	3.473E-02	3.473E-02
02	3.472E-02	3.473E-02	3.475E-02	3.478E-02	3.484E-02	3.484E-02	3.484E-02
13	2.200E-03	2.429E-02	2.427E-02	2.427E-02	2.428E-02	2.432E-02	2.432E-02
02	2.439E-02	2.448E-02	2.456E-02	2.464E-02	2.474E-02	2.474E-02	2.474E-02
12	1.900E-03	1.632E-02	1.642E-02	1.654E-02	1.666E-02	1.680E-02	1.680E-02
02	1.697E-02	1.715E-02	1.731E-02	1.747E-02	1.764E-02	1.764E-02	1.764E-02
11	1.700E-03	1.138E-02	1.157E-02	1.178E-02	1.198E-02	1.220E-02	1.220E-02
02	1.245E-02	1.269E-02	1.292E-02	1.315E-02	1.337E-02	1.337E-02	1.337E-02
10	1.500E-03	7.101E-03	7.358E-03	7.640E-03	7.908E-03	8.198E-03	8.198E-03
03	8.507E-03	8.805E-03	9.091E-03	9.363E-03	9.626E-03	9.626E-03	9.626E-03
9	1.400E-03	5.425E-03	5.692E-03	5.993E-03	6.261E-03	6.561E-03	6.561E-03
03	6.880E-03	7.188E-03	7.488E-03	7.776E-03	8.054E-03	8.054E-03	8.054E-03
8	1.200E-03	2.902E-03	3.144E-03	3.413E-03	3.674E-03	3.959E-03	3.959E-03
03	4.267E-03	4.566E-03	4.858E-03	5.144E-03	5.423E-03	5.423E-03	5.423E-03

7	1.000E-03	1.416E-03	1.595E-03	1.799E-03	2.004E-03	2.235E-	
03	2.493E-03	2.752E-03	3.008E-03	3.262E-03	3.513E-03		
6	8.000E-04	6.402E-04	7.541E-04	8.910E-04	1.034E-03	1.201E-	
03	1.392E-03	1.590E-03	1.791E-03	1.996E-03	2.203E-03		
5	6.000E-04	2.740E-04	3.391E-04	4.216E-04	5.118E-04	6.223E-	
04	7.552E-04	8.976E-04	1.048E-03	1.206E-03	1.371E-03		
4	4.000E-04	1.163E-04	1.517E-04	1.993E-04	2.541E-04	3.248E-	
04	4.142E-04	5.144E-04	6.247E-04	7.446E-04	8.738E-04		
3	2.000E-04	5.515E-05	7.580E-05	1.051E-04	1.406E-04	1.887E-	
04	2.525E-04	3.270E-04	4.121E-04	5.077E-04	6.137E-04		
2	1.000E-04	4.175E-05	5.888E-05	8.378E-05	1.145E-04	1.570E-	
04	2.144E-04	2.825E-04	3.612E-04	4.506E-04	5.508E-04		
1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
0		X=	9.000E-03	9.500E-03	1.000E-02	1.500E-02	2.000E-
02	3.000E-02	4.000E-02	5.500E-02	6.000E-02	7.500E-02		
0		K=	41	42	43	44	45
46	47	48	49	50			
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
58	7.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
57	7.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
56	6.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
55	6.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
54	6.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
53	6.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
52	6.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
51	5.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
50	5.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
49	5.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
48	5.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
47	4.900E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
46	4.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
45	4.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
44	4.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-10		
43	4.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	1.135E-10	3.668E-10		
42	3.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.721E-10	8.244E-10	3.022E-09		
41	3.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	3.903E-10	1.720E-09	5.727E-09	1.846E-08		
40	3.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	3.580E-10	3.380E-09	1.246E-08	3.723E-08	1.094E-07		
39	3.200E-02	1.135E-10	1.135E-10	1.135E-10	1.257E-10	8.720E-	
10	4.257E-09	2.658E-08	8.864E-08	2.401E-07	6.351E-07		
38	3.000E-02	1.135E-10	1.135E-10	6.503E-10	3.319E-09	1.150E-	
08	4.259E-08	2.117E-07	6.330E-07	1.526E-06	3.575E-06		
37	2.800E-02	6.749E-09	8.098E-09	2.278E-08	6.136E-08	1.515E-	
07	4.444E-07	1.731E-06	4.496E-06	9.441E-06	1.923E-05		
36	2.600E-02	2.458E-07	2.795E-07	5.689E-07	1.099E-06	2.077E-	

06	4.870E-06	1.443E-05	3.124E-05	5.567E-05	9.650E-05		
35	2.400E-02	7.791E-06	8.516E-06	1.367E-05	2.023E-05	3.049E-	
05	5.634E-05	1.196E-04	2.037E-04	2.984E-04	4.303E-04		
34	2.200E-02	2.292E-04	2.425E-04	3.213E-04	3.904E-04	4.776E-	
04	6.344E-04	8.732E-04	1.108E-03	1.305E-03	1.557E-03		
33	2.000E-02	5.997E-03	6.128E-03	6.546E-03	6.445E-03	5.775E-	
03	4.979E-03	4.406E-03	4.247E-03	4.152E-03	4.266E-03		
32	1.950E-02	1.174E-02	1.150E-02	1.095E-02	9.581E-03	7.923E-	
03	6.517E-03	5.590E-03	5.290E-03	5.094E-03	5.173E-03		
31	1.850E-02	7.377E-06	8.144E-06	2.601E-02	1.925E-02	1.389E-	
02	1.048E-02	8.520E-03	7.828E-03	7.377E-03	7.354E-03		
30	1.800E-02	5.191E-05	4.717E-05	2.174E-04	2.456E-02	1.702E-	
02	1.259E-02	1.011E-02	9.236E-03	8.665E-03	8.601E-03		
29	1.700E-02	6.658E-04	2.879E-04	1.073E-03	7.264E-04	2.326E-	
02	1.686E-02	1.347E-02	1.233E-02	1.155E-02	1.144E-02		
28	1.600E-02	1.662E-03	7.284E-04	3.773E-03	2.198E-03	2.917E-	
02	2.122E-02	1.716E-02	1.590E-02	1.497E-02	1.483E-02		
27	1.500E-02	7.893E-02	1.143E-03	7.287E-03	4.028E-03	2.489E-	
03	2.629E-02	2.167E-02	2.036E-02	1.922E-02	1.904E-02		
26	1.400E-02	8.542E-02	5.229E-06	7.626E-02	5.663E-03	3.963E-	
03	3.319E-03	2.770E-02	2.625E-02	2.473E-02	2.439E-02		
25	1.300E-02	9.102E-02	3.271E-04	6.650E-02	5.831E-03	4.980E-	
03	4.587E-03	4.362E-03	3.938E-03	4.334E-03	5.058E-03		
24	1.200E-02	9.720E-02	1.198E-04	3.450E-06	2.623E-03	3.800E-	
03	5.092E-03	6.222E-03	6.499E-03	7.150E-03	8.130E-03		
23	1.100E-02	1.070E-01	1.028E-05	9.883E-02	4.987E-04	1.427E-	
03	5.169E-03	8.829E-03	9.377E-03	1.013E-02	1.218E-02		
22	1.000E-02	2.724E-04	2.760E-05	1.205E-01	1.009E-01	8.843E-	
02	8.137E-02	7.620E-02	6.902E-02	6.341E-02	6.096E-02		
21	9.000E-03	8.959E-04	1.633E-04	2.235E-03	4.852E-04	1.184E-	
01	1.085E-01	1.014E-01	8.855E-02	8.091E-02	7.685E-02		
20	8.000E-03	2.997E-03	1.174E-03	9.421E-03	5.074E-03	1.032E-	
02	1.269E-01	1.240E-01	1.145E-01	1.030E-01	9.653E-02		
19	6.700E-03	5.817E-03	3.247E-03	1.760E-02	1.385E-02	1.902E-	
02	1.674E-02	2.248E-02	7.475E-03	1.263E-01	1.229E-01		
18	5.500E-03	4.104E-03	2.221E-03	1.354E-02	1.034E-02	1.165E-	
02	1.069E-02	1.373E-02	1.021E-02	1.411E-02	1.882E-02		
17	4.500E-03	8.232E-02	8.293E-02	8.364E-02	1.770E-03	1.722E-	
03	1.465E-03	2.593E-03	4.717E-03	8.472E-03	9.333E-03		
16	3.700E-03	6.322E-02	5.466E-02	6.445E-02	7.340E-02	7.912E-	
02	1.882E-05	6.750E-05	3.921E-04	1.600E-03	2.430E-03		
15	3.100E-03	4.794E-02	4.830E-02	4.913E-02	5.555E-02	6.164E-	
02	7.325E-02	8.377E-02	3.588E-06	7.452E-05	3.081E-04		
14	2.600E-03	3.493E-02	3.517E-02	3.624E-02	4.113E-02	4.734E-	
02	5.859E-02	7.097E-02	1.399E-09	6.819E-07	2.364E-05		
13	2.200E-03	2.484E-02	2.498E-02	2.631E-02	3.043E-02	3.663E-	
02	4.747E-02	6.099E-02	7.877E-02	1.492E-09	8.350E-07		
12	1.900E-03	1.780E-02	1.797E-02	1.943E-02	2.320E-02	2.932E-	
02	3.981E-02	5.387E-02	7.101E-02	1.597E-14	1.603E-08		
11	1.700E-03	1.358E-02	1.378E-02	1.531E-02	1.892E-02	2.493E-	
02	3.516E-02	4.939E-02	6.619E-02	8.305E-02	1.303E-09		
10	1.500E-03	9.883E-03	1.013E-02	1.169E-02	1.512E-02	2.098E-	
02	3.092E-02	4.522E-02	6.167E-02	7.843E-02	1.359E-11		
9	1.400E-03	8.321E-03	8.579E-03	1.013E-02	1.346E-02	1.921E-	
02	2.900E-02	4.328E-02	5.955E-02	7.621E-02	7.905E-13		
8	1.200E-03	5.694E-03	5.956E-03	7.454E-03	1.058E-02	1.608E-	
02	2.554E-02	3.975E-02	5.565E-02	7.212E-02	5.140E-14		
7	1.000E-03	3.760E-03	4.003E-03	5.399E-03	8.298E-03	1.354E-	
02	2.267E-02	3.674E-02	5.231E-02	6.865E-02	8.389E-02		
6	8.000E-04	2.413E-03	2.627E-03	3.886E-03	6.561E-03	1.154E-	
02	2.038E-02	3.428E-02	4.958E-02	6.594E-02	8.219E-02		
5	6.000E-04	1.542E-03	1.717E-03	2.826E-03	5.300E-03	1.006E-	
02	1.863E-02	3.238E-02	4.746E-02	6.378E-02	8.008E-02		
4	4.000E-04	1.011E-03	1.157E-03	2.137E-03	4.448E-03	9.032E-	
03	1.741E-02	3.103E-02	4.596E-02	6.222E-02	7.851E-02		
3	2.000E-04	7.295E-04	8.550E-04	1.753E-03	3.960E-03	8.434E-	

03	1.670E-02	3.024E-02	4.507E-02	6.128E-02	7.753E-02		
2	1.000E-04	6.613E-04	7.820E-04	1.660E-03	3.840E-03	8.286E-	
03	1.652E-02	3.005E-02	4.485E-02	6.105E-02	7.729E-02		
1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
0		X=	8.000E-02	9.500E-02	1.100E-01	1.250E-01	1.350E-
01	1.450E-01	1.550E-01	1.650E-01	1.750E-01			
0		K=	51	52	53	54	55
56		57	58	59			
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			
58	7.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	0.000E+00			
57	7.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	0.000E+00			
56	6.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	0.000E+00			
55	6.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	0.000E+00			
54	6.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	0.000E+00			
53	6.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	0.000E+00			
52	6.000E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	0.000E+00			
51	5.800E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	0.000E+00			
50	5.600E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	0.000E+00			
49	5.400E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	1.135E-10	0.000E+00			
48	5.200E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	1.135E-10	1.135E-10	2.055E-10	0.000E+00			
47	4.900E-02	1.135E-10	1.135E-10	1.135E-10	1.135E-10	1.135E-	
10	4.492E-10	9.519E-10	2.236E-09	0.000E+00			
46	4.600E-02	1.135E-10	1.135E-10	3.545E-10	1.160E-09	2.299E-	
09	4.301E-09	7.468E-09	1.544E-08	0.000E+00			
45	4.400E-02	1.135E-10	4.045E-10	2.216E-09	5.862E-09	1.090E-	
08	1.929E-08	3.213E-08	6.266E-08	0.000E+00			
44	4.200E-02	1.702E-10	2.248E-09	1.010E-08	2.481E-08	4.463E-	
08	7.647E-08	1.233E-07	2.280E-07	0.000E+00			
43	4.000E-02	1.491E-09	1.120E-08	4.382E-08	1.018E-07	1.771E-	
07	2.931E-07	4.565E-07	7.993E-07	0.000E+00			
42	3.800E-02	9.034E-09	5.323E-08	1.859E-07	4.070E-07	6.819E-	
07	1.087E-06	1.632E-06	2.702E-06	0.000E+00			
41	3.600E-02	5.035E-08	2.472E-07	7.675E-07	1.576E-06	2.535E-	
06	3.883E-06	5.610E-06	8.768E-06	0.000E+00			
40	3.400E-02	2.739E-07	1.117E-06	3.066E-06	5.871E-06	9.043E-	
06	1.327E-05	1.841E-05	2.715E-05	0.000E+00			
39	3.200E-02	1.444E-06	4.871E-06	1.175E-05	2.089E-05	3.069E-	
05	4.302E-05	5.726E-05	7.962E-05	0.000E+00			
38	3.000E-02	7.298E-06	2.028E-05	4.279E-05	7.023E-05	9.802E-	
05	1.309E-04	1.669E-04	2.190E-04	0.000E+00			
37	2.800E-02	3.479E-05	7.934E-05	1.456E-04	2.195E-04	2.900E-	
04	3.681E-04	4.493E-04	5.572E-04	0.000E+00			
36	2.600E-02	1.524E-04	2.841E-04	4.514E-04	6.227E-04	7.770E-	
04	9.372E-04	1.096E-03	1.291E-03	0.000E+00			
35	2.400E-02	5.851E-04	8.928E-04	1.232E-03	1.557E-03	1.839E-	
03	2.115E-03	2.380E-03	2.694E-03	0.000E+00			
34	2.200E-02	1.828E-03	2.336E-03	2.866E-03	3.383E-03	3.832E-	
03	4.257E-03	4.669E-03	5.167E-03	0.000E+00			
33	2.000E-02	4.490E-03	5.099E-03	5.801E-03	6.568E-03	7.268E-	
03	7.914E-03	8.558E-03	9.367E-03	0.000E+00			
32	1.950E-02	5.393E-03	6.061E-03	6.828E-03	7.696E-03	8.489E-	
03	9.203E-03	9.926E-03	1.082E-02	0.000E+00			



	04	5.000E-04	6.000E-04	7.000E-04	8.000E-04	9.000E-04	
	0	K=					5
	6	7	8	9	10		
I		Y					
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
58	7.200E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
57	7.000E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
56	6.800E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
55	6.600E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
54	6.400E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
53	6.200E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
52	6.000E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
51	5.800E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
50	5.600E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
49	5.400E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
48	5.200E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
47	4.900E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
46	4.600E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
45	4.400E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
44	4.200E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
43	4.000E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
42	3.800E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
41	3.600E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
40	3.400E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
39	3.200E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
38	3.000E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
37	2.800E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
36	2.600E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
35	2.400E-02	0.000E+00	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.424E-
11	6.330E-11	6.300E-11	5.847E-11	5.615E-11	5.483E-11		
34	2.200E-02	0.000E+00	6.499E-11	5.282E-11	5.239E-11	5.226E-	
11	5.221E-11	5.218E-11	5.217E-11	5.216E-11	1.269E-10		
33	2.000E-02	0.000E+00	6.499E-11	5.214E-11	7.373E-10	5.214E-	
11	4.124E-09	5.214E-11	1.162E-08	5.214E-11	2.431E-08		
32	1.950E-02	0.000E+00	6.499E-11	5.214E-11	5.754E-08	5.214E-	
11	1.806E-07	5.214E-11	3.657E-07	5.214E-11	6.084E-07		
31	1.850E-02	0.000E+00	1.626E-14	1.460E-15	8.280E-16	5.235E-	
16	3.638E-16	2.950E-16	2.141E-16	3.233E-09	1.499E-16		
30	1.800E-02	0.000E+00	4.246E-14	4.310E-15	7.617E-15	1.138E-	
14	1.473E-14	1.712E-14	1.838E-14	2.334E-02	1.885E-14		
29	1.700E-02	0.000E+00	1.355E-12	5.924E-13	6.775E-13	7.851E-	
13	8.901E-13	9.833E-13	1.058E-12	1.111E-12	1.142E-12		



28	1.600E-02	0.000E+00	4.278E-12	2.811E-12	2.978E-12	3.159E-
12	3.335E-12	3.492E-12	3.619E-12	3.710E-12	3.759E-12	
27	1.500E-02	0.000E+00	5.751E-12	4.197E-12	4.404E-12	4.622E-
12	4.842E-12	5.051E-12	5.238E-12	5.395E-12	5.518E-12	
26	1.400E-02	0.000E+00	5.739E-12	4.242E-12	4.486E-12	4.738E-
12	4.990E-12	5.228E-12	5.446E-12	5.636E-12	5.793E-12	
25	1.300E-02	0.000E+00	5.401E-12	3.908E-12	4.151E-12	4.397E-
12	4.632E-12	4.847E-12	5.038E-12	5.198E-12	5.324E-12	
24	1.200E-02	0.000E+00	5.564E-12	3.989E-12	4.143E-12	4.291E-
12	4.424E-12	3.259E-11	4.626E-12	5.057E-11	4.728E-12	
23	1.100E-02	0.000E+00	5.827E-12	4.165E-12	4.210E-12	8.303E-
10	4.286E-12	1.614E-08	4.315E-12	2.142E-08	4.277E-12	
22	1.000E-02	0.000E+00	5.394E-12	3.762E-12	3.873E-12	5.935E-
07	4.064E-12	1.000E-05	4.182E-12	1.173E-05	4.214E-12	
21	9.000E-03	0.000E+00	6.261E-12	4.653E-12	4.638E-12	4.636E-
12	4.638E-12	4.638E-12	4.632E-12	4.617E-12	4.590E-12	
20	8.000E-03	0.000E+00	6.369E-12	4.896E-12	4.838E-12	4.797E-
12	4.769E-12	4.747E-12	4.724E-12	4.699E-12	4.668E-12	
19	6.700E-03	0.000E+00	4.586E-12	3.405E-12	3.370E-12	3.361E-
12	3.368E-12	3.382E-12	3.397E-12	3.410E-12	3.418E-12	
18	5.500E-03	0.000E+00	1.663E-12	9.929E-13	1.028E-12	1.081E-
12	1.139E-12	1.199E-12	1.258E-12	1.316E-12	1.368E-12	
17	4.500E-03	0.000E+00	1.499E-13	3.295E-13	5.574E-14	7.242E-
13	8.989E-14	1.201E-12	1.190E-13	3.930E-12	1.041E-11	
16	3.700E-03	0.000E+00	8.961E-12	2.580E-08	8.571E-12	2.122E-
08	8.275E-12	1.883E-08	7.963E-12	1.469E-08	7.644E-12	
15	3.100E-03	0.000E+00	6.475E-12	1.092E-09	6.042E-12	9.422E-
10	5.754E-12	6.242E-10	5.489E-12	4.998E-10	5.255E-12	
14	2.600E-03	0.000E+00	4.646E-12	3.435E-11	4.162E-12	2.288E-
11	3.891E-12	1.838E-11	3.673E-12	1.396E-11	3.498E-12	
13	2.200E-03	0.000E+00	3.229E-12	3.664E-12	2.696E-12	6.564E-
12	2.490E-12	2.552E-11	2.355E-12	2.304E-12	2.260E-12	
12	1.900E-03	0.000E+00	1.582E-12	1.520E-12	1.505E-12	1.495E-
12	2.197E-12	1.480E-12	1.473E-12	1.467E-12	1.461E-12	
11	1.700E-03	0.000E+00	6.566E-13	8.077E-13	8.801E-13	9.310E-
13	9.670E-13	9.932E-13	1.012E-12	1.027E-12	1.038E-12	
10	1.500E-03	0.000E+00	6.425E-13	6.538E-13	6.683E-13	6.835E-
13	6.984E-13	7.127E-13	7.260E-13	7.385E-13	7.501E-13	
9	1.400E-03	0.000E+00	6.425E-13	6.441E-13	6.474E-13	6.521E-
13	6.579E-13	6.646E-13	6.717E-13	6.792E-13	6.869E-13	
8	1.200E-03	0.000E+00	6.425E-13	6.426E-13	6.429E-13	6.434E-
13	6.441E-13	6.452E-13	6.465E-13	6.481E-13	6.500E-13	
7	1.000E-03	0.000E+00	6.425E-13	6.425E-13	6.425E-13	6.426E-
13	6.427E-13	6.428E-13	6.430E-13	6.432E-13	6.436E-13	
6	8.000E-04	0.000E+00	6.425E-13	6.425E-13	6.425E-13	6.425E-
13	6.425E-13	6.425E-13	6.426E-13	6.426E-13	6.426E-13	
5	6.000E-04	0.000E+00	6.425E-13	6.425E-13	6.425E-13	6.425E-
13	6.425E-13	6.425E-13	6.425E-13	6.425E-13	6.425E-13	
4	4.000E-04	0.000E+00	6.425E-13	6.425E-13	6.425E-13	6.425E-
13	6.425E-13	6.425E-13	6.425E-13	6.425E-13	6.425E-13	
3	2.000E-04	0.000E+00	6.425E-13	6.425E-13	6.425E-13	6.425E-
13	6.425E-13	6.425E-13	6.425E-13	6.425E-13	6.425E-13	
2	1.000E-04	0.000E+00	6.425E-13	6.425E-13	6.425E-13	6.425E-
13	6.425E-13	6.425E-13	6.425E-13	6.425E-13	6.425E-13	
1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
0	X=	1.000E-03	1.100E-03	1.200E-03	1.300E-03	1.400E-
03	1.500E-03	1.600E-03	1.700E-03	1.800E-03	1.900E-03	
0	K=	11	12	13	14	15
16	17	18	19	20		
I	Y					
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	
58	7.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
57	7.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-

11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
56	6.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
55	6.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
54	6.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
53	6.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
52	6.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
51	5.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
50	5.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
49	5.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
48	5.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
47	4.900E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
46	4.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
45	4.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
44	4.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
43	4.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
42	3.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
41	3.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
40	3.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
39	3.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
38	3.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
37	2.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
36	2.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
35	2.400E-02	5.403E-11	5.351E-11	5.317E-11	5.293E-11	5.276E-11	5.276E-
11	5.264E-11	5.254E-11	5.247E-11	5.241E-11	5.237E-11	5.237E-11	5.237E-
34	2.200E-02	5.215E-11	2.626E-10	5.215E-11	4.782E-10	5.215E-11	5.215E-
11	7.951E-10	5.214E-11	1.237E-09	5.214E-11	1.840E-09	5.214E-11	5.214E-
33	2.000E-02	5.214E-11	4.308E-08	5.214E-11	6.882E-08	5.214E-11	5.214E-
11	1.026E-07	5.214E-11	1.460E-07	5.214E-11	2.024E-07	5.214E-11	5.214E-
32	1.950E-02	5.214E-11	9.157E-07	5.214E-11	1.304E-06	5.214E-11	5.214E-
11	1.805E-06	5.214E-11	2.480E-06	5.214E-11	3.463E-06	5.214E-11	5.214E-
31	1.850E-02	3.064E-16	1.174E-16	4.754E-16	9.855E-17	2.782E-17	2.782E-
15	8.437E-17	7.682E-17	6.773E-17	5.626E-17	4.223E-17	4.223E-17	4.223E-
30	1.800E-02	2.261E-14	1.767E-14	2.489E-14	1.508E-14	2.566E-14	2.566E-
14	1.161E-14	2.452E-14	7.549E-15	2.091E-14	3.623E-15	3.623E-15	3.623E-
29	1.700E-02	1.148E-12	1.129E-12	1.089E-12	1.025E-12	9.410E-12	9.410E-
13	8.449E-13	7.414E-13	6.351E-13	5.301E-13	4.305E-13	4.305E-13	4.305E-
28	1.600E-02	3.765E-12	3.727E-12	3.647E-12	3.528E-12	3.374E-12	3.374E-
12	3.189E-12	2.979E-12	2.752E-12	2.513E-12	2.269E-12	2.269E-12	2.269E-
27	1.500E-02	5.601E-12	5.644E-12	5.633E-12	5.574E-12	5.473E-12	5.473E-
12	5.332E-12	5.153E-12	4.942E-12	4.700E-12	4.434E-12	4.434E-12	4.434E-
26	1.400E-02	5.914E-12	5.995E-12	6.035E-12	6.034E-12	5.992E-12	5.992E-
12	5.909E-12	5.786E-12	5.626E-12	5.428E-12	5.180E-12	5.180E-12	5.180E-
25	1.300E-02	5.412E-12	5.462E-12	5.472E-12	5.442E-12	5.373E-12	5.373E-
12	5.267E-12	5.125E-12	4.950E-12	4.745E-12	4.514E-12	4.514E-12	4.514E-
24	1.200E-02	4.737E-12	4.716E-12	4.664E-12	4.583E-12	4.474E-12	4.474E-



52	6.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
51	5.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
50	5.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
49	5.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
48	5.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
47	4.900E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
46	4.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
45	4.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
44	4.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
43	4.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
42	3.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
41	3.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
40	3.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
39	3.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
38	3.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
37	2.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
36	2.600E-02	6.464E-11	6.343E-11	6.222E-11	6.241E-11	6.241E-11	5.921E-11
11	5.687E-11	5.526E-11	5.433E-11	5.375E-11	5.336E-11	5.336E-11	5.336E-11
35	2.400E-02	5.233E-11	5.228E-11	5.225E-11	5.222E-11	5.222E-11	5.221E-11
11	5.219E-11	5.218E-11	5.217E-11	5.217E-11	5.216E-11	5.216E-11	5.216E-11
34	2.200E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
33	2.000E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
32	1.950E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
31	1.850E-02	3.757E-16	2.183E-15	6.335E-16	4.110E-16	4.110E-16	1.324E-16
13	5.546E-16	7.588E-16	5.336E-16	4.564E-16	4.403E-16	4.403E-16	4.403E-16
30	1.800E-02	1.050E-01	1.768E-14	1.007E-01	6.469E-15	6.469E-15	8.945E-15
15	2.283E-14	3.809E-14	1.609E-13	2.724E-14	2.426E-14	2.426E-14	2.426E-14
29	1.700E-02	8.384E-13	9.912E-13	1.641E-07	4.745E-11	4.745E-11	5.726E-11
02	4.797E-11	1.517E-04	4.883E-11	1.155E-01	4.915E-11	4.915E-11	4.915E-11
28	1.600E-02	3.553E-12	4.213E-12	3.553E-12	2.983E-12	2.983E-12	2.465E-12
12	2.763E-12	6.650E-07	4.703E-11	1.290E-01	4.777E-11	4.777E-11	4.777E-11
27	1.500E-02	6.295E-12	7.329E-12	6.618E-12	5.928E-12	5.928E-12	5.257E-12
12	5.853E-12	5.909E-12	4.842E-12	5.685E-07	4.692E-11	4.692E-11	4.692E-11
26	1.400E-02	7.159E-12	8.295E-12	7.628E-12	6.959E-12	6.959E-12	6.293E-12
12	6.975E-12	4.323E-11	6.106E-12	5.332E-12	4.059E-12	4.059E-12	4.059E-12
25	1.300E-02	6.330E-12	7.422E-12	6.772E-12	6.124E-12	6.124E-12	5.483E-12
12	6.088E-12	3.692E-10	5.194E-12	5.334E-12	3.269E-12	3.269E-12	3.269E-12
24	1.200E-02	5.127E-12	6.095E-12	5.595E-12	5.087E-12	5.087E-12	4.529E-12
12	5.089E-12	2.977E-09	4.385E-12	1.106E-11	2.800E-12	2.800E-12	2.800E-12
23	1.100E-02	4.406E-12	5.326E-12	4.961E-12	4.584E-12	4.584E-12	4.200E-12
12	4.856E-12	2.487E-08	4.623E-12	4.526E-11	3.429E-12	3.429E-12	3.429E-12
22	1.000E-02	4.599E-12	5.468E-12	5.140E-12	4.810E-12	4.810E-12	4.479E-12
12	5.111E-12	2.158E-07	5.090E-12	3.692E-10	4.241E-12	4.241E-12	4.241E-12
21	9.000E-03	4.998E-12	5.820E-12	3.124E-11	5.261E-12	5.261E-12	4.986E-12
12	5.612E-12	2.330E-06	5.637E-12	4.663E-09	4.919E-12	4.919E-12	4.919E-12
20	8.000E-03	5.143E-12	5.914E-12	5.697E-12	5.480E-12	5.480E-12	5.261E-12
12	5.849E-12	1.298E-08	5.945E-12	8.133E-08	5.363E-12	5.363E-12	5.363E-12

19	6.700E-03	4.076E-12	4.727E-12	2.202E-11	4.432E-12	7.684E-	
10	4.758E-12	4.262E-07	4.878E-12	1.993E-06	4.460E-12		
18	5.500E-03	9.382E-11	2.552E-12	2.798E-09	2.341E-12	7.328E-	
08	2.554E-12	9.288E-06	2.606E-12	3.123E-05	2.322E-12		
17	4.500E-03	1.217E-07	9.409E-12	1.630E-06	9.247E-12	3.520E-	
05	9.137E-12	7.353E-04	9.054E-12	1.846E-03	9.045E-12		
16	3.700E-03	3.939E-07	6.421E-12	4.727E-05	6.232E-12	8.741E-	
04	6.095E-12	4.147E-03	5.958E-12	8.479E-03	5.878E-12		
15	3.100E-03	2.297E-10	4.381E-12	3.077E-10	4.253E-12	4.246E-	
10	4.160E-12	4.108E-12	7.442E-11	4.032E-12	2.053E-10		
14	2.600E-03	2.995E-12	2.949E-12	2.911E-12	1.293E-11	2.851E-	
12	2.828E-12	3.403E-12	2.778E-12	2.760E-12	6.406E-12		
13	2.200E-03	2.020E-12	2.001E-12	1.280E-09	1.972E-12	1.962E-	
12	1.953E-12	1.944E-12	1.937E-12	1.933E-12	1.929E-12		
12	1.900E-03	3.523E-12	1.417E-12	1.416E-12	1.415E-12	1.416E-	
12	1.417E-12	1.420E-12	1.423E-12	1.427E-12	1.432E-12		
11	1.700E-03	1.092E-12	1.099E-12	1.105E-12	1.112E-12	1.118E-	
12	1.125E-12	1.134E-12	1.143E-12	1.152E-12	1.160E-12		
10	1.500E-03	8.434E-13	8.550E-13	8.659E-13	8.762E-13	8.860E-	
13	8.976E-13	9.107E-13	9.231E-13	9.349E-13	9.462E-13		
9	1.400E-03	7.661E-13	7.773E-13	7.879E-13	7.980E-13	8.077E-	
13	8.191E-13	8.321E-13	8.444E-13	8.564E-13	8.678E-13		
8	1.200E-03	6.827E-13	6.893E-13	6.961E-13	7.028E-13	7.095E-	
13	7.178E-13	7.277E-13	7.374E-13	7.470E-13	7.565E-13		
7	1.000E-03	6.536E-13	6.565E-13	6.596E-13	6.629E-13	6.664E-	
13	6.710E-13	6.768E-13	6.828E-13	6.890E-13	6.953E-13		
6	8.000E-04	6.452E-13	6.462E-13	6.474E-13	6.487E-13	6.502E-	
13	6.523E-13	6.551E-13	6.582E-13	6.616E-13	6.652E-13		
5	6.000E-04	6.431E-13	6.434E-13	6.438E-13	6.442E-13	6.448E-	
13	6.456E-13	6.468E-13	6.482E-13	6.499E-13	6.518E-13		
4	4.000E-04	6.426E-13	6.427E-13	6.428E-13	6.430E-13	6.432E-	
13	6.435E-13	6.440E-13	6.446E-13	6.453E-13	6.462E-13		
3	2.000E-04	6.425E-13	6.426E-13	6.426E-13	6.427E-13	6.427E-	
13	6.428E-13	6.431E-13	6.433E-13	6.437E-13	6.442E-13		
2	1.000E-04	6.425E-13	6.425E-13	6.426E-13	6.426E-13	6.426E-	
13	6.427E-13	6.429E-13	6.431E-13	6.434E-13	6.438E-13		
1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
0		X=	4.500E-03	4.800E-03	5.200E-03	5.600E-03	6.000E-
03	6.500E-03	7.000E-03	7.500E-03	8.000E-03	8.500E-03		
0		K=	31	32	33	34	35
36			37	38	39	40	
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
58	7.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11		
57	7.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11		
56	6.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11		
55	6.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11		
54	6.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11		
53	6.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11		
52	6.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11		
51	5.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11		
50	5.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11		
49	5.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11		
48	5.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	

11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
47	4.900E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
46	4.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
45	4.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
44	4.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
43	4.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
42	3.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
41	3.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
40	3.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
39	3.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
38	3.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	
37	2.800E-02	6.499E-11	6.496E-11	6.496E-11	6.428E-11	6.376E-11	6.359E-
11	6.220E-11	6.309E-11	6.036E-11	5.854E-11	5.727E-11		
36	2.600E-02	5.310E-11	5.288E-11	5.270E-11	5.258E-11		5.249E-
11	5.241E-11	5.236E-11	5.232E-11	5.230E-11	5.227E-11		
35	2.400E-02	5.216E-11	5.215E-11	5.215E-11	5.215E-11		5.215E-
11	5.215E-11	5.215E-11	5.215E-11	5.215E-11	5.215E-11		
34	2.200E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11		5.214E-
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
33	2.000E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11		5.214E-
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
32	1.950E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11		5.214E-
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
31	1.850E-02	4.478E-16	9.169E-16	1.483E-15	1.453E-15		2.337E-
15	3.459E-15	3.763E-15	4.599E-15	6.013E-15	8.175E-15		
30	1.800E-02	3.482E-14	3.478E-14	4.740E-14	3.784E-14		3.909E-
14	4.057E-14	3.661E-14	3.770E-14	4.233E-14	4.974E-14		
29	1.700E-02	3.272E-13	1.044E-02	4.966E-11	9.680E-02		5.013E-
11	5.043E-11	2.122E-12	8.562E-13	7.843E-13	6.684E-13		
28	1.600E-02	9.071E-13	4.110E-03	4.898E-11	4.641E-02		4.938E-
11	7.749E-02	4.993E-11	9.057E-02	5.049E-11	5.061E-11		
27	1.500E-02	2.674E-05	4.762E-11	4.817E-11	3.223E-03		4.902E-
11	3.868E-02	4.950E-11	9.906E-02	5.005E-11	4.266E-03		
26	1.400E-02	1.883E-05	4.719E-11	2.789E-12	4.399E-03		4.875E-
11	3.373E-02	4.928E-11	5.506E-02	4.976E-11	9.442E-02		
25	1.300E-02	9.586E-12	2.107E-12	1.291E-01	1.423E-12		4.844E-
11	1.466E-03	4.913E-11	2.166E-04	4.954E-11	4.029E-02		
24	1.200E-02	9.260E-12	1.806E-12	1.340E-12	7.620E-09		4.797E-
11	1.208E-01	2.744E-02	4.913E-11	4.931E-11	1.045E-01		
23	1.100E-02	1.012E-11	2.916E-12	2.721E-12	2.023E-12		1.823E-
12	4.751E-11	1.252E-01	4.856E-11	4.894E-11	1.130E-01		
22	1.000E-02	6.644E-12	4.027E-12	3.977E-12	3.353E-12		3.225E-
12	6.825E-12	2.245E-12	1.492E-12	7.161E-12	3.950E-13		
21	9.000E-03	1.284E-11	4.817E-12	1.764E-08	4.416E-12		4.397E-
12	4.160E-12	3.390E-12	4.880E-10	1.630E-12	8.455E-13		
20	8.000E-03	9.770E-11	5.336E-12	4.436E-08	5.006E-12		2.392E-
11	4.785E-12	4.060E-12	2.629E-10	2.384E-12	6.054E-11		
19	6.700E-03	1.721E-09	4.464E-12	2.110E-07	4.246E-12		1.849E-
11	4.143E-12	3.636E-12	4.062E-09	2.446E-12	4.299E-12		
18	5.500E-03	1.981E-08	2.323E-12	6.422E-07	2.195E-12		2.231E-
12	3.085E-09	1.945E-12	6.390E-08	1.337E-12	9.923E-13		
17	4.500E-03	1.039E-06	9.080E-12	5.098E-06	9.186E-12		9.261E-
12	2.979E-07	9.494E-12	1.758E-06	9.760E-12	6.376E-06		
16	3.700E-03	5.852E-12	4.462E-04	5.819E-12	2.326E-03		5.820E-
12	5.837E-12	9.023E-04	5.889E-12	1.929E-11	5.963E-12		
15	3.100E-03	3.982E-12	3.964E-12	6.813E-11	3.935E-12		3.929E-



43	4.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.444E-11	
42	3.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.499E-11	6.484E-11	6.373E-11	6.140E-11		
41	3.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.499E-11	6.430E-11	6.221E-11	5.708E-11	5.367E-11		
40	3.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-11
11	6.442E-11	6.045E-11	5.441E-11	5.290E-11	5.240E-11		
39	3.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.496E-11	6.350E-11
11	5.877E-11	5.321E-11	5.246E-11	5.226E-11	5.219E-11		
38	3.000E-02	6.499E-11	6.499E-11	6.499E-11	6.379E-11	6.060E-11	5.460E-11
11	5.280E-11	5.227E-11	5.219E-11	5.216E-11	5.215E-11		
37	2.800E-02	5.634E-11	5.564E-11	5.338E-11	5.260E-11	5.233E-11	
11	5.220E-11	5.216E-11	5.215E-11	5.214E-11	5.214E-11		
36	2.600E-02	5.226E-11	5.224E-11	5.219E-11	5.217E-11	5.215E-11	
11	5.215E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
35	2.400E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
34	2.200E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
33	2.000E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
32	1.950E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
31	1.850E-02	1.135E-14	1.330E-14	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
30	1.800E-02	5.968E-14	5.768E-14	3.345E-13	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
29	1.700E-02	5.484E-13	2.583E-13	1.175E-12	1.120E-12	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
28	1.600E-02	1.182E-12	5.670E-13	3.337E-12	2.814E-12	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
27	1.500E-02	5.055E-11	1.015E-04	5.462E-12	4.466E-12	3.739E-12	3.739E-12
12	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
26	1.400E-02	5.030E-11	8.417E-02	5.061E-11	5.563E-12	5.157E-12	5.157E-12
12	5.394E-12	5.214E-11	5.214E-11	5.214E-11	5.214E-11		
25	1.300E-02	4.997E-11	9.782E-05	1.736E-02	5.015E-12	5.511E-12	5.511E-12
12	6.085E-12	6.414E-12	6.075E-12	7.124E-12	8.500E-12		
24	1.200E-02	4.967E-11	6.410E-14	9.365E-02	1.945E-12	3.466E-12	3.466E-12
12	5.377E-12	7.136E-12	7.844E-12	9.255E-12	1.083E-11		
23	1.100E-02	4.926E-11	4.936E-15	4.959E-11	3.114E-13	1.049E-12	1.049E-12
12	4.253E-12	7.792E-12	8.858E-12	1.035E-11	1.288E-11		
22	1.000E-02	1.056E-13	1.088E-14	4.828E-11	4.951E-11	5.012E-12	5.012E-12
11	5.049E-11	5.062E-11	5.082E-11	5.101E-11	5.110E-11		
21	9.000E-03	3.011E-13	9.250E-14	7.769E-13	1.892E-13	4.888E-12	4.888E-12
11	4.920E-11	4.948E-11	5.011E-11	5.050E-11	5.060E-11		
20	8.000E-03	8.266E-13	3.341E-13	2.762E-12	1.706E-12	3.665E-12	3.665E-12
12	4.658E-11	4.728E-11	4.900E-11	4.942E-11	4.970E-11		
19	6.700E-03	1.196E-12	6.816E-13	3.773E-12	3.369E-12	5.102E-12	5.102E-12
12	4.675E-12	6.903E-12	2.609E-12	4.672E-11	4.756E-11		
18	5.500E-03	6.523E-13	3.580E-13	2.215E-12	1.833E-12	2.250E-12	2.250E-12
12	2.148E-12	3.071E-12	2.781E-12	4.337E-12	6.137E-12		
17	4.500E-03	1.006E-11	1.023E-11	1.044E-11	2.426E-13	2.569E-12	2.569E-12
13	2.276E-13	4.576E-13	9.787E-13	2.014E-12	2.455E-12		
16	3.700E-03	6.016E-12	8.904E-03	6.218E-12	7.896E-12	9.217E-12	9.217E-12
12	2.403E-15	9.954E-15	6.636E-14	3.146E-13	5.304E-13		
15	3.100E-03	9.467E-11	4.013E-12	4.106E-12	4.896E-12	5.767E-12	5.767E-12
12	7.864E-12	1.048E-11	5.237E-16	1.272E-14	5.875E-14		
14	2.600E-03	2.722E-12	2.742E-12	2.831E-12	3.273E-12	3.907E-12	3.907E-12
12	5.314E-12	7.398E-12	1.808E-19	1.035E-16	4.035E-15		
13	2.200E-03	1.964E-12	1.974E-12	2.065E-12	2.364E-12	2.866E-12	2.866E-12
12	3.921E-12	5.668E-12	9.129E-12	2.070E-19	1.308E-16		
12	1.900E-03	1.522E-12	1.531E-12	1.619E-12	1.856E-12	2.281E-12	2.281E-12
12	3.149E-12	4.677E-12	7.406E-12	2.077E-24	2.359E-18		
11	1.700E-03	1.284E-12	1.296E-12	1.380E-12	1.588E-12	1.970E-12	1.970E-12
12	2.740E-12	4.136E-12	6.511E-12	1.027E-11	1.843E-19		



10	1.500E-03	1.093E-12	1.105E-12	1.105E-12	1.369E-12	1.714E-	
12	2.401E-12	3.680E-12	5.771E-12	9.044E-12	1.849E-21		
9	1.400E-03	1.016E-12	1.028E-12	1.105E-12	1.278E-12	1.605E-	
12	2.257E-12	3.482E-12	5.453E-12	8.518E-12	1.056E-22		
8	1.200E-03	8.912E-13	9.033E-13	9.739E-13	1.128E-12	1.423E-	
12	2.012E-12	3.144E-12	4.909E-12	7.630E-12	6.630E-24		
7	1.000E-03	8.036E-13	8.144E-13	8.776E-13	1.014E-12	1.282E-	
12	1.821E-12	2.875E-12	4.482E-12	6.954E-12	1.051E-11		
6	8.000E-04	7.446E-13	7.538E-13	8.092E-13	9.315E-13	1.177E-	
12	1.676E-12	2.667E-12	4.157E-12	6.468E-12	1.002E-11		
5	6.000E-04	7.071E-13	7.146E-13	7.625E-13	8.731E-13	1.101E-	
12	1.571E-12	2.515E-12	3.920E-12	6.107E-12	9.463E-12		
4	4.000E-04	6.846E-13	6.908E-13	7.326E-13	8.344E-13	1.050E-	
12	1.499E-12	2.410E-12	3.758E-12	5.857E-12	9.063E-12		
3	2.000E-04	6.728E-13	6.781E-13	7.162E-13	8.125E-13	1.021E-	
12	1.458E-12	2.350E-12	3.665E-12	5.712E-12	8.827E-12		
2	1.000E-04	6.700E-13	6.750E-13	7.121E-13	8.071E-13	1.014E-	
12	1.448E-12	2.335E-12	3.642E-12	5.677E-12	8.769E-12		
1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
0		X=	8.000E-02	9.500E-02	1.100E-01	1.250E-01	1.350E-
01	1.450E-01	1.550E-01	1.650E-01	1.750E-01			
0		K=	51	52	53	54	55
56	57	58	59				
I	Y						
59	7.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			
58	7.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	0.000E+00			
57	7.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	0.000E+00			
56	6.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	0.000E+00			
55	6.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	0.000E+00			
54	6.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	0.000E+00			
53	6.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	0.000E+00			
52	6.000E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	0.000E+00			
51	5.800E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	0.000E+00			
50	5.600E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	0.000E+00			
49	5.400E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.499E-11	0.000E+00			
48	5.200E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.499E-	
11	6.499E-11	6.499E-11	6.473E-11	0.000E+00			
47	4.900E-02	6.499E-11	6.499E-11	6.499E-11	6.499E-11	6.494E-	
11	6.432E-11	6.328E-11	6.275E-11	0.000E+00			
46	4.600E-02	6.499E-11	6.499E-11	6.441E-11	6.352E-11	6.290E-	
11	5.870E-11	5.593E-11	5.397E-11	0.000E+00			
45	4.400E-02	6.499E-11	6.426E-11	6.271E-11	5.697E-11	5.474E-	
11	5.361E-11	5.302E-11	5.259E-11	0.000E+00			
44	4.200E-02	6.485E-11	6.278E-11	5.495E-11	5.328E-11	5.277E-	
11	5.251E-11	5.237E-11	5.227E-11	0.000E+00			
43	4.000E-02	6.253E-11	5.467E-11	5.279E-11	5.242E-11	5.230E-	
11	5.224E-11	5.220E-11	5.218E-11	0.000E+00			
42	3.800E-02	5.528E-11	5.267E-11	5.229E-11	5.221E-11	5.218E-	
11	5.217E-11	5.216E-11	5.215E-11	0.000E+00			
41	3.600E-02	5.270E-11	5.226E-11	5.218E-11	5.216E-11	5.215E-	
11	5.215E-11	5.215E-11	5.214E-11	0.000E+00			
40	3.400E-02	5.224E-11	5.217E-11	5.215E-11	5.215E-11	5.214E-	
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00			
39	3.200E-02	5.216E-11	5.215E-11	5.214E-11	5.214E-11	5.214E-	

11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
38	3.000E-02	5.215E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
37	2.800E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
36	2.600E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
35	2.400E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
34	2.200E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
33	2.000E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
32	1.950E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
31	1.850E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
30	1.800E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
29	1.700E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
28	1.600E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	5.214E-11	5.214E-11	0.000E+00		
27	1.500E-02	5.214E-11	5.214E-11	5.214E-11	5.214E-11	5.214E-11
11	5.214E-11	1.974E-11	2.728E-11	0.000E+00		
26	1.400E-02	5.214E-11	5.214E-11	5.214E-11	1.565E-11	1.584E-11
11	1.781E-11	2.112E-11	2.711E-11	0.000E+00		
25	1.300E-02	1.044E-11	1.486E-11	1.568E-11	1.684E-11	1.744E-11
11	1.870E-11	2.174E-11	2.615E-11	0.000E+00		
24	1.200E-02	1.289E-11	1.716E-11	1.754E-11	1.840E-11	5.143E-11
11	5.130E-11	5.124E-11	5.123E-11	0.000E+00		
23	1.100E-02	1.419E-11	5.138E-11	5.118E-11	5.105E-11	5.094E-11
11	5.085E-11	5.083E-11	5.086E-11	0.000E+00		
22	1.000E-02	5.105E-11	5.083E-11	5.070E-11	5.063E-11	5.056E-11
11	5.050E-11	5.051E-11	5.056E-11	0.000E+00		
21	9.000E-03	5.057E-11	5.032E-11	5.010E-11	4.999E-11	4.989E-11
11	4.979E-11	4.985E-11	5.006E-11	0.000E+00		
20	8.000E-03	4.965E-11	4.936E-11	4.925E-11	4.922E-11	4.917E-11
11	4.913E-11	4.923E-11	4.947E-11	0.000E+00		
19	6.700E-03	4.758E-11	4.719E-11	4.719E-11	4.732E-11	4.738E-11
11	4.740E-11	4.786E-11	4.868E-11	0.000E+00		
18	5.500E-03	4.853E-12	5.774E-12	7.109E-12	7.736E-12	8.143E-12
12	1.073E-11	4.629E-11	4.699E-11	0.000E+00		
17	4.500E-03	2.042E-12	2.475E-12	3.149E-12	3.448E-12	3.261E-12
12	4.708E-12	8.321E-12	1.687E-11	0.000E+00		
16	3.700E-03	5.916E-13	9.055E-13	1.320E-12	1.698E-12	1.961E-12
12	3.245E-12	6.201E-12	1.378E-11	0.000E+00		
15	3.100E-03	1.227E-13	3.093E-13	5.790E-13	8.789E-13	1.171E-12
12	2.095E-12	4.166E-12	1.120E-11	0.000E+00		
14	2.600E-03	2.465E-14	1.204E-13	3.000E-13	5.318E-13	7.816E-13
13	1.477E-12	2.973E-12	9.363E-12	0.000E+00		
13	2.200E-03	5.156E-15	5.213E-14	1.639E-13	3.277E-13	5.164E-13
13	1.023E-12	2.120E-12	7.571E-12	0.000E+00		
12	1.900E-03	1.129E-15	2.076E-14	7.925E-14	1.756E-13	2.941E-13
13	6.184E-13	1.353E-12	5.571E-12	0.000E+00		
11	1.700E-03	2.642E-16	1.021E-14	4.725E-14	1.121E-13	1.942E-13
13	4.246E-13	9.574E-13	4.341E-12	0.000E+00		
10	1.500E-03	1.600E-17	3.635E-15	2.434E-14	6.266E-14	1.125E-13
13	2.593E-13	6.061E-13	3.117E-12	0.000E+00		
9	1.400E-03	4.130E-18	3.006E-15	2.378E-14	6.137E-14	1.093E-13
13	2.499E-13	5.725E-13	2.927E-12	0.000E+00		
8	1.200E-03	2.925E-18	8.844E-15	6.799E-14	1.532E-13	2.483E-13
13	4.987E-13	9.883E-13	3.927E-12	0.000E+00		
7	1.000E-03	5.817E-19	8.882E-15	7.201E-14	1.553E-13	2.442E-13
13	4.808E-13	9.273E-13	3.572E-12	0.000E+00		
6	8.000E-04	7.926E-19	7.632E-15	6.738E-14	1.417E-13	2.174E-13

13	4.246E-13	8.085E-13	3.082E-12	0.000E+00			
5	6.000E-04	6.082E-19	5.285E-15	5.024E-14	1.064E-13	1.617E-	
13	3.201E-13	6.135E-13	2.413E-12	0.000E+00			
4	4.000E-04	1.343E-19	2.071E-15	2.402E-14	5.347E-14	8.252E-	
14	1.725E-13	3.450E-13	1.531E-12	0.000E+00			
3	2.000E-04	1.307E-22	5.228E-17	1.411E-15	3.982E-15	6.859E-	
15	1.832E-14	4.549E-14	3.454E-13	0.000E+00			
2	1.000E-04	2.180E-29	1.182E-20	2.202E-18	1.099E-17	2.503E-	
17	1.193E-16	5.050E-16	1.339E-14	0.000E+00			
1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			

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0	X=	0.000E+00	1.000E-04	2.000E-04	3.000E-04	4.000E-	
04	5.000E-04	6.000E-04	7.000E-04	8.000E-04	9.000E-04		
0	K=	1	2	3	4	5	
6	7	8	9	10			

I	Y						
59	7.600E-02	0.000E+00	1.000E-10	1.000E-10	1.000E-10	1.000E-	
10	1.000E-10	1.000E-10	1.000E-10	1.000E-10	1.000E-10		
58	7.200E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
57	7.000E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
56	6.800E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
55	6.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
54	6.400E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
53	6.200E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
52	6.000E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
51	5.800E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
50	5.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
49	5.400E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
48	5.200E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
47	4.900E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
46	4.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
45	4.400E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
44	4.200E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
43	4.000E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
42	3.800E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
41	3.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
40	3.400E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
39	3.200E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
38	3.000E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
37	2.800E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	
00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		
36	2.600E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+	

