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NUMERICAL RESULTS FOR THE SURFACE  
IMPEDANCE OF A STRATIFIED CONDUCTOR

BY C. M. JACKSON, J. R. WAIT  
AND L. C. WALTERS



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U. S. DEPARTMENT OF COMMERCE  
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# NATIONAL BUREAU OF STANDARDS

## *Technical Note*

143

March 19, 1962

### NUMERICAL RESULTS FOR THE SURFACE IMPEDANCE OF A STRATIFIED CONDUCTOR

by

C. M. Jackson, J. R. Wait and L. C. Walters

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## Abstract

Extensive numerical results are presented for the surface impedance of a horizontally stratified conducting medium. Both two- and three-layer models are considered and the results are given for both normal and oblique incidence.

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## NUMERICAL RESULTS FOR THE SURFACE IMPEDANCE OF A STRATIFIED CONDUCTOR

The surface impedance of a stratified conducting medium is an important and useful quantity. In a large measure it determines the propagation constants for waves gliding along its upper surface [Wait, 1953, 1962]. Furthermore, in many actual cases, the surface impedance may be measured directly, such as on the surface of the earth at radio, audio, and sub-audio frequencies. In this way one may infer the characteristics of the lower layers from measurements on the surface.

To calculate the surface impedance, or a related parameter, for a stratified conductor is a tedious business. In many cases, however, the conduction currents are large compared with the displacement currents in each of the strata. Under this situation, the propagation constants  $\gamma_i$  ( $i = 1, 2, 3, \dots$ ) have a phase angle of  $\pi/4$  radians. Thus

$$\gamma_i = (\sigma_i \mu \omega)^{\frac{1}{2}} e^{i\pi/4}$$

where  $\sigma_i$  is the conductivity in the  $i$ 'th layer. The magnetic permeability  $\mu_i$  for each layer is replaced by the constant  $\mu$ .

To facilitate application of the theory, a three-layer model is assumed. The situation is depicted in Fig. 1 where the source field may be a horizontal line current or a vertical magnetic dipole. For this case, and with the specializations mentioned above, the surface impedance at the upper boundary may be defined by

$$Z_1 = - \left. \frac{E_{oy}}{H_{ox}} \right]_{z=0} = - \left. \frac{E_{1y}}{H_{1x}} \right]_{z=0}$$

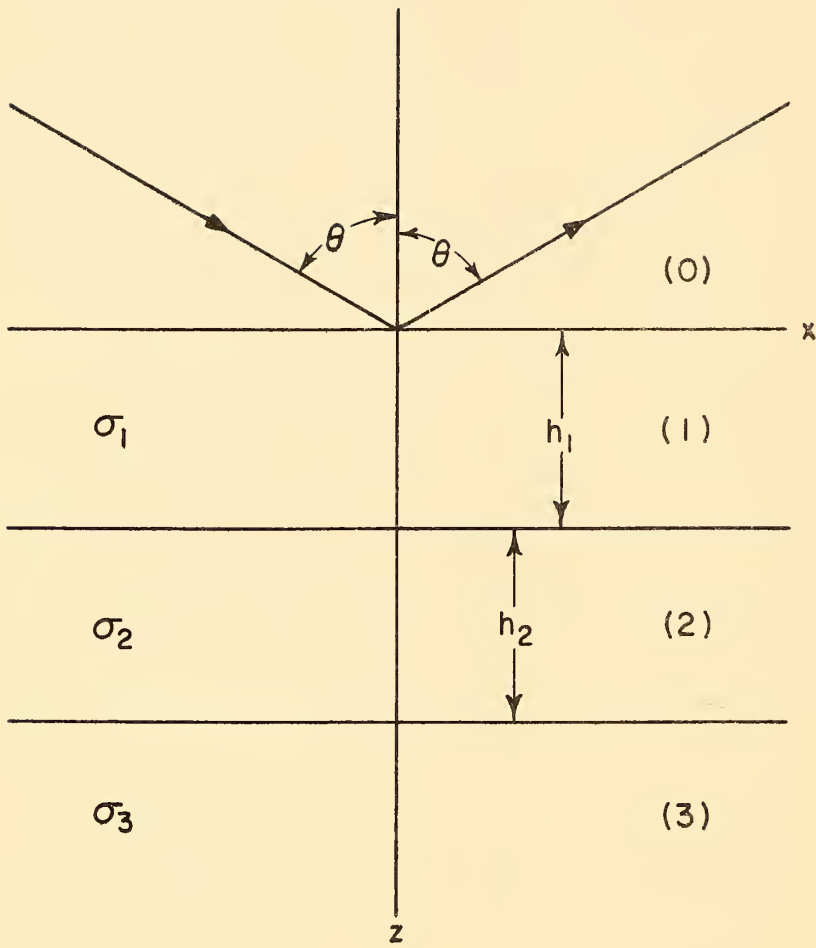


Fig. 1 Three-layer conductor with plane wave incident at a (complex) angle  $\theta$ . Electric vector is perpendicular to paper.



Explicitly, it follows from previous analyses [Wait, 1953, 1962] that

$$Z_1 = \frac{i \mu \omega}{u_1} Q$$

where

$$Q = \frac{u_1 \hat{Q} + u_2 \tanh u_1 h_1}{u_2 + u_1 \hat{Q} \tanh u_1 h_1}$$

and

$$\hat{Q} = \frac{u_2 + u_3 \tanh u_2 h_2}{u_3 + u_2 \tanh u_2 h_2} .$$

In the above

$$u_1 = (\lambda^2 + i \sigma_1 \mu \omega)^{\frac{1}{2}} ,$$

$$u_2 = (\lambda^2 + i \sigma_2 \mu \omega)^{\frac{1}{2}} ,$$

$$u_3 = (\lambda^2 + i \sigma_3 \mu \omega)^{\frac{1}{2}} .$$

As discussed previously [Wait, 1953, 1962],  $\lambda$  can be identified with  $k \sin \theta$  where  $\theta$  is the (complex) angle of incidence. In many applications,  $\lambda^2$  may be neglected compared with  $\sigma_i \mu \omega$  and thus  $u_i \cong \gamma_i$  for  $i = 1, 2, 3$ . Under this condition

$$Z_1 = \left( \frac{i \mu \omega}{\sigma_1} \right)^{\frac{1}{2}} Q$$

where

$$Q = \frac{\gamma_1 \hat{Q} + \gamma_2 \tanh \gamma_1 h_1}{\gamma_2 + \gamma_1 \hat{Q} \tanh \gamma_1 h_1}$$

and

$$\hat{Q} = \frac{\gamma_2 + \gamma_3 \tanh \gamma_2 h_2}{\gamma_3 + \gamma_2 \tanh \gamma_2 h_2}$$

This expression for the surface impedance is exact for a normally incident plane wave, and it is an approximation when  $\lambda$  is finite. The validity of the approximation is discussed below.

Calculations of the amplitude and phase of  $Q$ , for  $\gamma_1 = \gamma_3$ , and for various values of  $(\gamma_1/\gamma_2)$  have been carried out by programming the equation on a high-speed computer where the abscissa in each case is  $(\sigma_1 \mu \omega)^{\frac{1}{2}} h_1$ . Some of the results are shown in Figs. 2a to 5b. In the first set (i. e., Figs. 2a and 2b) the thickness  $h_2$  is infinite, so the situation may be described as a two-layer model. It can be seen that when  $(\sigma_1 \mu \omega)^{\frac{1}{2}} h_1$  is greater than about 3, the amplitude  $|Q|$  is indistinguishable from unity and the phase of  $Q$  becomes zero.

The curves in Figs. 3a and 3b refer to a three-layer model where the conductivity of the bottom (semi-infinite) medium is the same as that of the upper stratum (i. e.,  $\sigma_1 = \sigma_3$  or  $\gamma_1 = \gamma_3$ ). Furthermore, the thickness  $h_1$  of the upper stratum is the same as the thickness  $h_2$  of the lower stratum. The shape of the curves is rather interesting. As  $(\sigma_1 \mu \omega)^{\frac{1}{2}} h_1$  becomes very small or very large,  $Q$  approaches unity. In the former case, the electrical thickness of the lower stratum is so small that its influence on the surface impedance is negligible. In the latter case, the electrical thickness of the upper stratum is so large that the intervening stratum is not "seen." The curves in Figs. 4a and 4b, for  $h_2 = 2h_1$ , as well as those in Figs. 5a and 5b, for  $h_2 = h_1/2$ , are very similar.

Curves of the type shown in Figs. 2a to 5b are useful in a wide variety of problems. However, the source field must be such that the effective value of  $\lambda$  (or  $k \sin \theta$ ) is small compared with  $(\sigma_1 \mu \omega)^{\frac{1}{2}}$ .

To indicate the significance of this approximation, calculations of  $Q$  were carried out for a two-layer model (i. e.,  $h_1 = h$  and  $h_2 = \infty$ ) when  $\lambda$  is finite. In this case

$$Z_1 = \left( \frac{i\mu\omega}{\sigma_1} \right)^{\frac{1}{2}} \frac{Q}{(1 - i\beta)^{\frac{1}{2}}}$$

where

$$Q = \frac{(u_1/u_2) + \tanh u_1 h}{1 + (u_1/u_2) \tanh u_1 h}$$

and  $\beta = \frac{\lambda^2}{\sigma_1 \mu \omega}$ . It is seen that when the thickness  $h$  of the upper stratum approaches infinity  $\lambda$  becomes unity, and  $Z_1$  has the value appropriate for a homogeneous half-space. Thus  $Q$  is again a measure of the influence of stratification. For convenience in the calculation, one may write

$$\frac{u_1}{u_2} = C \left[ \frac{1 - i\beta}{1 - i\beta C^2} \right]^{\frac{1}{2}}$$

where

$$C = \frac{\gamma_1}{\gamma_2} = \left( \frac{\sigma_1}{\sigma_2} \right)^{\frac{1}{2}}.$$

Curves of the amplitude and phase of  $Q$  are shown in Figs. 6a and 6b. In the first pair,  $\sigma_2$  is effectively zero which corresponds to a conducting layer (of thickness  $h$ ) lying on very poorly conducting substratum. It is apparent from these curves that a finite value of  $\beta$  leads to a major change in the behavior of the curves. This would indicate that one should be extremely cautious in interpreting experimental data on the surface impedance when the source field is not known. The same behavior is evident when the lower layer is finitely conducting as can be evidenced in Figs. 7a and 7b where  $\sigma_1/\sigma_2 = 25$ .

However, in this case the effect is not so pronounced. When the lower layer is relatively highly conducting such that  $\sigma_2/\sigma_1 = 25$ , the influence of finite  $\beta$  is relatively small as can be seen in Figs. 8a and 8b.

The results shown in Figs. 6a to 8b are applicable to a source field variation which is periodic in the horizontal ( $x$ ) direction. Thus, the variation may be of the form  $(\pm i \lambda x)$ ,  $\cos \lambda x$  or  $\sin \lambda x$  where the period is  $2\pi/\lambda$ . For an actual source one must superimpose these solutions and integrate over all real values of  $\lambda$ .

Extensive listings of values are given in an appendix at the end of this report. These include the range of parameters covered in Figs. 2a to 8b and many additional values which were not plotted.

#### References

- Wait, J. R., The fields of a line source of current over a stratified conductor, App. Sci. Research, Sec. B, 3, (1953).
- Wait, J. R., The propagation of electromagnetic waves along the earth's surface, pp. 243-290, in Electromagnetic Waves (edited by R. E. Langer), University of Wisconsin Press, Madison, 1962. (Many references are given here.)



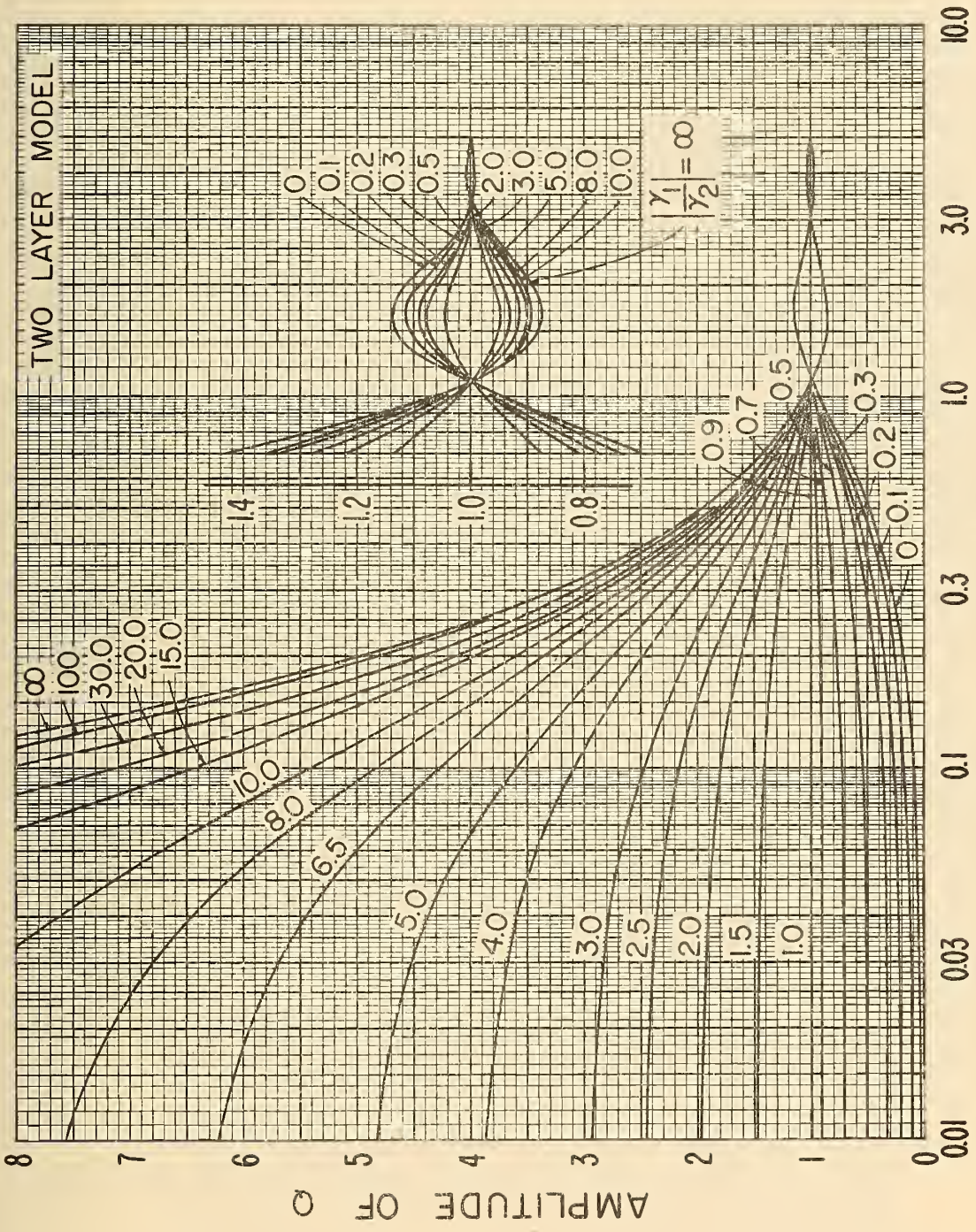
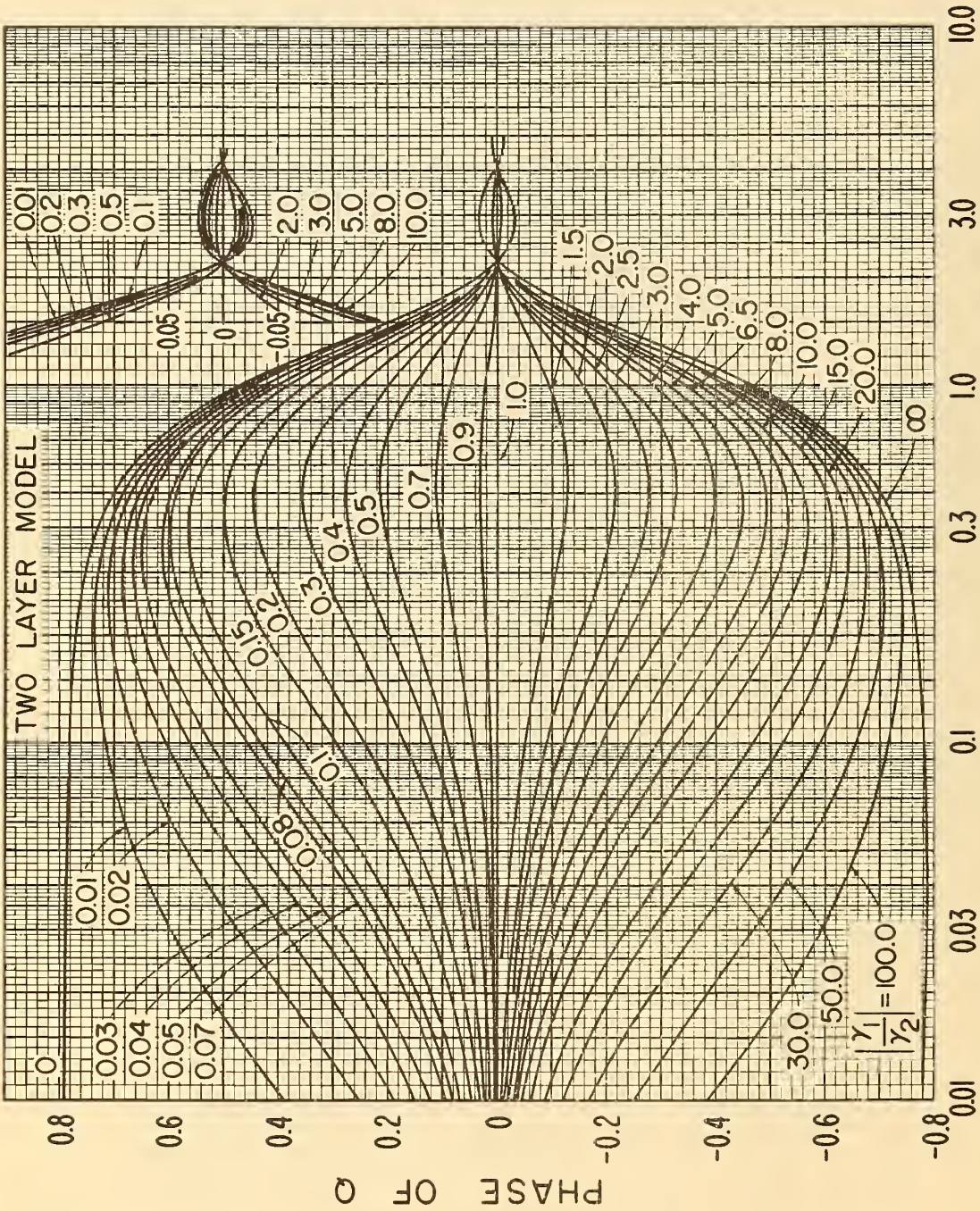


Fig. 2a The amplitude of the correction factor  $Q$  for a two-layer conducting medium ( $\lambda = 0$ ).

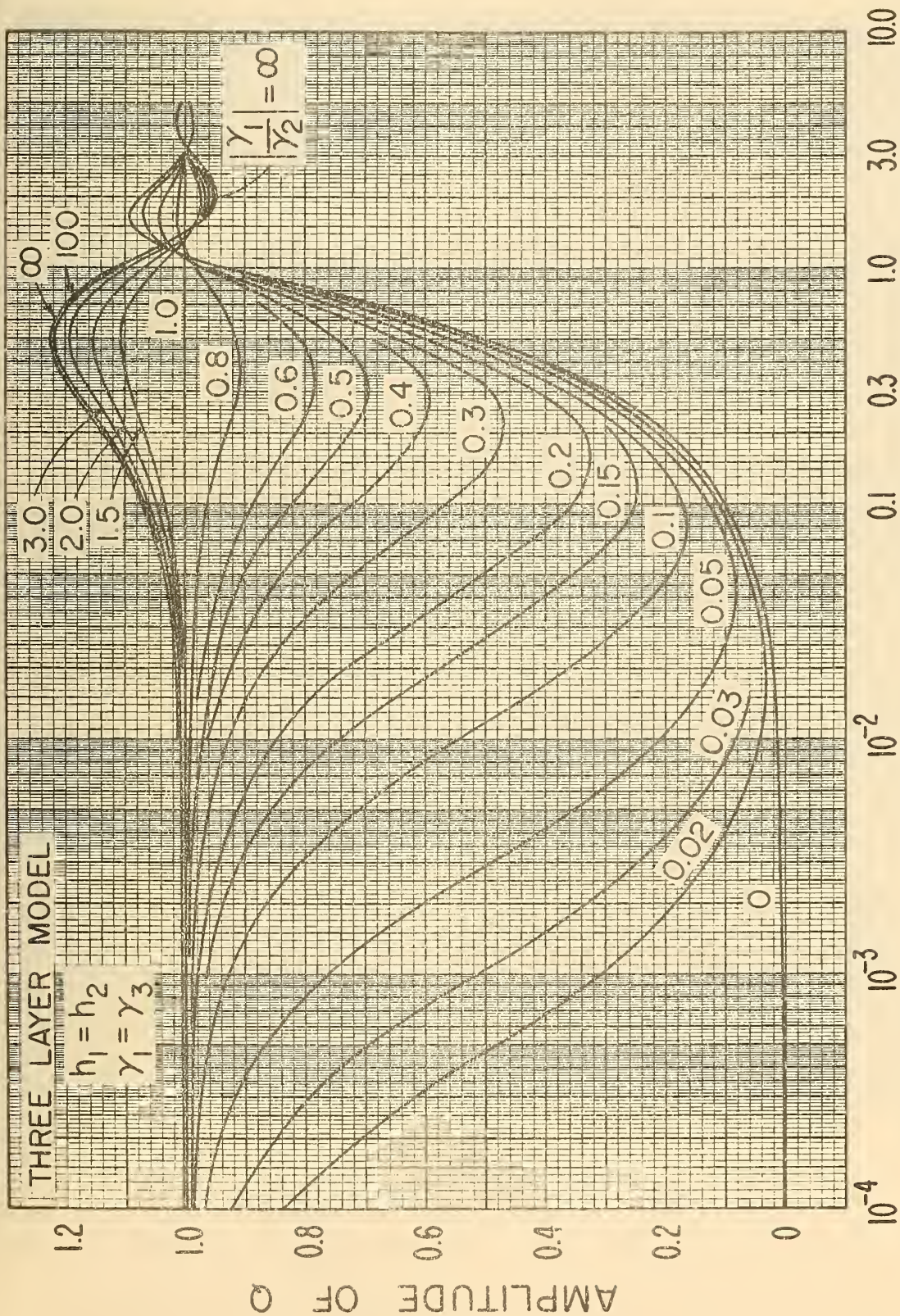




$$(\sigma_1 \mu \omega)^{\frac{1}{2}} h_1$$

Fig. 2b The phase of the correction factor Q for a two-layer conducting medium ( $\lambda = 0$ ). Ordinates in radians.





$$(\sigma_1 \mu \omega)^2 h_1$$

Fig. 3a The amplitude of the correction factor Q for a three-layer conducting medium ( $\lambda = 0$ ).



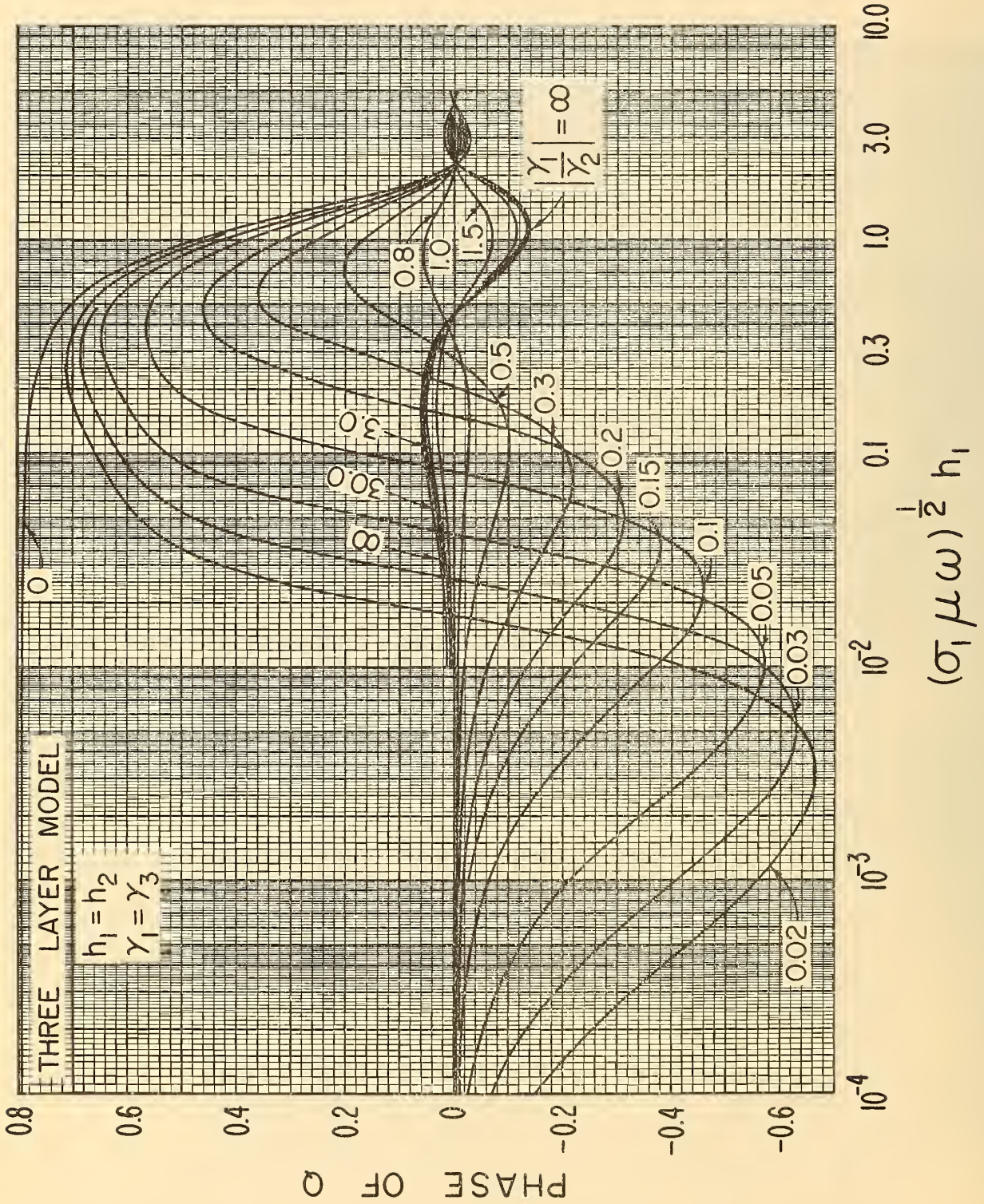


Fig. 3b The phase of the correction factor  $Q$  for a three-layer conducting medium ( $\lambda = 0$ ). Ordinates in radians.



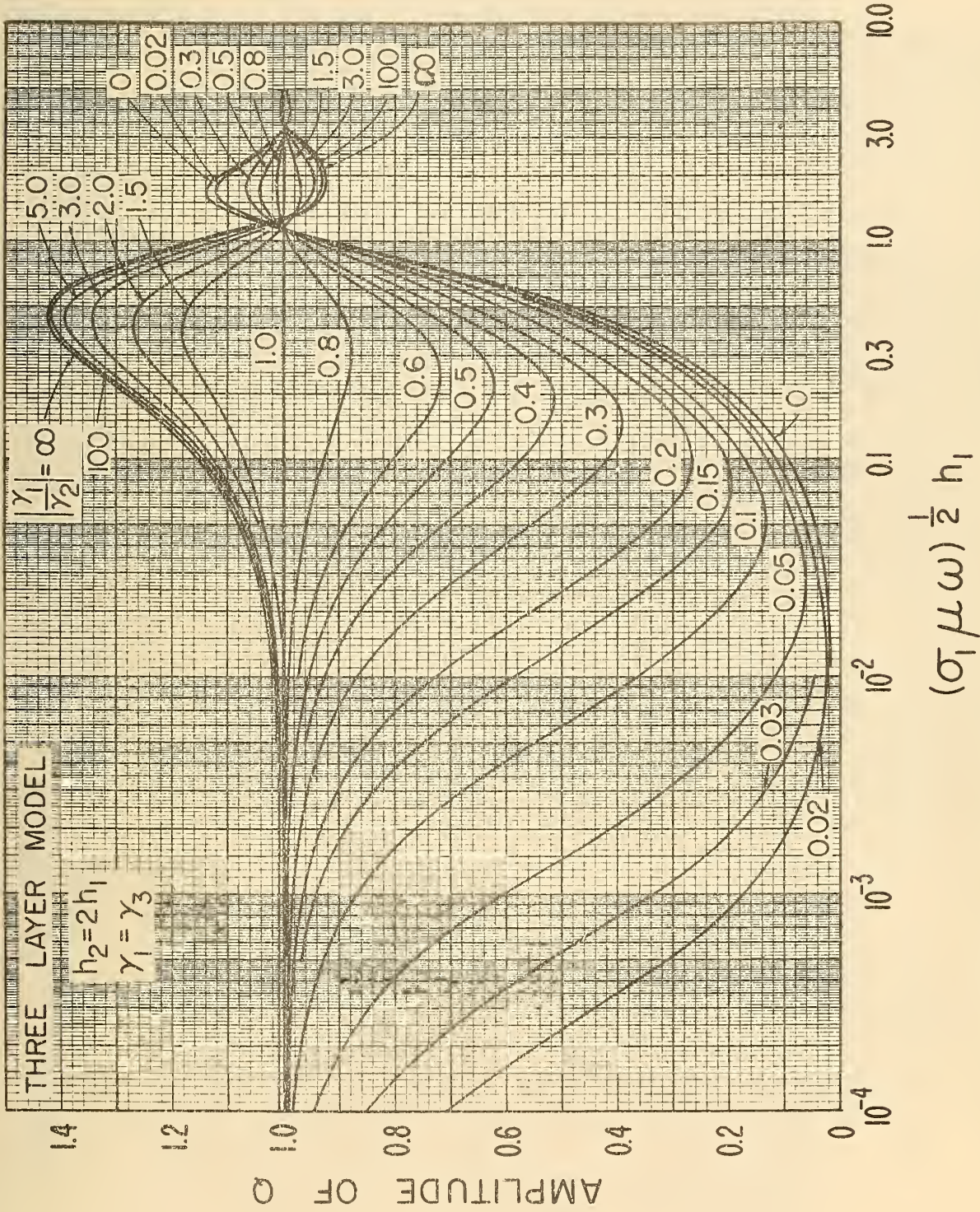


Fig. 4a The amplitude of the correction factor Q for a three-layer conducting medium ( $\lambda = 0$ ).



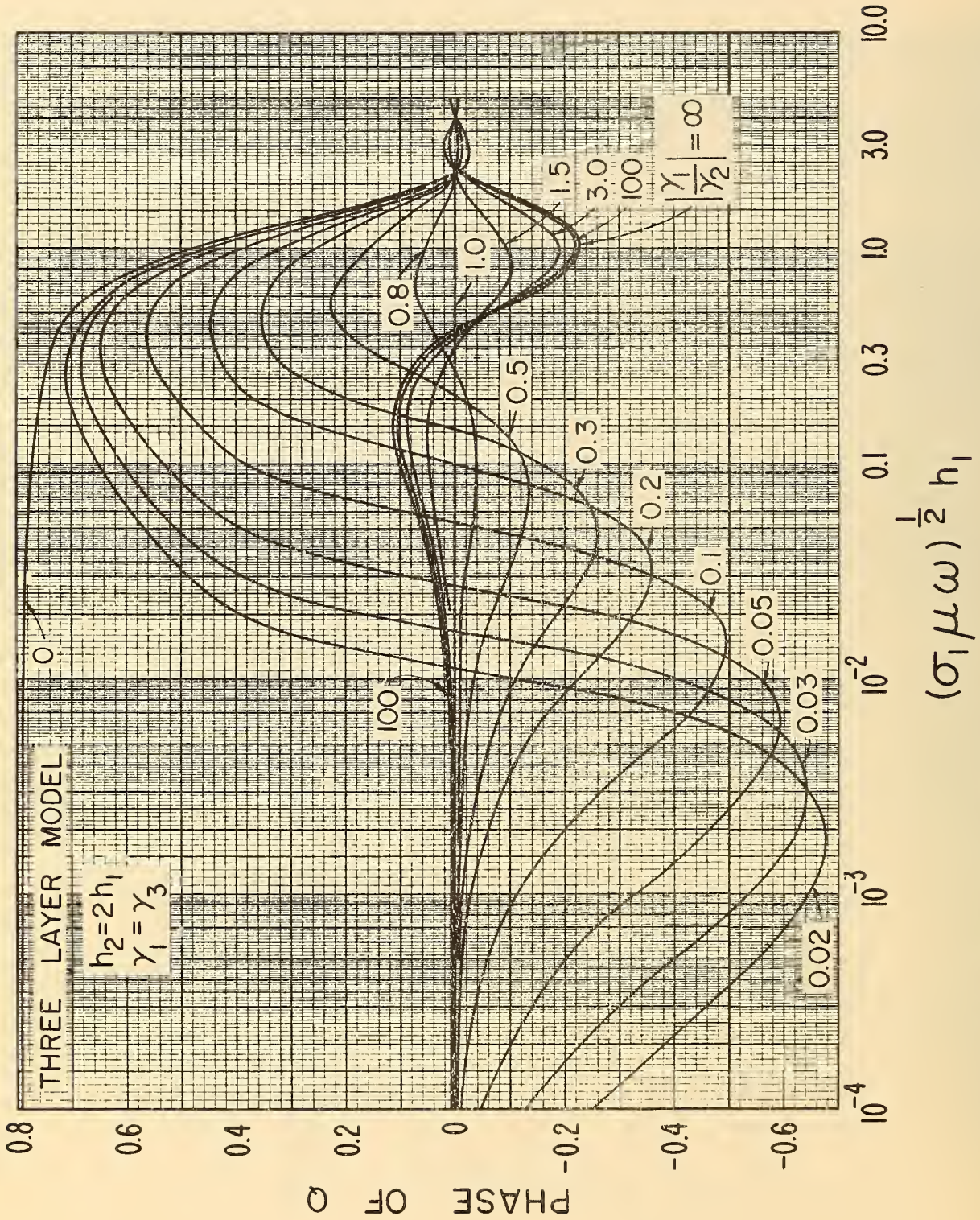


Fig. 4b The phase of the correction factor  $Q$  for a three-layer conducting medium ( $\lambda = 0$ ). Ordinates in radians.



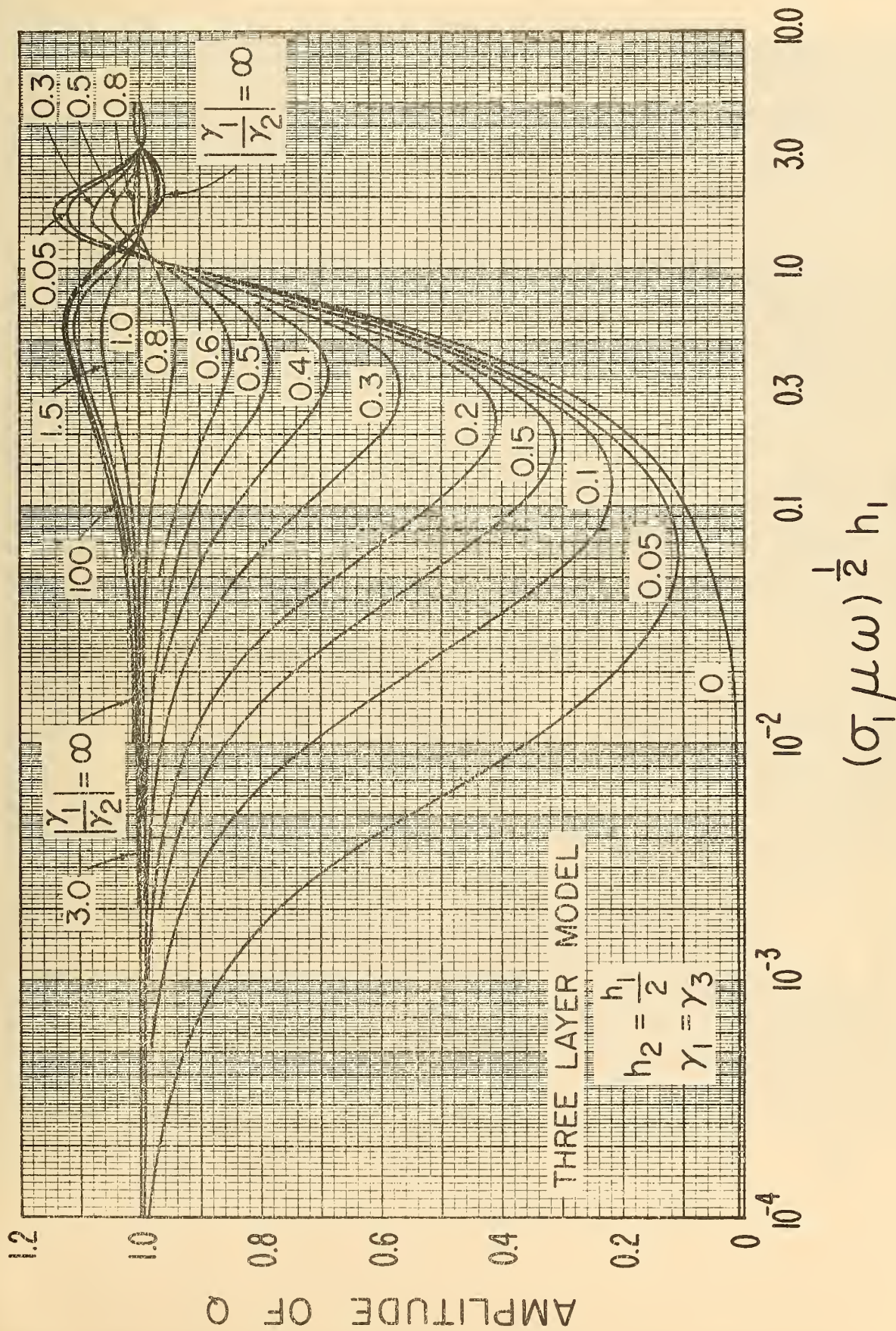


Fig. 5a Amplitude of the correction factor Q for a three-layer conducting medium ( $\lambda = 0$ ).



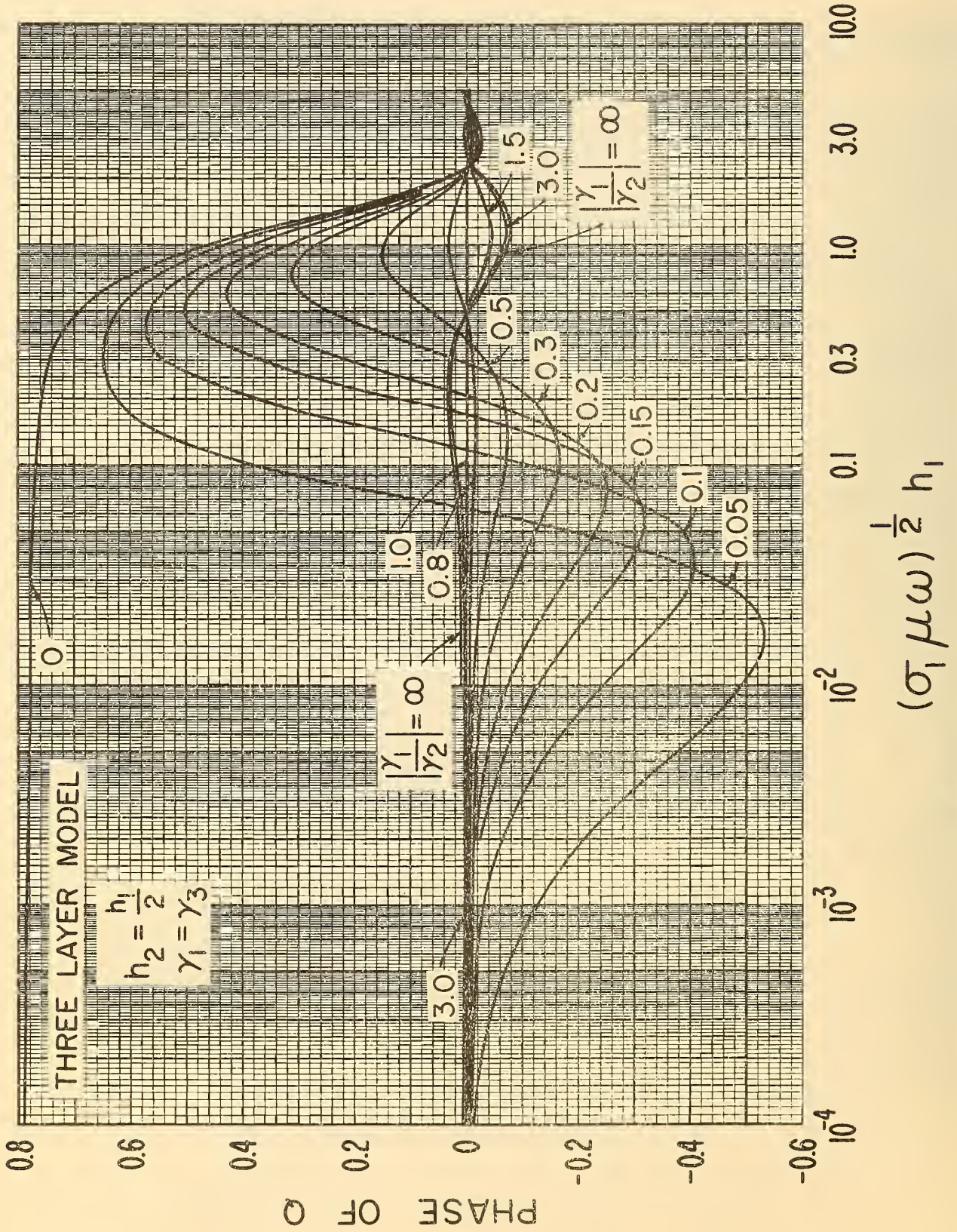


Fig. 5b Phase of the correction factor, Q for a three-layer conducting medium ( $\lambda = 0$ ). Ordinates in radians.

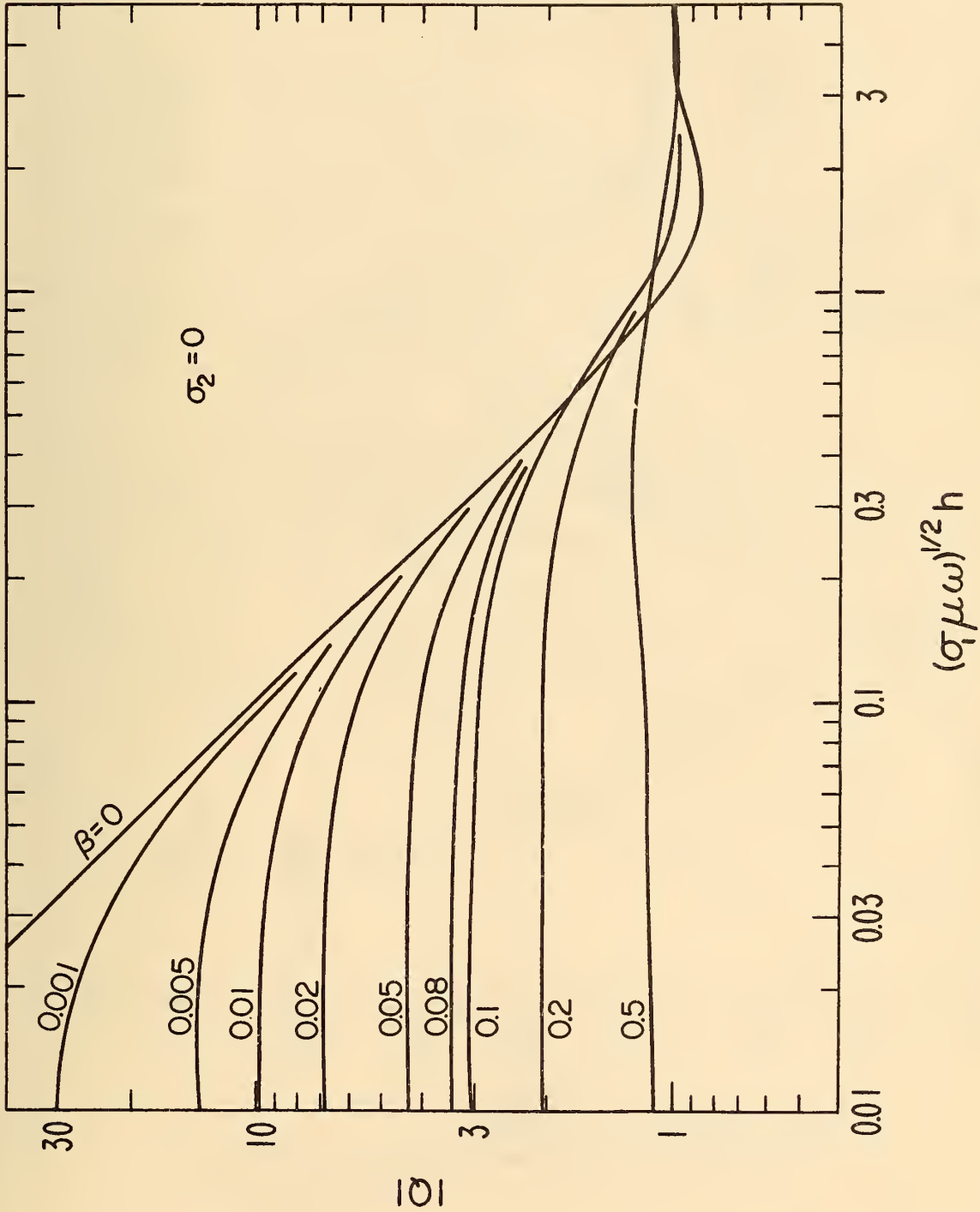


Fig. 6a The amplitude of the correction factor  $Q$  for a two-layer medium showing the influence of finite  $\lambda$ .



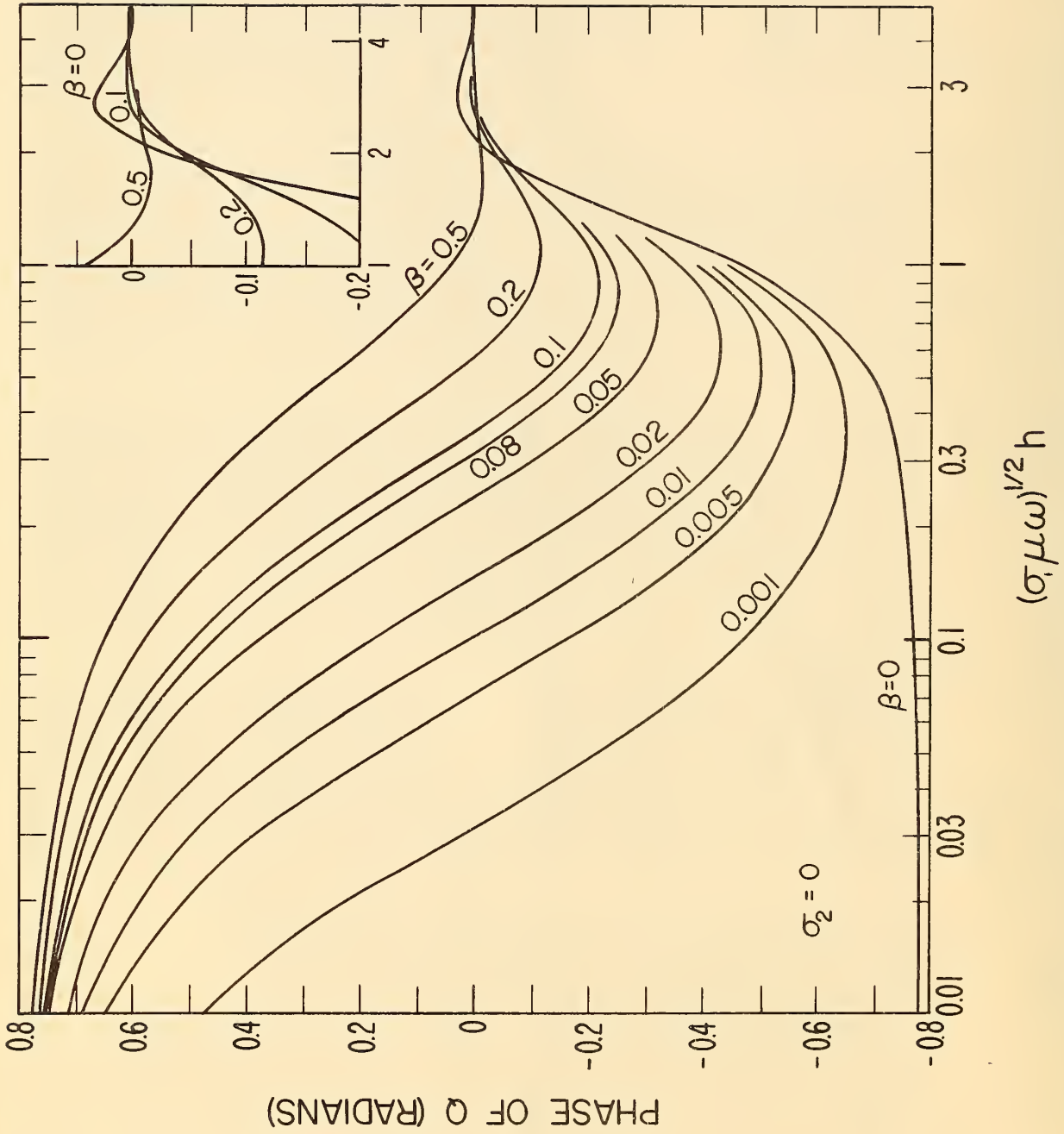


Fig. 6b The phase of the correction factor  $Q$  for a two-layer medium showing the influence of finite  $\lambda$ .

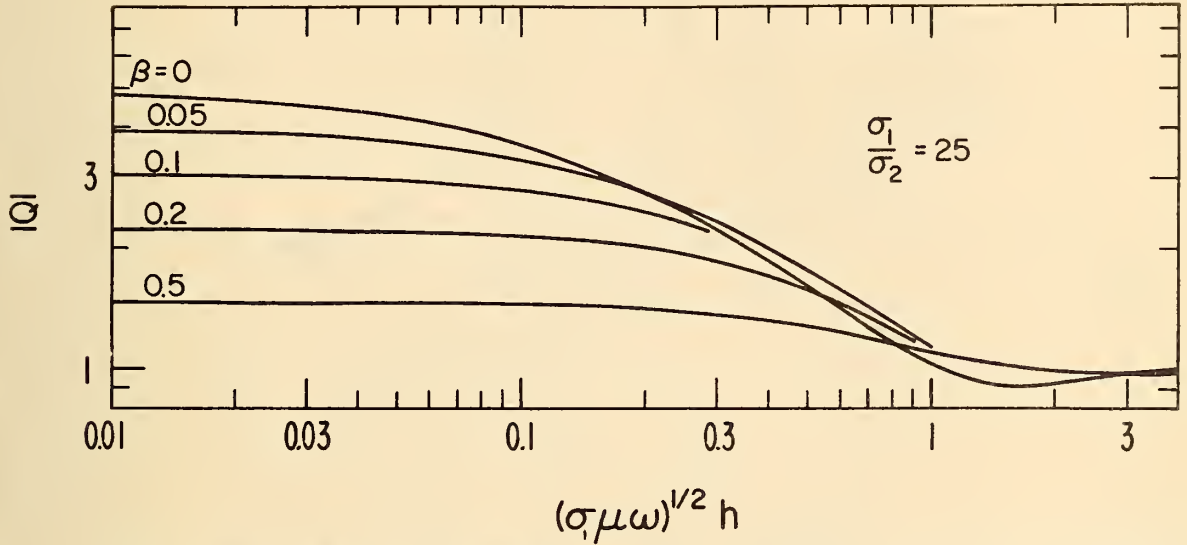


Fig. 7a The amplitude of the correction factor Q for a two-layer medium showing the influence of finite  $\lambda$ .

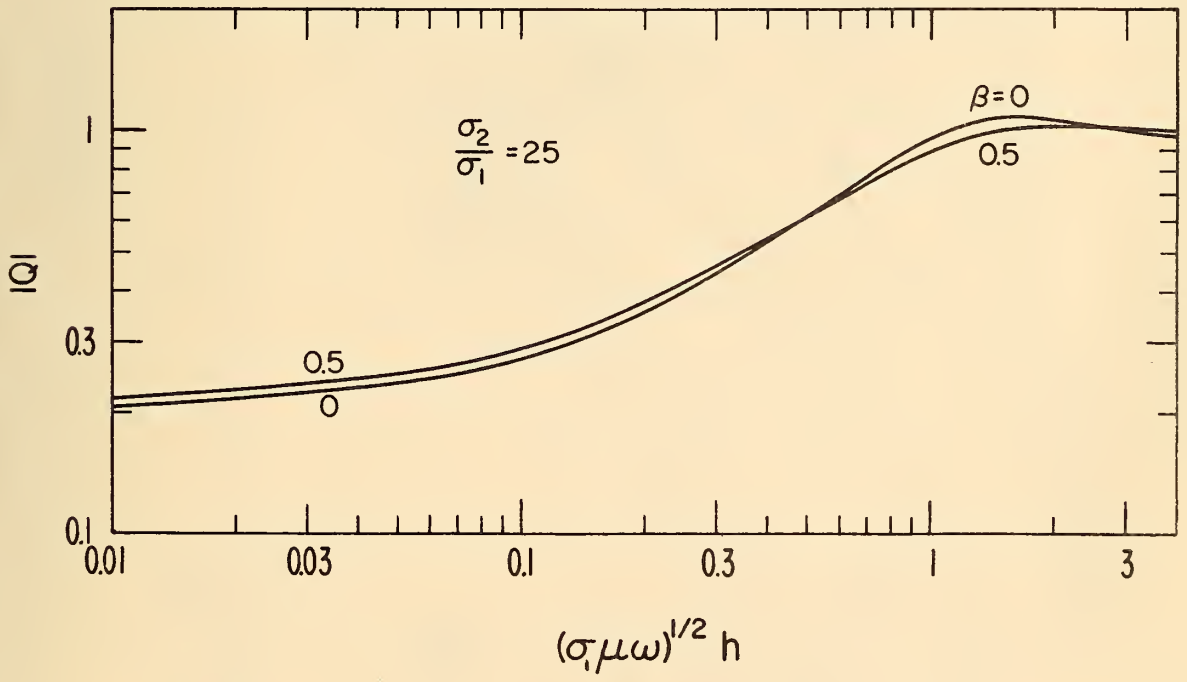


Fig. 8a The amplitude of the correction factor Q for a two-layer medium showing the influence of finite  $\lambda$ .

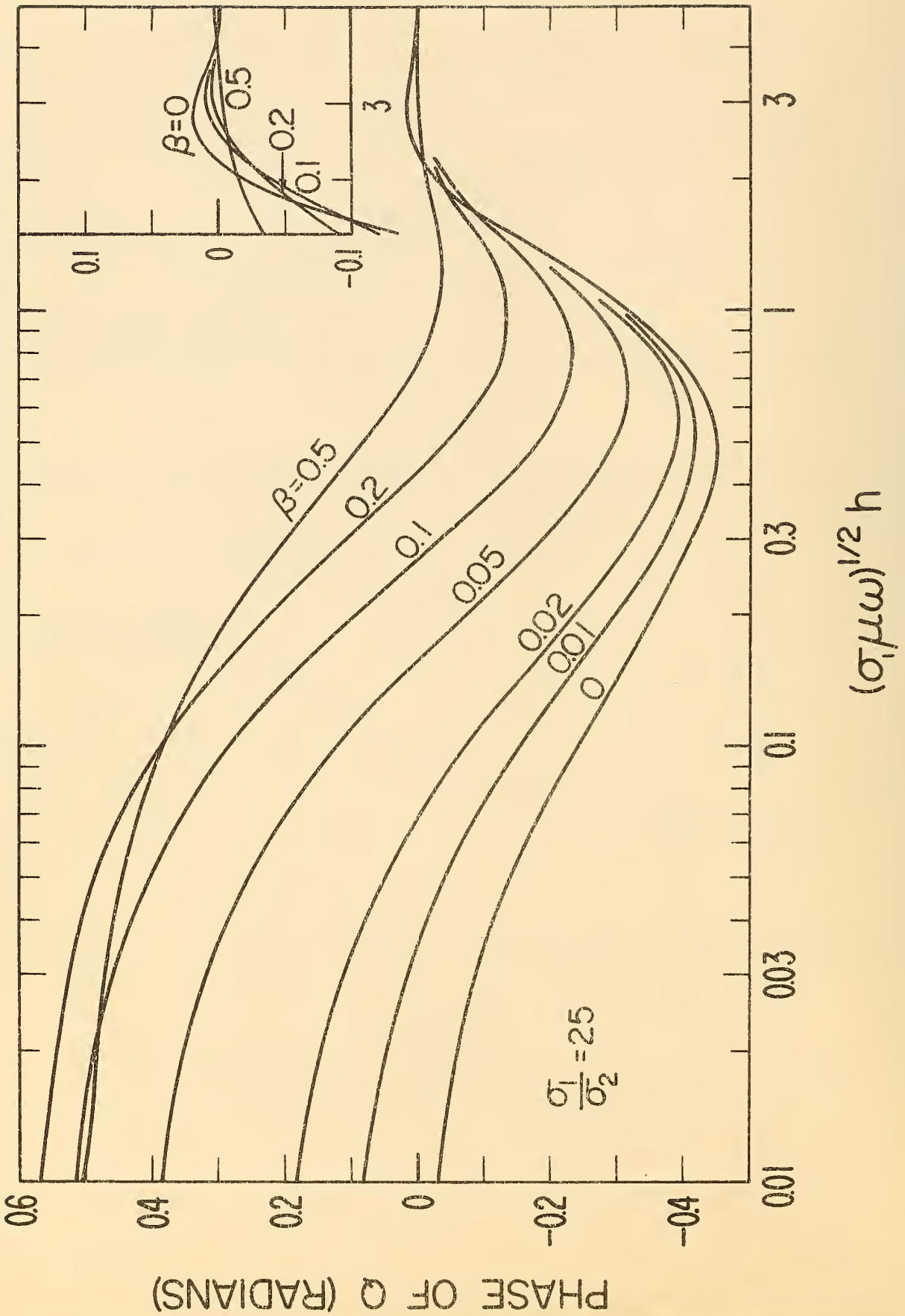


Fig. 7b The phase of the correction factor  $Q$  for a two-layer medium showing the influence of finite  $\lambda$ .



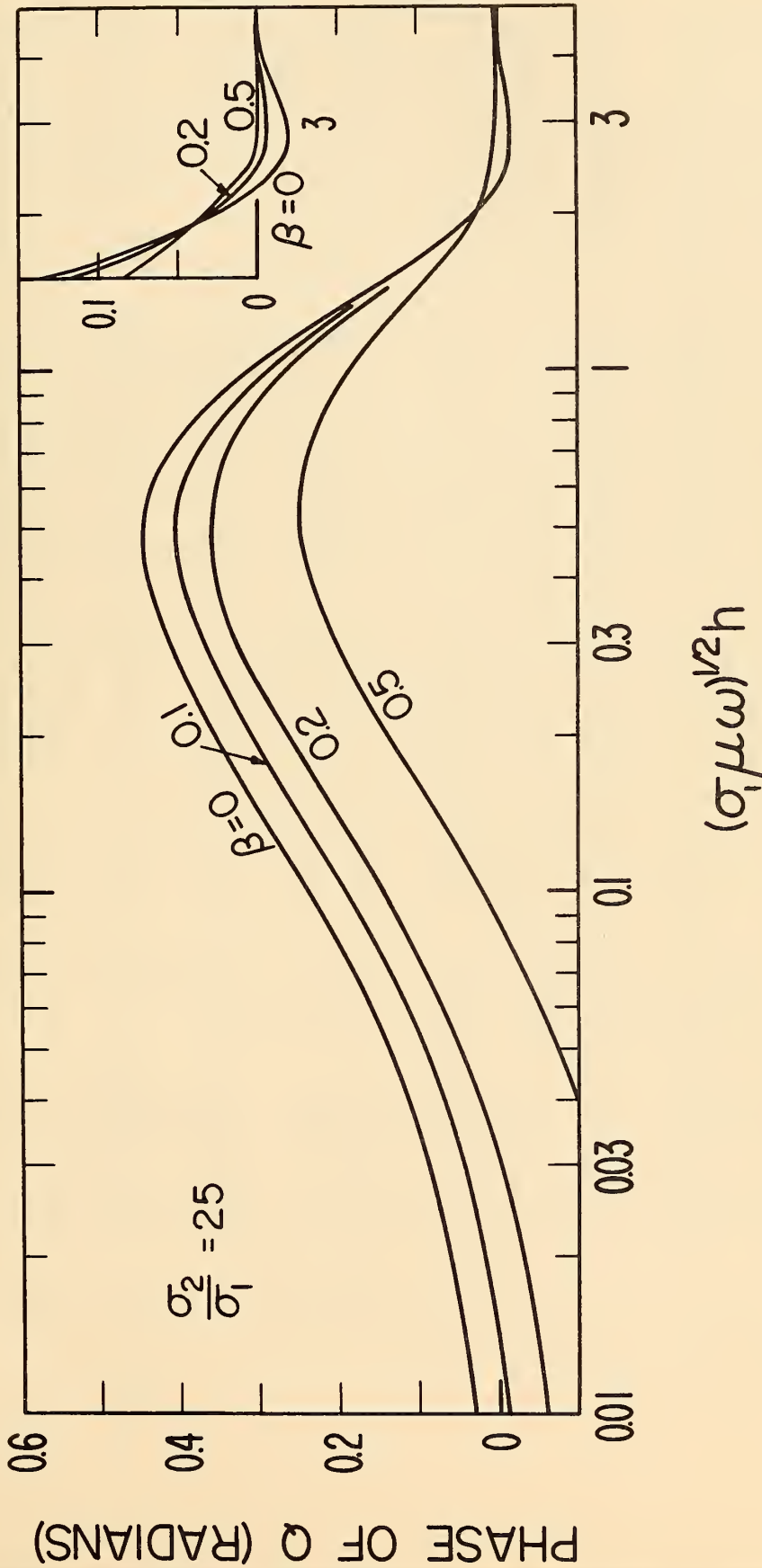


Fig. 8b The phase of the correction factor Q for a two-layer medium showing the influence of finite  $\lambda$ .

AppendixResults of Computation

The actual numerical data of the function  $|Q|$  and argument of  $Q$ , in radians, are given in tables on pages A-2 to A-24 for a range of values of  $(\sigma_1 \mu \omega)^{\frac{1}{2}} h_1$  (denoted by  $V$ ).

The tabulations in the tables on pages A-2 and A-3 are for a two-layer model where  $h_2 = \infty$ . Those on pages A-4 to A-6 are for various three-layer models where  $\gamma_1 = \gamma_3$  and  $\beta(\text{BETA}) = 0$ .

The tables on pages A-7 to A-10 are for a two-layer model where  $\beta(\text{BETA})$  is finite and for various values of  $C$  where  $C = (\sigma_1/\sigma_2)^{\frac{1}{2}} = \gamma_1/\gamma_2$ .

Finally, the tables given on pages A-11 to A-24 are for three-layer models where the  $\beta(\text{BETA}) = 0$  but, in general,  $\gamma_1 \neq \gamma_3$ . Various values of the ratios  $\sigma_2/\sigma_1$  and  $\sigma_3/\sigma_1$ , denoted  $\text{SIGMA (2)}/\text{SIGMA (1)}$  and  $\text{SIGMA (3)}/\text{SIGMA (1)}$ , are indicated in the tables. The values of the ratio  $h_1/h_2$ , denoted  $H(1)$  and  $H(2)$ , are shown in the tables.

The Fortran language was used to write the program to calculate the above graphed and tabulated values on a high-speed computer (CDC 1604). The computation required subroutines readily available in the Fortran system with the exception of the hyperbolic tangent of a complex argument. However, with the identity

$$\tanh (x + i y) = \frac{\sinh 2 x}{\cosh 2 x + \cos 2 y} + \frac{i \sin 2 y}{\cosh 2 x + \cos 2 y}$$

hyperbolic and trigonometric functions of real variables could be used.

As the subroutines used have a high degree of accuracy and there is little possibility to incur loss of precision, the tables should be accurate to the five digits given.

GAMMA(1)/GAMMA(2) = 0			GAMMA(1)/GAMMA(2) = 0.01			GAMMA(1)/GAMMA(2) = 0.02			GAMMA(1)/GAMMA(2) = 0.03		
V	Q(PHASE)	O(PHASE)	V	Q(PHASE)	O(PHASE)	V	Q(PHASE)	O(PHASE)	V	Q(PHASE)	O(PHASE)
1.0000E-02	1.0000E-02	7.8519E-01	1.0000E-02	-7.8519E-01	1.8947E-02	3.9261E-01	2.7976E-02	2.9534E-01	3.7732E-02	1.0826E-01	1.0826E-01
1.5000E-02	1.5000E-02	8.4851E-01	1.5000E-02	-8.4851E-01	2.1770E-02	4.2972E-01	3.2332E-02	3.2332E-01	4.1952E-02	1.3132E-01	1.3132E-01
2.0000E-02	2.0000E-02	7.8526E-01	2.0000E-02	-7.8526E-01	2.4776E-02	5.2972E-01	3.6796E-02	3.6796E-01	4.6332E-02	1.5432E-01	1.5432E-01
2.5000E-02	2.5000E-02	7.8519E-01	2.5000E-02	-7.8519E-01	2.8237E-02	5.6806E-01	4.0408E-02	4.0408E-01	5.0222E-02	1.7732E-01	1.7732E-01
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2.5000E+00	2.5000E+00	7.6785E-01	2.5000E+00	-7.6785E-01	1.4889E+00	7.0740E-01	7.0740E-02	7.0740E-02	5.5411E-02	5.7332E-01	5.7332E-01
3.0000E+00	3.0000E+00	7.6625E-01	3.0000E+00	-7.6625E-01	1.4167E+00	7.0410E-01	7.0410E-02	7.0410E-02	5.3690E-02	5.9532E-01	5.9532E-01
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4.0000E+00	4.0000E+00	7.6296E-01	4.0000E+00	-7.6296E-01	1.2933E+00	6.9750E-01	6.9750E-02	6.9750E-02	5.0548E-02	6.3932E-01	6.3932E-01
4.5000E+00	4.5000E+00	7.6128E-01	4.5000E+00	-7.6128E-01	1.2400E+00	6.9420E-01	6.9420E-02	6.9420E-02	4.9027E-02	6.6132E-01	6.6132E-01
5.0000E+00	5.0000E+00	7.5958E-01	5.0000E+00	-7.5958E-01	1.1911E+00	6.9090E-01	6.9090E-02	6.9090E-02	4.7506E-02	6.8332E-01	6.8332E-01
5.5000E+00	5.5000E+00	7.5787E-01	5.5000E+00	-7.5787E-01	1.1467E+00	6.8760E-01	6.8760E-02	6.8760E-02	4.6085E-02	7.0532E-01	7.0532E-01
6.0000E+00	6.0000E+00	7.5615E-01	6.0000E+00	-7.5615E-01	1.1059E+00	6.8430E-01	6.8430E-02	6.8430E-02	4.4664E-02	7.2732E-01	7.2732E-01
6.5000E+00	6.5000E+00	7.5443E-01	6.5000E+00	-7.5443E-01	1.0686E+00	6.8100E-01	6.8100E-02	6.8100E-02	4.3243E-02	7.4932E-01	7.4932E-01
7.0000E+00	7.0000E+00	7.5271E-01	7.0000E+00	-7.5271E-01	1.0347E+00	6.7770E-01	6.7770E-02	6.7770E-02	4.1822E-02	7.7132E-01	7.7132E-01
7.5000E+00	7.5000E+00	7.5100E-01	7.5000E+00	-7.5100E-01	1.0041E+00	6.7440E-01	6.7440E-02	6.7440E-02	4.0401E-02	7.9332E-01	7.9332E-01
8.0000E+00	8.0000E+00	7.4930E-01	8.0000E+00	-7.4930E-01	9.7677E+00	6.7110E-01	6.7110E-02	6.7110E-02	3.8980E-02	8.1532E-01	8.1532E-01
8.5000E+00	8.5000E+00	7.4761E-01	8.5000E+00	-7.4761E-01	9.6242E+00	6.6780E-01	6.6780E-02	6.6780E-02	3.7559E-02	8.3732E-01	8.3732E-01
9.0000E+00	9.0000E+00	7.4593E-01	9.0000E+00	-7.4593E-01	9.4807E+00	6.6450E-01	6.6450E-02	6.6450E-02	3.6138E-02	8.5932E-01	8.5932E-01
9.5000E+00	9.5000E+00	7.4426E-01	9.5000E+00	-7.4426E-01	9.3372E+00	6.6120E-01	6.6120E-02	6.6120E-02	3.4717E-02	8.8132E-01	8.8132E-01
1.0000E+00	1.0000E+00	7.4260E-01	1.0000E+00	-7.4260E-01	9.1937E+00	6.5790E-01	6.5790E-02	6.5790E-02	3.3296E-02	9.0332E-01	9.0332E-01
1.5000E+00	1.5000E+00	7.4095E-01	1.5000E+00	-7.4095E-01	9.0502E+00	6.5460E-01	6.5460E-02	6.5460E-02	3.1875E-02	9.2532E-01	9.2532E-01
2.0000E+00	2.0000E+00	7.3931E-01	2.0000E+00	-7.3931E-01	8.9067E+00	6.5130E-01	6.5130E-02	6.5130E-02	3.0454E-02	9.4732E-01	9.4732E-01
2.5000E+00	2.5000E+00	7.3768E-01	2.5000E+00	-7.3768E-01	8.7632E+00	6.4800E-01	6.4800E-02	6.4800E-02	2.9033E-02	9.6932E-01	9.6932E-01
3.0000E+00	3.0000E+00	7.3606E-01	3.0000E+00	-7.3606E-01	8.6197E+00	6.4470E-01	6.4470E-02	6.4470E-02	2.7612E-02	9.9132E-01	9.9132E-01
3.5000E+00	3.5000E+00	7.3445E-01	3.5000E+00	-7.3445E-01	8.4762E+00	6.4140E-01	6.4140E-02	6.4140E-02	2.6191E-02	1.0132E+00	1.0132E+00
4.0000E+00	4.0000E+00	7.3285E-01	4.0000E+00	-7.3285E-01	8.3327E+00	6.3810E-01	6.3810E-02	6.3810E-02	2.4770E-02	1.0332E+00	1.0332E+00
4.5000E+00	4.5000E+00	7.3126E-01	4.5000E+00	-7.3126E-01	8.1892E+00	6.3480E-01	6.3480E-02	6.3480E-02	2.3349E-02	1.0532E+00	1.0532E+00
5.0000E+00	5.0000E+00	7.2968E-01	5.0000E+00	-7.2968E-01	8.0457E+00	6.3150E-01	6.3150E-02	6.3150E-02	2.1928E-02	1.0732E+00	1.0732E+00
5.5000E+00	5.5000E+00	7.2811E-01	5.5000E+00	-7.2811E-01	7.9022E+00	6.2820E-01	6.2820E-02	6.2820E-02	2.0507E-02	1.0932E+00	1.0932E+00
6.0000E+00	6.0000E+00	7.2655E-01	6.0000E+00	-7.2655E-01	7.7587E+00	6.2490E-01	6.2490E-02	6.2490E-02	1.9086E-02	1.1132E+00	1.1132E+00
6.5000E+00	6.5000E+00	7.2500E-01	6.5000E+00	-7.2500E-01	7.6152E+00	6.2160E-01	6.2160E-02	6.2160E-02	1.7665E-02	1.1332E+00	1.1332E+00
7.0000E+00	7.0000E+00	7.2346E-01	7.0000E+00	-7.2346E-01	7.4717E+00	6.1830E-01	6.1830E-02	6.1830E-02	1.6244E-02	1.1532E+00	1.1532E+00
7.5000E+00	7.5000E+00	7.2193E-01	7.5000E+00	-7.2193E-01	7.3282E+00	6.1500E-01	6.1500E-02	6.1500E-02	1.4823E-02	1.1732E+00	1.1732E+00
8.0000E+00	8.0000E+00	7.2041E-01	8.0000E+00	-7.2041E-01	7.1847E+00	6.1170E-01	6.1170E-02	6.1170E-02	1.3402E-02	1.1932E+00	1.1932E+00
8.5000E+00	8.5000E+00	7.1890E-01	8.5000E+00	-7.1890E-01	7.0412E+00	6.0840E-01	6.0840E-02	6.0840E-02	1.1981E-02	1.2132E+00	1.2132E+00
9.0000E+00	9.0000E+00	7.1740E-01	9.0000E+00	-7.1740E-01	6.8977E+00	6.0510E-01	6.0510E-02	6.0510E-02	1.0560E-02	1.2332E+00	1.2332E+00
9.5000E+00	9.5000E+00	7.1591E-01	9.5000E+00	-7.1591E-01	6.7542E+00	6.0180E-01	6.0180E-02	6.0180E-02	9.1390E-03	1.2532E+00	1.2532E+00
1.0000E+00	1.0000E+00	7.1443E-01	1.0000E+00	-7.1443E-01	6.6107E+00	5.9850E-01	5.9850E-02	5.9850E-02	7.7220E-03	1.2732E+00	1.2732E+00
1.5000E+00	1.5000E+00	7.1296E-01	1.5000E+00	-7.1296E-01	6.4632E+00	5.9520E-01	5.9520E-02	5.9520E-02	6.3050E-03	1.2932E+00	1.2932E+00
2.0000E+00	2.0000E+00	7.1150E-01	2.0000E+00	-7.1150E-01	6.3157E+00	5.9190E-01	5.9190E-02	5.9190E-02	4.8880E-03	1.3132E+00	1.3132E+00
2.5000E+00	2.5000E+00	7.1005E-01	2.5000E+00	-7.1005E-01	6.1682E+00	5.8860E-01	5.8860E-02	5.8860E-02	3.4710E-03	1.3332E+00	1.3332E+00
3.0000E+00	3.0000E+00	7.0861E-01	3.0000E+00	-7.0861E-01	6.0207E+00	5.8530E-01	5.8530E-02	5.8530E-02	2.0540E-03	1.3532E+00	1.3532E+00
3.5000E+00	3.5000E+00	7.0718E-01	3.5000E+00	-7.0718E-01	5.8732E+00	5.8200E-01	5.8200E-02	5.8200E-02	6.2300E-04	1.3732E+00	1.3732E+00
4.0000E+00	4.0000E+00	7.0576E-01	4.0000E+00	-7.0576E-01	5.7257E+00	5.7870E-01	5.7870E-02	5.7870E-02			



GAMMA(1)/GAMMA(2) = 2.5		GAMMA(1)/GAMMA(2) = 3.0		GAMMA(1)/GAMMA(2) = 3.5		GAMMA(1)/GAMMA(2) = 4.0		GAMMA(1)/GAMMA(2) = 4.5	
V	Q(PHASE)	Q(PHASE)	Q(PHASE)	Q(PHASE)	Q(PHASE)	Q(PHASE)	Q(PHASE)	Q(PHASE)	Q(PHASE)
1.0000E+00	2.4452E+00	-1.4548E-02	2.9144E+00	-2.4234E-02	3.4242E+00	-2.4234E-02	3.9340E+00	-2.4234E-02	4.4438E+00
2.0000E+00	2.4443E+00	-2.1599E-02	2.9186E+00	-2.7304E-02	3.3828E+00	-3.2755E-02	3.8442E+00	-3.8000E-02	4.3002E+00
3.0000E+00	2.4436E+00	-2.8306E-02	2.9219E+00	-3.5990E-02	3.3434E+00	-4.3098E-02	3.7938E+00	-4.7959E-02	4.2365E+00
4.0000E+00	2.4430E+00	-3.5269E-02	2.8621E+00	-4.6447E-02	3.3071E+00	-5.4184E-02	3.7432E+00	-6.4792E-02	4.1734E+00
5.0000E+00	2.4373E+00	-4.2893E-02	2.8354E+00	-5.7273E-02	3.2700E+00	-6.4296E-02	3.6926E+00	-7.7679E-02	4.1185E+00
6.0000E+00	2.4353E+00	-5.1177E-02	2.7830E+00	-6.8678E-02	3.1975E+00	-8.1771E-02	3.6474E+00	-9.3649E-02	4.0733E+00
7.0000E+00	2.4283E+00	-6.0782E-02	2.6819E+00	-8.0878E-02	3.1271E+00	-9.9538E-02	3.6028E+00	-1.1401E-01	4.0376E+00
8.0000E+00	2.4220E+00	-7.1009E-02	2.5895E+00	-9.2527E-01	3.0587E+00	-1.1475E-01	3.5575E+00	-1.3880E-01	4.0075E+00
9.0000E+00	2.4159E+00	-8.1844E-01	2.4951E+00	-1.0384E-01	2.9921E+00	-1.3816E-01	3.5127E+00	-1.6894E-01	3.9829E+00
1.0000E+01	2.4097E+00	-9.3309E-01	2.4006E+00	-1.1428E-01	2.9271E+00	-1.6280E-01	3.4684E+00	-2.0482E-01	3.9638E+00
1.5000E+01	2.3737E+00	-1.4549E-01	2.1119E+00	-1.4040E-01	2.7032E+00	-2.2761E-01	3.24837E+00	-3.0722E-01	3.6378E+00
2.0000E+01	2.3373E+00	-1.7895E-01	1.8410E+00	-1.7977E-01	2.5187E+00	-3.0593E-01	3.0378E+00	-4.1931E-01	3.2591E+00
3.0000E+01	2.2701E+00	-2.2775E-01	1.5319E+00	-2.2467E-01	2.1950E+00	-3.6792E-01	2.6872E+00	-5.0989E-01	2.5924E+00
4.0000E+01	2.2189E+00	-2.8597E-01	1.1480E+00	-2.9322E-01	1.6352E+00	-4.6531E-01	2.0022E+00	-6.9133E-01	1.6237E+00
5.0000E+01	2.1829E+00	-3.4951E-01	8.0781E-01	-3.908E-01	1.0423E+00	-5.6537E-01	1.1784E+00	-8.3784E-01	8.7404E-01
6.0000E+01	2.1532E+00	-4.2051E-01	5.6381E-01	-4.8129E-01	7.9744E-01	-6.2013E-01	9.7701E-01	-9.2470E-01	6.7030E-01
7.0000E+01	2.1289E+00	-4.9836E-01	3.9737E-01	-5.584E-01	5.8446E-01	-6.7512E-01	7.5011E-01	-9.7144E-01	4.9306E-01
8.0000E+01	2.1079E+00	-5.7975E-01	2.8395E-01	-6.2017E-01	4.3288E-01	-7.1335E-01	5.6277E-01	-1.0261E-01	3.2555E-01
9.0000E+01	2.0904E+00	-6.6294E-01	1.9393E-01	-6.6793E-01	3.2844E-01	-7.5931E-01	4.0225E-01	-1.0876E-01	2.0309E-01
1.0000E+02	2.0759E+00	-7.5164E-01	1.3045E-01	-7.0223E-01	2.3942E-01	-8.0251E-01	3.0473E-01	-1.1684E-01	1.1849E-01
1.5000E+02	2.0444E+00	-9.0983E-01	7.9345E-01	-8.1188E-01	9.7054E-01	-8.2432E-01	1.6422E-01	-1.3427E-01	5.6673E-01
2.0000E+02	2.0146E+00	-9.9227E-01	5.0007E+00	-8.8855E-01	6.0039E+00	-8.2516E-01	7.6517E-01	-1.4968E-01	3.4039E+00
3.0000E+02	2.0001E+00	-1.0015E-01	3.0001E+00	-1.3899E-04	1.0001E+00	-1.3899E-04	1.0003E+00	-2.4574E-01	1.0003E+00
4.0000E+02	1.0001E+00	-1.9131E-04	1.0001E+00	-6.0205E-04	1.0007E+00	-6.6895E-04	1.0007E+00	-1.46678E-04	1.0007E+00
5.0000E+02	1.0005E+00	-5.3055E-04	1.0006E+00	-6.0205E-04	1.0007E+00	-6.6895E-04	1.0007E+00	-1.46678E-04	1.0008E+00

BETA = 0 [y\_h] = 0

Table with 10 columns: GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE). Rows include values for 1.0000E-04 to 5.0000E-04.

Table with 10 columns: GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE). Rows include values for 1.0000E-04 to 5.0000E-04.

Table with 10 columns: GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE). Rows include values for 1.0000E-04 to 5.0000E-04.

Table with 10 columns: GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE), GAMMA(1)/GAMMA(2), Q (AMP), Q (PHASE). Rows include values for 1.0000E-04 to 5.0000E-04.

BETA = 0 h1 = h2 Y1 = Y2



GAMMA(1)/GAMMA(2) = 2.0000E-07		GAMMA(1)/GAMMA(2) = 3.0000E-02		GAMMA(1)/GAMMA(2) = 5.0000E-02		GAMMA(1)/GAMMA(2) = 1.0000E-01		GAMMA(1)/GAMMA(2) = 1.5000E-01	
V	(GAMP)	(G1PASE)	(G1P)	(G1PASE)	(G1P)	(G1PASE)	(G1P)	(G1PASE)	(G1P)
1.0000E-04	7.4183E-01	-3.9205E-01	8.9442E-01	-1.8787E-01	9.8451E-01	-1.0094E-01	9.4218E-01	-4.2318E-01	9.4988E-01
5.0000E-04	3.0473E-01	-5.6524E-01	5.1297E-01	-4.1178E-01	6.8410E-01	-2.4201E-01	7.6057E-01	-6.5141E-01	8.0879E-01
1.0000E-03	1.7418E-01	-4.5231E-01	3.3238E-01	-3.5432E-01	4.6458E-01	-1.5922E-01	6.2578E-01	-4.8205E-01	7.4384E-01
2.0000E-03	9.3561E-02	-4.8829E-01	1.9259E-01	-6.3097E-01	4.1569E-01	-6.7799E-01	1.6334E-01	-2.1208E-01	8.8595E-01
3.0000E-03	6.1344E-02	-4.5109E-01	9.5603E-01	-5.2777E-01	2.1131E-01	-2.1131E-01	9.8292E-01	-1.8477E-01	7.4539E-01
4.0000E-03	4.6430E-02	-2.8392E-02	4.7590E-02	-3.9398E-01	1.1765E-01	-5.5860E-01	1.6334E-01	-4.8153E-01	5.8157E-01
5.0000E-03	2.8904E-02	2.4951E-01	3.9698E-02	-8.1477E-02	8.4667E-02	-4.2513E-02	2.1295E-01	-5.0089E-01	4.4747E-01
6.0000E-03	3.1893E-02	-4.4188E-02	4.1188E-02	-4.6522E-02	4.6522E-02	-4.6522E-02	4.1188E-02	-4.1188E-02	4.1188E-02
7.0000E-03	4.0872E-02	4.5779E-01	4.6179E-02	3.1319E-01	6.6314E-02	-6.8318E-02	1.6820E-01	-2.4270E-01	3.4754E-01
8.0000E-03	4.6338E-02	4.6538E-01	4.6538E-01	4.6538E-01	4.6538E-01	4.6538E-01	4.6538E-01	4.6538E-01	4.6538E-01
9.0000E-03	4.9299E-02	4.5836E-01	5.8369E-02	4.4246E-01	7.0208E-02	2.0001E-01	1.9779E-01	-2.8804E-01	3.0834E-01
1.0000E-02	5.6066E-02	5.2920E-01	6.8413E-02	4.6811E-01	7.5339E-02	2.9281E-01	1.4059E-01	-2.0295E-01	2.5608E-01
2.0000E-02	6.1344E-02	6.1344E-02	6.1344E-02	6.1344E-02	6.1344E-02	6.1344E-02	6.1344E-02	6.1344E-02	6.1344E-02
3.0000E-02	7.5431E-02	6.5905E-01	8.4046E-02	5.802E-02	9.9241E-02	4.6619E-01	1.3475E-01	-1.0242E-01	2.6037E-01
4.0000E-02	9.5110E-02	6.3139E-01	1.0328E-01	7.5721E-01	1.2066E-01	5.2428E-01	1.5414E-01	2.9342E-01	1.9771E-01
5.0000E-02	1.1848E-01	6.4784E-01	1.2825E-01	4.0739E-01	1.4399E-01	4.2428E-01	1.5414E-01	2.9342E-01	1.9771E-01
6.0000E-02	1.6449E-01	6.9055E-01	1.7210E-01	6.5251E-01	1.6878E-01	5.8979E-01	2.2970E-01	4.7028E-01	2.6408E-01
7.0000E-02	2.1474E-01	7.0827E-01	2.2250E-01	6.7368E-01	2.3680E-01	6.1828E-01	2.4701E-01	5.0702E-01	3.1581E-01
8.0000E-02	3.1130E-01	7.0773E-01	3.2021E-01	6.8543E-01	3.3429E-01	6.4364E-01	3.7057E-01	5.5332E-01	4.0891E-01
9.0000E-02	4.1185E-01	6.9597E-01	4.1826E-01	6.7668E-01	4.1232E-01	6.8257E-01	4.6636E-01	5.6602E-01	4.9791E-01
1.0000E-01	5.0914E-01	6.7083E-01	5.1895E-01	6.5266E-01	5.2665E-01	6.5644E-01	5.5644E-01	5.8936E-01	5.8936E-01
2.0000E-01	6.0424E-01	6.3886E-01	6.0934E-01	6.2532E-01	6.1954E-01	5.9970E-01	6.4496E-01	5.3969E-01	6.7009E-01
3.0000E-01	6.8938E-01	6.0001E-01	6.0001E-01	6.0001E-01	6.0001E-01	6.0001E-01	6.0001E-01	6.0001E-01	6.0001E-01
4.0000E-01	7.6023E-01	5.8293E-01	7.8567E-01	5.4466E-01	7.9218E-01	5.2369E-01	6.8007E-01	5.1508E-01	7.4977E-01
5.0000E-01	8.1931E-01	6.5407E-01	9.3430E-01	6.4355E-01	9.3657E-01	6.2895E-01	8.0200E-01	3.8837E-01	9.6711E-01
6.0000E-01	8.6938E-01	7.4499E-01	1.0031E-01	7.9322E-01	1.0043E-01	7.5032E-01	1.0376E-01	2.9597E-01	1.0381E-01
7.0000E-01	9.0824E-01	2.9311E-01	1.0808E-01	2.8737E-01	1.0776E-01	2.7890E-01	1.0702E-01	2.4999E-01	1.0639E-01
8.0000E-01	9.3699E-01	1.9399E-01	1.1243E-01	1.9249E-01	1.1192E-01	1.8499E-01	1.1074E-01	1.6722E-01	1.0668E-01
9.0000E-01	9.5591E-01	1.1107E-01	1.1339E-01	1.1074E-01	1.1339E-01	1.1021E-01	1.1339E-01	1.1339E-01	1.1339E-01
1.0000E+00	9.6424E-01	1.1182E-01	1.1182E-01	1.1182E-01	1.1182E-01	1.1182E-01	1.1182E-01	1.1182E-01	1.1182E-01
1.2000E+00	1.0440E+00	1.4499E-01	1.0431E-01	1.4807E-01	1.0782E-01	1.4807E-01	1.0782E-01	1.4807E-01	1.0782E-01
1.3000E+00	1.0824E+00	2.9311E-01	1.0808E-01	2.8737E-01	1.0776E-01	2.7890E-01	1.0702E-01	2.4999E-01	1.0639E-01
1.5000E+00	1.1269E+00	1.9399E-01	1.1243E-01	1.9249E-01	1.1192E-01	1.8499E-01	1.1074E-01	1.6722E-01	1.0668E-01
1.7000E+00	1.1700E+00	1.1107E-01	1.1339E-01	1.1074E-01	1.1339E-01	1.1021E-01	1.1339E-01	1.1339E-01	1.1339E-01
2.0000E+00	1.2442E+00	1.1182E-01	1.1182E-01	1.1182E-01	1.1182E-01	1.1182E-01	1.1182E-01	1.1182E-01	1.1182E-01
2.5000E+00	1.5531E+00	-1.1509E-02	1.0123E-01	-2.4133E-02	1.0118E-01	-2.2418E-02	1.0118E-01	-2.2418E-02	1.0118E-01
3.0000E+00	1.8999E+00	6.1599E-01	9.9687E-01	-1.2971E-02	9.9699E-01	-2.2418E-02	9.9728E-01	-1.1269E-02	9.754E-01
4.0000E+00	2.3000E+00	4.4499E-01	1.0525E-01	6.4897E-01	1.0498E-01	6.4897E-01	1.0498E-01	6.4897E-01	1.0498E-01
5.0000E+00	2.7669E+00	3.1130E-01	1.0773E-01	3.3429E-01	1.0773E-01	3.3429E-01	1.0773E-01	3.3429E-01	1.0773E-01
6.0000E+00	3.2999E+00	2.1474E-01	1.1038E-01	2.3680E-01	1.1038E-01	2.3680E-01	1.1038E-01	2.3680E-01	1.1038E-01
7.0000E+00	3.8938E+00	1.6449E-01	1.1339E-01	1.6878E-01	1.1339E-01	1.6878E-01	1.1339E-01	1.6878E-01	1.1339E-01
8.0000E+00	4.5500E+00	1.1848E-01	1.1649E-01	1.2428E-01	1.1649E-01	1.2428E-01	1.1649E-01	1.2428E-01	1.1649E-01
9.0000E+00	5.2669E+00	8.1931E-01	1.1985E-01	8.9979E-01	1.1985E-01	8.9979E-01	1.1985E-01	8.9979E-01	1.1985E-01
1.0000E+01	6.0424E+00	6.3886E-01	1.2350E-01	6.8543E-01	1.2350E-01	6.8543E-01	1.2350E-01	6.8543E-01	1.2350E-01
1.2000E+01	7.0827E+00	5.8293E-01	1.2710E-01	6.5251E-01	1.2710E-01	6.5251E-01	1.2710E-01	6.5251E-01	1.2710E-01
1.3000E+01	7.6023E+00	5.1895E-01	1.3071E-01	6.2532E-01	1.3071E-01	6.2532E-01	1.3071E-01	6.2532E-01	1.3071E-01
1.5000E+01	8.6938E+00	4.1826E-01	1.3431E-01	5.802E-02	1.3431E-01	5.802E-02	1.3431E-01	5.802E-02	1.3431E-01
1.7000E+01	9.9597E+00	3.1319E-01	1.3791E-01	5.2777E-01	1.3791E-01	5.2777E-01	1.3791E-01	5.2777E-01	1.3791E-01
2.0000E+01	1.1474E+01	2.2250E-01	1.4151E-01	4.0739E-01	1.4151E-01	4.0739E-01	1.4151E-01	4.0739E-01	1.4151E-01
2.5000E+01	1.5531E+01	1.0431E-01	1.4511E-01	2.8737E-01	1.4511E-01	2.8737E-01	1.4511E-01	2.8737E-01	1.4511E-01
3.0000E+01	1.9399E+01	8.1931E-01	1.4871E-01	2.3680E-01	1.4871E-01	2.3680E-01	1.4871E-01	2.3680E-01	1.4871E-01
4.0000E+01	2.3000E+01	6.1599E-01	1.5231E-01	1.9249E-01	1.5231E-01	1.9249E-01	1.5231E-01	1.9249E-01	1.5231E-01
5.0000E+01	2.7669E+01	4.4499E-01	1.5591E-01	1.4399E-01	1.5591E-01	1.4399E-01	1.5591E-01	1.4399E-01	1.5591E-01
6.0000E+01	3.2999E+01	3.1130E-01	1.5951E-01	1.1021E-01	1.5951E-01	1.1021E-01	1.5951E-01	1.1021E-01	1.5951E-01
7.0000E+01	3.8938E+01	2.1474E-01	1.6311E-01	8.9979E-01	1.6311E-01	8.9979E-01	1.6311E-01	8.9979E-01	1.6311E-01
8.0000E+01	4.5500E+01	1.1848E-01	1.6671E-01	6.4897E-01	1.6671E-01	6.4897E-01	1.6671E-01	6.4897E-01	1.6671E-01
9.0000E+01	5.2669E+01	8.1931E-01	1.7031E-01	4.9979E-01	1.7031E-01	4.9979E-01	1.7031E-01	4.9979E-01	1.7031E-01
1.0000E+02	6.0424E+01	6.3886E-01	1.7391E-01	3.7057E-01	1.7391E-01	3.7057E-01	1.7391E-01	3.7057E-01	1.7391E-01
1.2000E+02	7.0827E+01	5.8293E-01	1.7751E-01	2.7890E-01	1.7751E-01	2.7890E-01	1.7751E-01	2.7890E-01	1.7751E-01
1.3000E+02	7.6023E+01	5.1895E-01	1.8111E-01	2.3680E-01	1.8111E-01	2.3680E-01	1.8111E-01	2.3680E-01	1.8111E-01
1.5000E+02	8.6938E+01	4.1826E-01	1.8471E-01	1.9249E-01	1.8471E-01	1.9249E-01	1.8471E-01	1.9249E-01	1.8471E-01
1.7000E+02	9.9597E+01	3.1319E-01	1.8831E-01	1.4399E-01	1.8831E-01	1.4399E-01	1.8831E-01	1.4399E-01	1.8831E-01
2.0000E+02	1.1474E+02	2.2250E-01	1.9191E-01	1.1021E-01	1.9191E-01	1.1021E-01	1.9191E-01	1.1021E-01	1.9191E-01
2.5000E+02	1.5531E+02	1.0431E-01	1.9551E-01	8.9979E-01	1.9551E-01	8.9979E-01	1.9551E-01	8.9979E-01	1.9551E-01
3.0000E+02	1.9399E+02	8.1931E-01	1.9911E-01	6.4897E-01	1.9911E-01	6.4897E-01	1.9911E-01	6.4897E-01	1.9911E-01
4.0000E+02	2.3000E+02	6.1599E-01	2.0271E-01	4.9979E-01	2.0271E-01	4.9979E-01	2.0271E-01	4.9979E-01	2.0271E-01
5.0000E+02	2.7669E+02	4.4499E-01	2.0631E-01	3.7057E-01	2.0631E-01	3.7057E-01	2.0631E-01	3.7057E-01	2.0631E-01
6.0000E+02	3.2999E+02	3.1130E-01	2.0991E-01	2.7890E-01	2.0991E-01	2.7890E-01	2.0991E-01	2.7890E-01	2.0991E-01
7.0000E+02	3.8938E+02	2.1474E-01	2.1351E-01	1.9249E-01	2.1351E-01	1.9249E-01	2.1351E-01	1.9249E-01	2.1351E-01
8.0000E+02	4.5500E+02	1.1848E-01	2.1711E-01	1.4399E-01	2.1711E-01	1.4399E-01	2.1711E-01	1.4399E-01	2.1711E-01
9.0000E+02	5.2669E+02	8.1931E-01	2.2071E-01	1.1021E-01	2.2071E-01	1.1021E-01	2.2071E-01	1.1021E-01	2.2071E-01
1.0000E+03	6.0424E+02	6.3886E-01	2.2431E-01	8.9979E-01	2.2431E-01	8.9979E-01	2.2431E-01	8.9979E-01	2.2431E-01
1.2000E+0									





BETA = .0000E+00		BETA = 1.0000E-03		BETA = 5.0000E-03		BETA = 1.0000E-02		BETA = 2.0000E-02		
V	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)
1.0000E-02	1.4000E+02	-7.8516E-01	3.0124E+01	4.7911E-01	1.4937E+01	6.4939E-01	6.8627E-01	6.8627E-01	5.9837E+00	7.1555E-01
1.5000E-02	6.6667E+01	-7.8532E-01	2.8567E-01	3.4279E-01	1.3807E+01	5.7698E-01	9.8467E+00	6.3734E-01	6.9701E+00	6.0059E-01
2.0000E-02	5.0000E+01	-7.8528E-01	2.6726E+01	2.2186E-01	1.1937E+01	5.1040E-01	9.7688E+00	5.8914E+00	6.9632E+00	6.4665E-01
4.0000E-02	2.5000E+01	-7.8519E-01	1.45819E+01	1.15819E-01	6.39819E+00	4.4084E-01	9.4188E+00	5.4188E-01	6.1293E+00	6.1293E-01
3.0000E-02	3.3333E+01	-7.8510E-01	2.2948E+01	2.6956E-02	1.3005E+01	3.8594E-01	9.5939E+00	4.9573E-01	6.8666E+00	5.7877E-01
2.0000E-02	2.8717E+01	-7.8499E-01	2.1209E+01	-4.9901E-01	1.1566E+01	3.2156E-01	9.2288E+00	4.3188E-01	6.1724E+00	5.1308E-01
4.0000E-02	2.5000E+01	-7.8486E-01	1.9623E+01	-1.1550E-01	1.2309E+01	2.7239E-01	9.2044E+00	4.0734E-01	6.0172E+00	5.5563E-01
5.0000E-02	2.0000E+01	-7.8456E-01	1.6717E+01	-2.2028E-01	1.1550E+01	1.7219E-01	8.2047E+00	3.2087E-01	6.6324E+00	4.9797E-01
1.0000E-01	1.6836E+01	-7.8466E-01	1.4701E+01	-2.9881E-01	1.0881E+01	8.5229E-01	6.5229E+00	2.4229E-01	6.4833E+00	4.3308E-01
8.0000E-02	1.2500E+01	-7.8326E-01	1.1643E+01	-4.0652E-01	9.3871E+00	-5.7746E-02	7.8203E+00	1.1581E-01	6.1460E+00	2.7272E-01
1.0000E-01	1.0000E+01	-7.8200E-01	9.5539E+00	-4.7550E-01	8.1938E+00	-1.6449E-01	7.0988E+00	6.5708E-02	5.7808E+00	1.7889E-01
2.0000E-01	6.6667E+00	-7.7702E-01	6.6388E+00	-5.0388E-01	6.4009E+00	-3.1358E-01	5.5991E+00	-1.0428E-01	4.1357E+00	-4.1287E-01
2.0000E-01	5.0000E+00	-7.7207E-01	4.9599E+00	-6.1509E-01	4.7567E+00	-4.3091E-01	4.5251E+00	-3.0542E-01	4.1404E+00	-1.5039E-01
3.0000E-01	3.3333E+00	-7.6541E-01	3.3300E+00	-5.5034E-01	3.2915E+00	-3.2121E-01	3.2476E+00	-2.3107E-01	3.0936E+00	-3.0936E-01
4.0000E-01	2.5000E+00	-7.5812E-01	2.5181E+00	-6.5368E-01	2.5127E+00	-5.5737E-01	2.4935E+00	-4.6518E-01	2.4462E+00	-3.8973E-01
5.0000E-01	2.0000E+00	-7.4740E-01	2.0286E+00	-6.4026E-01	2.0362E+00	-5.6348E-01	2.0932E+00	-5.0035E-01	2.0220E+00	-4.2680E-01
6.0000E-01	1.6836E+00	-7.4646E-01	1.6701E+00	-6.1542E-01	1.6782E+00	-5.4599E-01	1.7293E+00	-5.0938E-01	1.7287E+00	-4.1728E-01
7.0000E-01	1.4595E+00	-7.4253E-01	1.4740E+00	-5.8245E-01	1.4740E+00	-5.2997E-01	1.5048E+00	-4.9045E-01	1.5162E+00	-4.1451E-01
8.0000E-01	1.2891E+00	-7.3775E-01	1.3002E+00	-5.4253E-01	1.3289E+00	-4.7888E-01	1.3429E+00	-4.6550E-01	1.3567E+00	-4.1127E-01
1.0000E+00	1.0744E+00	-7.4179E-01	1.0928E+00	-4.8460E-01	1.1142E+00	-4.1865E-01	1.1293E+00	-3.1269E-01	1.0279E+00	-2.9144E-01
1.2000E+00	9.6531E-01	-3.5978E-01	9.7300E-01	-3.4557E-01	9.9308E-01	-3.2712E-01	1.0077E+00	-1.3269E-01	9.0714E-01	-2.9144E-01
1.3000E+00	9.2104E-01	-3.0049E-01	9.3600E-01	-2.9446E-01	9.9552E-01	-2.8100E-01	9.6941E-01	-2.7015E-01	9.8850E-01	-2.5339E-01
1.5000E+00	8.6133E-01	-2.0044E-01	8.8606E-01	-2.0040E-01	9.1208E-01	-1.3457E-01	9.2404E-01	-1.8578E-01	9.4809E-01	-1.8159E-01
1.7000E+00	8.4798E-01	-1.2188E-01	8.8181E-01	-1.2208E-01	8.9790E-01	-1.2162E-01	9.0796E-01	-1.2074E-01	9.2131E-01	-1.1867E-01
2.0000E+00	8.9356E-01	-3.1659E-02	9.0901E-01	-4.1881E-01	9.0782E-01	-4.3462E-02	9.1374E-01	-6.5386E-02	9.2274E-01	-6.4781E-01
2.5000E+00	9.4799E-01	2.4397E-02	9.4902E-01	1.8959E-02	9.1060E-01	1.4490E-02	9.5279E-01	1.1316E-02	9.5554E-01	7.1273E-03
3.0000E+00	9.8708E-01	2.5626E-02	9.8559E-01	2.3845E-02	9.8598E-01	2.1510E-02	9.8598E-01	1.7681E-02	9.8533E-01	1.7011E-02
3.5000E+00	1.0033E+00	1.3773E-02	1.0024E+00	1.3273E-02	1.0016E+00	1.2565E-02	1.0008E+00	9.9983E-03	1.0033E+00	1.1031E-02
4.0000E+00	1.0057E+00	4.0956E-03	1.0052E+00	4.1577E-03	1.0046E+00	4.2067E-03	1.0041E+00	4.2169E-03	1.0034E+00	4.1833E-03
4.5000E+00	1.0000E+00	-7.1795E-04	1.0000E+00	-7.0718E-04	1.0001E+00	-7.0018E-04	1.0002E+00	-6.8198E-04	1.0001E+00	-6.8198E-04
5.0000E+00	1.0012E+00	-1.2041E-03	1.0012E+00	-1.0309E-03	1.0012E+00	-9.3741E-04	1.0012E+00	-8.1581E-04	1.0012E+00	-6.3666E-04

BETA = 5.0000E-02		BETA = 8.0000E-02		BETA = 1.0000E-01		BETA = 2.0000E-01		BETA = 5.0000E-01		
V	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)
1.0000E-02	4.3629E+00	7.4178E-01	3.4005E+00	7.5314E-01	3.0124E+00	7.6517E-01	2.6301E+00	7.6461E-01	1.1190E+00	7.7182E-01
1.5000E-02	4.3603E+00	7.2007E-01	3.4400E+00	7.3747E-01	3.0131E+00	7.3747E-01	2.6326E+00	7.5425E-01	1.1223E+00	7.6507E-01
2.0000E-02	4.3603E+00	6.4400E-01	3.4400E+00	7.1746E-01	3.0138E+00	7.2508E-01	2.6326E+00	7.4392E-01	1.1202E+00	7.5836E-01
2.5000E-02	4.3491E+00	6.7690E-01	3.3983E+00	7.0006E-01	3.0135E+00	7.1011E-01	2.6368E+00	7.3362E-01	1.1274E+00	7.5166E-01
3.0000E-02	4.3491E+00	6.3950E-01	3.3950E+00	6.8326E-01	3.0132E+00	6.8326E-01	2.6402E+00	7.2332E-01	1.1328E+00	7.4491E-01
3.5000E-02	4.3300E+00	6.3424E-01	3.3920E+00	6.6712E-01	3.0108E+00	6.6034E-01	2.6402E+00	7.1312E-01	1.1362E+00	7.3833E-01
4.0000E-02	4.3176E+00	6.1314E-01	3.3974E+00	6.5050E-01	3.0088E+00	6.6256E-01	2.6418E+00	7.0292E-01	1.1395E+00	7.3173E-01
4.5000E-02	4.2974E+00	6.2149E-01	3.3756E+00	6.3427E-01	3.0071E+00	6.4627E-01	2.6427E+00	6.9272E-01	1.1438E+00	7.2517E-01
5.0000E-02	4.2506E+00	5.5209E-01	3.3603E+00	5.8512E-01	2.9972E+00	6.0724E-01	2.6449E+00	6.6252E-01	1.1512E+00	7.0958E-01
1.0000E-01	4.1584E+00	4.3479E-01	3.2793E+00	4.5218E-01	2.9189E+00	5.2180E-01	2.6389E+00	5.8291E-01	1.1681E+00	6.8786E-01
1.5000E-01	3.7203E+00	2.1649E-01	3.1008E+00	3.2179E-01	2.8180E+00	3.6627E-01	2.6206E+00	4.9124E-01	1.1993E+00	5.9431E-01
2.0000E-01	3.4917E+00	3.7793E-01	2.9038E+00	2.7898E-01	2.6237E+00	2.8238E-01	2.5717E+00	2.8238E-01	1.2488E+00	5.1574E-01
3.0000E-01	2.7656E+00	-1.0123E-01	2.5046E+00	2.1084E-02	2.1665E+00	8.0441E-02	1.8800E+00	2.05789E-01	1.2488E+00	4.2975E-01
4.0000E-01	2.2975E+00	-2.1176E-01	2.1816E+00	-2.2226E-01	1.9022E+00	-2.2226E-01	1.6394E+00	-2.2226E-01	1.4933E+00	-2.2226E-01
5.0000E-01	1.7992E+00	-1.5105E-01	1.6764E+00	-1.8889E-01	1.4288E+00	-1.7573E-01	1.2529E+00	-1.4933E+00	1.1493E+00	-1.4933E-01
6.0000E-01	1.5214E+00	-1.1780E-01	1.3807E+00	-2.5738E-01	1.1378E+00	-2.2043E-01	1.1431E+00	-5.5281E-02	1.1860E+00	1.0111E-01
7.0000E-01	1.3813E+00	-2.9586E-01	1.1981E+00	-2.4672E-01	1.0204E+00	-2.1508E-01	1.0210E+00	-4.1437E-01	1.0405E+00	6.2324E-02
8.0000E-01	1.1833E+00	-2.4665E-01	1.0384E+00	-2.1265E-01	8.7058E-01	-8.4029E-02	8.8362E-02	-1.4329E-02	1.0020E+00	-6.0080E-03
1.0000E+00	1.0237E+00	-2.1874E-01	1.0459E+00	-1.9134E-01	1.0570E+00	-1.7332E-01	1.0879E+00	-1.1086E-01	1.0839E+00	-1.9000E-03
1.2000E+00	9.6785E-01	-1.6259E-01	9.9421E-01	-1.4447E-01	1.0055E+00	-1.4869E-01	1.0400E+00	-9.9886E-02	1.0400E+00	-1.4869E-01
1.3000E+00	9.4285E-01	-1.1162E-01	9.6734E-01	-5.7748E-02	9.7171E-01	-1.0407E-01	9.8794E-01	-7.7325E-02	1.0358E+00	-1.4770E-02
1.5000E+00	9.4126E-01	-5.2372E-02	9.5474E-01	-5.2943E-02	9.5220E-01	-5.2469E-02	9.8879E-01	-4.5428E-02	1.1160E+00	-1.5631E-02
2.0000E+00	9.6198E-01	-8.9434E-04	9.6734E-01	-5.7748E-03	9.7058E-01	-8.4029E-03	9.8362E-01	-1.4329E-02	1.1397E+00	-1.5832E-04
2.5000E+00	9.8356E-01	1.1610E-02	9.8599E-01	7.8424E-03	9.8658E-01	5.8455E-03	9.9028E-01	4.5008E-04	9.9873E-01	-5.5843E-04
3.0000E+00	9.9807E-01	8.8847E-03	9.9711E-01	7.1705E-03	9.9807E-01	4.9011E-03	1.0000E+00	3.2738E-03	9.9932E-01	-1.2957E-03
4.0000E+00	1.0002E+00	8.4242E-04	1.0015E+00	9.9636E-04	1.0012E+00	1.0038E-03	1.0003E+00	8.9610E-04	9.9977E-01	1.0841E-04
4.5000E+00	1.0010E+00	-2.8911E-04	1.0008E+00	-7.0701E-05	1.0008E+00	3.6270E-05	1.0000E+00	2.5223E-04	9.9994E-01	6.6934E-05

BETA = .0000E+00		BETA = 1.0000E-01		BETA = 2.0000E-01		BETA = 5.0000E-01		
V	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)
1.0000E-02	1.4000E+02	-7.8516E-01	3.0124E+01	4.7911E-01	1.4937E+01	6.4939E-01	6.8627E-01	6.8627E-01
1.5000E-02	6.6667E+01	-7.8532E-01	2.8567E-01	3.4279E-01	1.3807E+01	5.7698E-01	9.8467E+00	6.3734E-01
2.0000E-02	5.0000E+01	-7.8528E-01	2.6726E+01	2.2186E-01	1.1937E+01	5.1040E-01	9.7688E+00	5.8914E+00
4.0000E-02	2.5000E+01	-7.8519E-01	1.45819E+01	1.15819E-01	6.39819E+00	4.4084E-01	9.4188E+00	5.4188E-01
3.0000E-02	3.3333E+01	-7.8510E-01	2.2948E+01	2.6956E-02	1.3005E+01	3.8594E-01	9.5939E+00	4.9573E-01
2.0000E-02	2.8717E+01	-7.8499E-01	2.1209E+01	-4.9901E-01	1.1566E+01	3.2156E-01	9.2288E+00	4.3188E-01
4.0000E-02								



C = 5+0000E-02

BETA = 0.0000E-01		BETA = 1.0000E-01		BETA = 2.0000E-01		BETA = 5.0000E-01	
V	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)	Q(AMP)	Q(PHASE)	Q(AMP)
1.0000E-02	5.7487E-02	1.2291E-01	5.7629E-02	1.3222E-02	5.8051E-02	2.4501E-02	6.1779E-02
1.5000E-02	6.1496E-02	1.7271E-01	6.1647E-02	1.2030E-01	6.2027E-02	7.4314E-02	6.5012E-02
2.0000E-02	6.5504E-02	2.1271E-01	6.5798E-02	1.0839E-01	6.4077E-02	8.6851E-02	6.8246E-02
2.5000E-02	6.9512E-02	2.5271E-01	7.0058E-02	9.6388E-01	7.0568E-02	1.0157E-01	7.3792E-02
3.0000E-02	7.3520E-02	2.9271E-01	7.4319E-02	8.4799E-01	7.6058E-02	1.1500E-01	7.8340E-02
3.5000E-02	7.7528E-02	3.3271E-01	7.8580E-02	7.3210E-01	8.1548E-02	1.2843E-01	8.2888E-02
4.0000E-02	8.1536E-02	3.7271E-01	8.2841E-02	6.1621E-01	8.7036E-02	1.4186E-01	8.7436E-02
4.5000E-02	8.5544E-02	4.1271E-01	8.7102E-02	5.0032E-01	9.2524E-02	1.5529E-01	9.1984E-02
5.0000E-02	8.9552E-02	4.5271E-01	9.1363E-02	3.8443E-01	9.8012E-02	1.6872E-01	9.6532E-02
5.5000E-02	9.3560E-02	4.9271E-01	9.5624E-02	2.6854E-01	1.0350E-01	1.8215E-01	1.0100E-01
6.0000E-02	9.7568E-02	5.3271E-01	9.9885E-02	1.5265E-01	1.0828E-01	1.9558E-01	1.0548E-01
6.5000E-02	1.0157E-01	5.7271E-01	1.0410E-01	3.3676E-01	1.1306E-01	2.0906E-01	1.1000E-01
7.0000E-02	1.0546E-01	6.1271E-01	1.0893E-01	5.2087E-01	1.1784E-01	2.2254E-01	1.1458E-01
7.5000E-02	1.0935E-01	6.5271E-01	1.1376E-01	7.0498E-01	1.2262E-01	2.3602E-01	1.1916E-01
8.0000E-02	1.1324E-01	6.9271E-01	1.1859E-01	8.8909E-01	1.2740E-01	2.4950E-01	1.2374E-01
8.5000E-02	1.1713E-01	7.3271E-01	1.2342E-01	1.0732E-01	1.3218E-01	2.6300E-01	1.2832E-01
9.0000E-02	1.2102E-01	7.7271E-01	1.2825E-01	1.2625E-01	1.3696E-01	2.7650E-01	1.3290E-01
9.5000E-02	1.2491E-01	8.1271E-01	1.3308E-01	1.4512E-01	1.4174E-01	2.9000E-01	1.3748E-01
1.0000E-01	1.2880E-01	8.5271E-01	1.3791E-01	1.6400E-01	1.4652E-01	3.0350E-01	1.4206E-01
1.0500E-01	1.3269E-01	8.9271E-01	1.4274E-01	1.8287E-01	1.5130E-01	3.1700E-01	1.4664E-01
1.1000E-01	1.3658E-01	9.3271E-01	1.4757E-01	2.0175E-01	1.5608E-01	3.3050E-01	1.5122E-01
1.1500E-01	1.4047E-01	9.7271E-01	1.5240E-01	2.2062E-01	1.6086E-01	3.4400E-01	1.5580E-01
1.2000E-01	1.4436E-01	1.0127E-01	1.5723E-01	2.3950E-01	1.6564E-01	3.5750E-01	1.6038E-01
1.2500E-01	1.4825E-01	1.0510E-01	1.6206E-01	2.5837E-01	1.7042E-01	3.7100E-01	1.6496E-01
1.3000E-01	1.5214E-01	1.0893E-01	1.6689E-01	2.7725E-01	1.7520E-01	3.8450E-01	1.6954E-01
1.3500E-01	1.5603E-01	1.1276E-01	1.7172E-01	2.9612E-01	1.7998E-01	3.9800E-01	1.7412E-01
1.4000E-01	1.5992E-01	1.1659E-01	1.7655E-01	3.1500E-01	1.8476E-01	4.1150E-01	1.7870E-01
1.4500E-01	1.6381E-01	1.2042E-01	1.8138E-01	3.3387E-01	1.8954E-01	4.2500E-01	1.8328E-01
1.5000E-01	1.6770E-01	1.2425E-01	1.8621E-01	3.5275E-01	1.9432E-01	4.3850E-01	1.8786E-01
1.5500E-01	1.7159E-01	1.2808E-01	1.9104E-01	3.7162E-01	1.9910E-01	4.5200E-01	1.9244E-01
1.6000E-01	1.7548E-01	1.3191E-01	1.9587E-01	3.9050E-01	2.0388E-01	4.6550E-01	1.9702E-01
1.6500E-01	1.7937E-01	1.3574E-01	2.0070E-01	4.0937E-01	2.0866E-01	4.7900E-01	2.0160E-01
1.7000E-01	1.8326E-01	1.3957E-01	2.0553E-01	4.2825E-01	2.1344E-01	4.9250E-01	2.0618E-01
1.7500E-01	1.8715E-01	1.4340E-01	2.1036E-01	4.4712E-01	2.1822E-01	5.0600E-01	2.1076E-01
1.8000E-01	1.9104E-01	1.4723E-01	2.1519E-01	4.6600E-01	2.2300E-01	5.1950E-01	2.1534E-01
1.8500E-01	1.9493E-01	1.5106E-01	2.2002E-01	4.8487E-01	2.2778E-01	5.3300E-01	2.1992E-01
1.9000E-01	1.9882E-01	1.5489E-01	2.2485E-01	5.0375E-01	2.3256E-01	5.4650E-01	2.2450E-01
1.9500E-01	2.0271E-01	1.5872E-01	2.2968E-01	5.2262E-01	2.3734E-01	5.6000E-01	2.2908E-01
2.0000E-01	2.0660E-01	1.6255E-01	2.3451E-01	5.4150E-01	2.4212E-01	5.7350E-01	2.3366E-01
2.0500E-01	2.1049E-01	1.6638E-01	2.3934E-01	5.6037E-01	2.4690E-01	5.8700E-01	2.3824E-01
2.1000E-01	2.1438E-01	1.7021E-01	2.4417E-01	5.7925E-01	2.5168E-01	6.0050E-01	2.4282E-01
2.1500E-01	2.1827E-01	1.7404E-01	2.4900E-01	5.9812E-01	2.5646E-01	6.1400E-01	2.4740E-01
2.2000E-01	2.2216E-01	1.7787E-01	2.5383E-01	6.1700E-01	2.6124E-01	6.2750E-01	2.5198E-01
2.2500E-01	2.2605E-01	1.8170E-01	2.5866E-01	6.3587E-01	2.6602E-01	6.4100E-01	2.5656E-01
2.3000E-01	2.2994E-01	1.8553E-01	2.6349E-01	6.5475E-01	2.7080E-01	6.5450E-01	2.6114E-01
2.3500E-01	2.3383E-01	1.8936E-01	2.6832E-01	6.7362E-01	2.7558E-01	6.6800E-01	2.6572E-01
2.4000E-01	2.3772E-01	1.9319E-01	2.7315E-01	6.9250E-01	2.8036E-01	6.8150E-01	2.7030E-01
2.4500E-01	2.4161E-01	1.9702E-01	2.7798E-01	7.1137E-01	2.8514E-01	6.9500E-01	2.7488E-01
2.5000E-01	2.4550E-01	2.0085E-01	2.8281E-01	7.3025E-01	2.8992E-01	7.0850E-01	2.7946E-01
2.5500E-01	2.4939E-01	2.0468E-01	2.8764E-01	7.4912E-01	2.9470E-01	7.2200E-01	2.8404E-01
2.6000E-01	2.5328E-01	2.0851E-01	2.9247E-01	7.6800E-01	2.9948E-01	7.3550E-01	2.8862E-01
2.6500E-01	2.5717E-01	2.1234E-01	2.9730E-01	7.8687E-01	3.0426E-01	7.4900E-01	2.9320E-01
2.7000E-01	2.6106E-01	2.1617E-01	3.0213E-01	8.0575E-01	3.0904E-01	7.6250E-01	2.9778E-01
2.7500E-01	2.6495E-01	2.2000E-01	3.0696E-01	8.2462E-01	3.1382E-01	7.7600E-01	3.0236E-01
2.8000E-01	2.6884E-01	2.2383E-01	3.1179E-01	8.4350E-01	3.1860E-01	7.8950E-01	3.0694E-01
2.8500E-01	2.7273E-01	2.2766E-01	3.1662E-01	8.6237E-01	3.2338E-01	8.0300E-01	3.1152E-01
2.9000E-01	2.7662E-01	2.3149E-01	3.2145E-01	8.8125E-01	3.2816E-01	8.1650E-01	3.1610E-01
2.9500E-01	2.8051E-01	2.3532E-01	3.2628E-01	9.0012E-01	3.3294E-01	8.3000E-01	3.2068E-01
3.0000E-01	2.8440E-01	2.3915E-01	3.3111E-01	9.1900E-01	3.3772E-01	8.4350E-01	3.2526E-01
3.0500E-01	2.8829E-01	2.4298E-01	3.3594E-01	9.3787E-01	3.4250E-01	8.5700E-01	3.2984E-01
3.1000E-01	2.9218E-01	2.4681E-01	3.4077E-01	9.5675E-01	3.4728E-01	8.7050E-01	3.3442E-01
3.1500E-01	2.9607E-01	2.5064E-01	3.4560E-01	9.7562E-01	3.5206E-01	8.8400E-01	3.3900E-01
3.2000E-01	3.0000E-01	2.5447E-01	3.5043E-01	9.9450E-01	3.5684E-01	8.9750E-01	3.4358E-01
3.2500E-01	3.0389E-01	2.5830E-01	3.5526E-01	1.0133E-01	3.6162E-01	9.1100E-01	3.4816E-01
3.3000E-01	3.0778E-01	2.6213E-01	3.6009E-01	1.0326E-01	3.6640E-01	9.2450E-01	3.5274E-01
3.3500E-01	3.1167E-01	2.6596E-01	3.6492E-01	1.0519E-01	3.7118E-01	9.3800E-01	3.5732E-01
3.4000E-01	3.1556E-01	2.6979E-01	3.6975E-01	1.0712E-01	3.7596E-01	9.5150E-01	3.6190E-01
3.4500E-01	3.1945E-01	2.7362E-01	3.7458E-01	1.0905E-01	3.8074E-01	9.6500E-01	3.6648E-01
3.5000E-01	3.2334E-01	2.7745E-01	3.7941E-01	1.1098E-01	3.8552E-01	9.7850E-01	3.7106E-01
3.5500E-01	3.2723E-01	2.8128E-01	3.8424E-01	1.1291E-01	3.9030E-01	9.9200E-01	3.7564E-01
3.6000E-01	3.3112E-01	2.8511E-01	3.8907E-01	1.1484E-01	3.9508E-01	1.0060E-01	3.8022E-01
3.6500E-01	3.3501E-01	2.8894E-01	3.9390E-01	1.1677E-01	4.0000E-01	1.0200E-01	3.8480E-01
3.7000E-01	3.3890E-01	2.9277E-01	3.9873E-01	1.1870E-01	4.0488E-01	1.0340E-01	3.8938E-01
3.7500E-01	3.4279E-01	2.9660E-01	4.0356E-01	1.2063E-01	4.0976E-01	1.0480E-01	3.9396E-01
3.8000E-01	3.4668E-01	3.0043E-01	4.0839E-01	1.2256E-01	4.1464E-01	1.0620E-01	3.9854E-01
3.8500E-01	3.5057E-01	3.0426E-01	4.1322E-01	1.2449E-01	4.1952E-01	1.0760E-01	4.0312E-01
3.9000E-01	3.5446E-01	3.0809E-01	4.1805E-01	1.2642E-01	4.2440E-01	1.0900E-01	4.0770E-01
3.9500E-01	3.5835E-01	3.1192E-01	4.2288E-01	1.2835E-01	4.2928E-01	1.1040E-01	4.1228E-01
4.0000E-01	3.6224E-01	3.1575E-01	4.2771E-01	1.3028E-01	4.3416E-01	1.1180E-01	4.1686E-01
4.0500E-01	3.6613E-01	3.1958E-01	4.3254E-01	1.3221E-01	4.3904E-01	1.1320E-01	4.2144E-01
4.1000E-01	3.7002E-01	3.2341E-01	4.3737E-01	1.3414E-01	4.4392E-01	1.1460E-01	4.2602E-01
4.1500E-01	3.7391E-01	3.2724E-01	4.4220E-01	1.3607E-01	4.4880E-01	1.1600E-01	4.3060E-01
4.2000E-01	3.7780E-01	3.3107E-01	4.4703E-01	1.3800E-01	4.5368E-01	1.1740E-01	4.3518E-01
4.2500E-01	3.8169E-01	3.3490E-01	4.5186E-01	1.4000E-01	4.5856E-01	1.1880E-01	4.3976E-01
4.3000E-01	3.8558E-01	3.3873E-01	4.5669E-01	1.4193E-01	4.6344E-01	1.2020E-01	4.4434E-01
4.3500E-01	3.8947E-01	3.4256E-01	4.6152E-01	1.4386E-01	4.6832E-01	1.2160E-01	4.4892E-01
4.4000E-01	3.9336E-01	3.4639E-01	4.6635E-01	1.4579E-01	4.7320E-01	1.2300E-01	4.5350E-01
4.4500E-01	3.9725E-01	3.5022E-01	4.7118E-01	1.4772E-01	4.7808E-01	1.2440E-01	4.5808E-01
4.5000E-01	4.0114E-01	3.5405E-01	4.7601E-01	1.4965E-01	4.8296E-01	1.2580E-01	4.6266E-01
4.5500E-01	4.0503E-01	3.5788E-01	4.8084E-01				

C# 5.0000E-01

BETA# +0.000E+01		BETA# 1.0000E-01		BETA# 2.0000E-01		BETA# 5.0000E-01	
V	G(AMP)	G(PHASE)	G(AMP)	G(PHASE)	G(AMP)	G(PHASE)	G(AMP)
1.0000E-02	5.0533E-01	1.0421E-02	5.0644E-01	-2.6786E-02	5.0985E-01	-6.3043E-02	5.3187E-01
1.5000E-02	1.5493E-02	-3.0910E-02	1.5493E-02	-2.1846E-02	1.5493E-01	-5.2784E-02	1.5493E-01
2.0000E-02	5.1101E-01	2.0475E-02	5.1176E-01	-1.4602E-02	5.1251E-01	-5.2723E-02	5.3949E-01
2.5000E-02	5.1342E-01	2.5368E-02	5.1444E-01	-1.1844E-02	5.1177E-01	-4.2774E-02	5.3976E-01
3.0000E-02	5.1385E-01	3.0317E-02	5.1313E-01	-8.7738E-03	5.1278E-01	-4.2782E-02	5.4780E-01
3.5000E-02	5.1188E-01	3.4891E-02	5.1093E-01	-1.4908E-03	5.2231E-01	-3.7937E-02	5.4507E-01
4.0000E-02	5.2162E-01	3.9754E-02	5.2054E-01	1.2708E-03	5.2078E-01	-3.3177E-02	5.4772E-01
4.5000E-02	5.2714E-01	4.4833E-02	5.2798E-01	1.1848E-02	5.3210E-01	-2.9312E-02	5.5302E-01
5.0000E-02	5.3270E-01	5.0121E-02	5.3436E-01	2.0059E-02	5.3663E-01	-1.4479E-02	5.5841E-01
5.5000E-02	5.3784E-01	5.5510E-02	5.4083E-01	3.7928E-02	5.4375E-01	-1.4943E-02	5.6356E-01
6.0000E-02	5.4252E-01	6.0997E-02	5.4746E-01	5.2780E-02	5.5856E-01	-1.7652E-02	5.7498E-01
6.5000E-02	5.4793E-01	6.6582E-02	5.5432E-01	6.8512E-02	5.8630E-01	-5.2029E-02	6.0691E-01
7.0000E-02	5.5313E-01	7.2267E-02	5.6143E-01	8.5139E-02	6.2012E-01	-4.8021E-02	6.4341E-01
7.5000E-02	5.5817E-01	7.8052E-02	5.6880E-01	1.0330E-01	6.6094E-01	-1.2113E-01	6.8563E-01
8.0000E-02	5.6300E-01	8.3937E-02	5.7642E-01	1.2272E-01	7.0743E-01	-1.4438E-01	7.3441E-01
8.5000E-02	5.6762E-01	8.9922E-02	5.8426E-01	1.4361E-01	7.6107E-01	-1.5856E-01	7.7917E-01
9.0000E-02	5.7204E-01	9.6007E-02	5.9236E-01	1.6594E-01	8.2168E-01	-1.6272E-01	8.3194E-01
9.5000E-02	5.7626E-01	1.0215E-01	6.0074E-01	1.8984E-01	8.8944E-01	-1.4591E-01	8.9388E-01
1.0000E-01	5.8030E-01	1.0894E-01	6.0938E-01	1.7339E-01	9.6247E-01	-1.4518E-01	9.6576E-01
1.0500E-01	5.8416E-01	1.1597E-01	6.1810E-01	1.4460E-01	1.0447E-01	-1.2845E-01	1.0409E-01
1.1000E-01	5.8784E-01	1.2310E-01	6.2700E-01	1.1169E-01	1.1695E-01	-1.0099E-01	1.1780E-01
1.1500E-01	5.9135E-01	1.3032E-01	6.3606E-01	9.5566E-02	1.2952E-01	-8.6918E-02	1.3475E-01
1.2000E-01	5.9469E-01	1.3773E-01	6.4528E-01	8.6994E-02	1.4015E-01	-6.6147E-02	1.4938E-01
1.2500E-01	5.9787E-01	1.4532E-01	6.5466E-01	7.6888E-03	1.4822E-01	-4.4071E-02	1.6024E-01
1.3000E-01	6.0089E-01	1.5308E-01	6.6420E-01	1.6347E-02	1.5429E-01	-1.8329E-02	1.6701E-01
1.3500E-01	6.0374E-01	1.6099E-01	6.7390E-01	1.4033E-02	1.5834E-01	-5.3122E-03	1.7059E-01
1.4000E-01	6.0643E-01	1.6904E-01	6.8382E-01	-5.7554E-03	1.6051E-01	-3.6536E-03	1.7387E-01
1.4500E-01	6.0896E-01	1.7722E-01	6.9394E-01	-4.5575E-03	1.6009E-01	-2.6642E-03	1.7689E-01
1.5000E-01	6.1133E-01	1.8552E-01	7.0426E-01	-1.4177E-03	1.5996E-01	-1.2208E-03	1.7959E-01
1.5500E-01	6.1356E-01	1.9394E-01	7.1479E-01	-2.2709E-04	1.5992E-01	-3.4135E-04	1.8198E-01
1.6000E-01	6.1566E-01	2.0248E-01	7.2552E-01	1.8110E-04	1.5997E-01	5.4317E-05	1.8499E-01

C# 1.0000E+00

BETA# +0.000E+01		BETA# 1.0000E-01		BETA# 2.0000E-01		BETA# 5.0000E-01	
V	G(AMP)	G(PHASE)	G(AMP)	G(PHASE)	G(AMP)	G(PHASE)	G(AMP)
1.0000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.5000E-02	1.0000E+00	+0.000E+00	1.0000E+00	-4.4473E-13	1.0000E+00	+0.000E+00	1.0000E+00
2.0000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+4.4473E-13	1.0000E+00	+0.000E+00	1.0000E+00
2.5000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
3.0000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
3.5000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
4.0000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
4.5000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
5.0000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
5.5000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
6.0000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
6.5000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
7.0000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
7.5000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
8.0000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
8.5000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
9.0000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
9.5000E-02	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.0000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.0500E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.1000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.1500E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.2000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.2500E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.3000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.3500E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.4000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.4500E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.5000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.5500E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.6000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.6500E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.7000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.7500E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.8000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.8500E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.9000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
1.9500E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00
2.0000E-01	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00	+0.000E+00	1.0000E+00

C# 2.0000E+00

BETA# +0.000E+01		BETA# 1.0000E-01		BETA# 2.0000E-01		BETA# 5.0000E-01	
V	G(AMP)	G(PHASE)	G(AMP)	G(PHASE)	G(AMP)	G(PHASE)	G(AMP)
1.0000E-02	1.9792E-02	-1.4292E-02	1.8183E+00	1.4282E+00	1.4444E+00	2.2826E+00	1.4100E+00
1.5000E-02	1.9794E+00	-1.5493E-02	1.9058E+00	1.4228E+00	1.7492E+00	2.2107E-01	1.4409E+00
2.0000E-02	1.9598E+00	-2.0475E-02	1.9006E+00	1.1716E-01	1.7404E+00	2.1535E-01	1.4075E+00
2.5000E-02	1.9477E+00	-2.5368E-02	1.8928E+00	1.1358E-01	1.6787E+00	2.0071E-01	1.4297E+00
3.0000E-02	1.9374E+00	-3.0317E-02	1.8850E+00	1.0504E-01	1.7535E+00	2.0411E-01	1.4393E+00
3.5000E-02	1.9272E+00	-3.4891E-02	1.8772E+00	1.000E+00	1.7402E+00	1.8680E-01	1.4402E+00
4.0000E-02	1.9170E+00	-3.9754E-02	1.8694E+00	9.2506E-02	1.7429E+00	1.7429E-01	1.4403E+00
4.5000E-02	1.8970E+00	-4.4833E-02	1.8538E+00	8.6705E-02	1.7322E+00	1.4284E-01	1.3966E+00
5.0000E-02	1.8772E+00	-4.9910E-02	1.8392E+00	8.2002E-02	1.7214E+00	1.2020E-01	1.3500E+00
5.5000E-02	1.8574E+00	-5.5087E-02	1.8256E+00	7.8414E-02	1.6998E+00	1.0206E-01	1.3084E+00
6.0000E-02	1.8376E+00	-6.0364E-02	1.8130E+00	7.5414E-02	1.6698E+00	8.5120E-02	1.2724E+00
6.5000E-02	1.8178E+00	-6.5741E-02	1.7974E+00	7.3015E-02	1.6402E+00	7.0307E-02	1.2433E+00
7.0000E-02	1.7980E+00	-7.1218E-02	1.7792E+00	7.1082E-02	1.6112E+00	5.8009E-02	1.2200E+00
7.5000E-02	1.7782E+00	-7.6795E-02	1.7635E+00	6.9778E-02	1.5720E+00	4.8292E-02	1.1938E+00
8.0000E-02	1.7584E+00	-8.2472E-02	1.7498E+00	6.9009E-02	1.5238E+00	4.0484E-02	1.1655E+00
8.5000E-02	1.7386E+00	-8.8249E-02	1.7380E+00	6.8791E-02	1.4673E+00	3.4122E-02	1.1350E+00
9.0000E-02	1.7188E+00	-9.4126E-02	1.7272E+00	6.9112E-02	1.4036E+00	2.9222E-02	1.0984E+00



C= 5.0000E+00

BETA= +0.000E-01		BETA= 1.0000E-03		BETA= 1.0000E-02		BETA= 2.0000E-02			
V	(I)AMP	(I)PHASE1	(I)PHASE2	(I)AMP	(I)PHASE1	(I)PHASE2	(I)AMP	(I)PHASE1	(I)PHASE2
1.0000E-02	+4.8933E+00	-3.8272E-02	+4.8345E+00	-3.6824E-02	+4.7122E-02	+4.4190E-02	+4.5586E+00	+1.8492E+00	+1.6617E-01
1.5000E-02	+4.7522E+00	-4.8119E-02	+4.6756E+00	-4.5194E-02	+4.6427E+00	+4.2542E-02	+4.5586E+00	+1.6350E+00	+1.4447E+00
2.0000E-02	+4.6728E+00	-5.7318E-02	+4.5989E+00	-5.4028E-02	+4.5000E+00	+4.5839E-02	+4.5586E+00	+1.4879E+00	+1.1499E-01
2.5000E-02	+4.6000E+00	-6.7492E-02	+4.5280E+00	-6.0538E-02	+4.3743E+00	+4.5294E-02	+4.5586E+00	+1.3146E+00	+8.8332E-02
3.0000E-02	+4.5189E+00	-7.9134E-02	+4.4230E+00	-7.0208E-02	+4.2500E+00	+4.4190E-02	+4.5586E+00	+1.1314E+00	+6.1316E-02
3.5000E-02	+4.4445E+00	-9.1407E-02	+4.3444E+00	-8.1396E-02	+4.1396E+00	+4.2446E+00	+4.5586E+00	+9.5056E+00	+2.4925E-02
4.0000E-02	+4.3717E+00	-1.0478E-01	+4.2717E+00	-9.3196E-02	+4.0246E+00	+4.1396E-02	+4.5586E+00	+7.8471E+00	+2.6766E-02
4.5000E-02	+4.3011E+00	-1.1915E-01	+4.2011E+00	-1.0636E-01	+3.9146E+00	+4.0246E+00	+4.5586E+00	+6.1895E+00	+2.7252E-02
5.0000E-02	+4.2311E+00	-1.3419E-01	+4.1211E+00	-1.1963E-01	+3.8046E+00	+3.9146E+00	+4.5586E+00	+4.5056E+00	+2.4925E-02
6.0000E-02	+4.1644E+00	-1.5000E-01	+4.0444E+00	-1.3419E-01	+3.6946E+00	+3.8046E+00	+4.5586E+00	+2.8716E+00	+1.6549E-01
7.0000E-02	+4.1000E+00	-1.6678E-01	+3.9678E+00	-1.5000E-01	+3.5846E+00	+3.6946E+00	+4.5586E+00	+1.5586E+00	+2.2146E-01
8.0000E-02	+4.0378E+00	-1.8445E-01	+3.8903E+00	-1.6678E-01	+3.4746E+00	+3.5846E+00	+4.5586E+00	+1.4646E+00	+2.2146E-01
9.0000E-02	+3.9778E+00	-2.0311E-01	+3.8123E+00	-1.8445E-01	+3.3646E+00	+3.4746E+00	+4.5586E+00	+1.3746E+00	+2.2146E-01
1.0000E-01	+3.9200E+00	-2.2278E-01	+3.7342E+00	-2.0311E-01	+3.2546E+00	+3.3646E+00	+4.5586E+00	+1.2846E+00	+2.2146E-01
1.2000E-01	+3.8644E+00	-2.4345E-01	+3.6561E+00	-2.2278E-01	+3.1446E+00	+3.2546E+00	+4.5586E+00	+1.1946E+00	+2.2146E-01
1.4000E-01	+3.8100E+00	-2.6511E-01	+3.5780E+00	-2.4345E-01	+3.0346E+00	+3.1446E+00	+4.5586E+00	+1.1046E+00	+2.2146E-01
1.6000E-01	+3.7566E+00	-2.8778E-01	+3.5000E+00	-2.6511E-01	+2.9246E+00	+3.0346E+00	+4.5586E+00	+1.0146E+00	+2.2146E-01
1.8000E-01	+3.7044E+00	-3.1145E-01	+3.4220E+00	-2.8778E-01	+2.8146E+00	+2.9246E+00	+4.5586E+00	+9.2466E+00	+2.2146E-01
2.0000E-01	+3.6533E+00	-3.3611E-01	+3.3440E+00	-3.1145E-01	+2.7046E+00	+2.8146E+00	+4.5586E+00	+8.3866E+00	+2.2146E-01
2.2000E-01	+3.6033E+00	-3.6178E-01	+3.2660E+00	-3.3611E-01	+2.5946E+00	+2.7046E+00	+4.5586E+00	+7.5266E+00	+2.2146E-01
2.4000E-01	+3.5544E+00	-3.8845E-01	+3.1880E+00	-3.6178E-01	+2.4846E+00	+2.5946E+00	+4.5586E+00	+6.6666E+00	+2.2146E-01
2.6000E-01	+3.5066E+00	-4.1611E-01	+3.1100E+00	-3.8845E-01	+2.3746E+00	+2.4846E+00	+4.5586E+00	+5.8066E+00	+2.2146E-01
2.8000E-01	+3.4600E+00	-4.4478E-01	+3.0320E+00	-4.1611E-01	+2.2646E+00	+2.3746E+00	+4.5586E+00	+4.9466E+00	+2.2146E-01
3.0000E-01	+3.4144E+00	-4.7445E-01	+2.9540E+00	-4.4478E-01	+2.1546E+00	+2.2646E+00	+4.5586E+00	+4.0866E+00	+2.2146E-01
3.2000E-01	+3.3700E+00	-5.0511E-01	+2.8760E+00	-4.7445E-01	+2.0446E+00	+2.1546E+00	+4.5586E+00	+3.2266E+00	+2.2146E-01
3.4000E-01	+3.3266E+00	-5.3678E-01	+2.7980E+00	-5.0511E-01	+1.9346E+00	+2.0446E+00	+4.5586E+00	+2.3666E+00	+2.2146E-01
3.6000E-01	+3.2844E+00	-5.6945E-01	+2.7200E+00	-5.3678E-01	+1.8246E+00	+1.9346E+00	+4.5586E+00	+1.5066E+00	+2.2146E-01
3.8000E-01	+3.2433E+00	-6.0311E-01	+2.6420E+00	-5.6945E-01	+1.7146E+00	+1.8246E+00	+4.5586E+00	+6.6666E+00	+2.2146E-01
4.0000E-01	+3.2033E+00	-6.3778E-01	+2.5640E+00	-6.0311E-01	+1.6046E+00	+1.7146E+00	+4.5586E+00	+5.8066E+00	+2.2146E-01
4.2000E-01	+3.1644E+00	-6.7345E-01	+2.4860E+00	-6.3778E-01	+1.4946E+00	+1.6046E+00	+4.5586E+00	+4.9466E+00	+2.2146E-01
4.4000E-01	+3.1266E+00	-7.1011E-01	+2.4080E+00	-6.7345E-01	+1.3846E+00	+1.4946E+00	+4.5586E+00	+4.0866E+00	+2.2146E-01
4.6000E-01	+3.0900E+00	-7.4778E-01	+2.3300E+00	-7.1011E-01	+1.2746E+00	+1.3846E+00	+4.5586E+00	+3.2266E+00	+2.2146E-01
4.8000E-01	+3.0544E+00	-7.8645E-01	+2.2520E+00	-7.4778E-01	+1.1646E+00	+1.2746E+00	+4.5586E+00	+2.3666E+00	+2.2146E-01
5.0000E-01	+3.0200E+00	-8.2611E-01	+2.1740E+00	-7.8645E-01	+1.0546E+00	+1.1646E+00	+4.5586E+00	+1.5066E+00	+2.2146E-01
5.2000E-01	+2.9866E+00	-8.6678E-01	+2.0960E+00	-8.2611E-01	+9.446E+00	+1.0546E+00	+4.5586E+00	+6.6666E+00	+2.2146E-01
5.4000E-01	+2.9544E+00	-9.0845E-01	+2.0180E+00	-8.6678E-01	+8.336E+00	+9.446E+00	+4.5586E+00	+5.8066E+00	+2.2146E-01
5.6000E-01	+2.9233E+00	-9.5111E-01	+1.9400E+00	-9.0845E-01	+7.226E+00	+8.336E+00	+4.5586E+00	+4.9466E+00	+2.2146E-01
5.8000E-01	+2.8933E+00	-9.9478E-01	+1.8620E+00	-9.5111E-01	+6.116E+00	+7.226E+00	+4.5586E+00	+4.0866E+00	+2.2146E-01
6.0000E-01	+2.8644E+00	-1.0411E-01	+1.7840E+00	-9.9478E-01	+5.006E+00	+6.116E+00	+4.5586E+00	+3.2266E+00	+2.2146E-01
6.2000E-01	+2.8366E+00	-1.1400E-01	+1.7060E+00	-1.0411E-01	+3.896E+00	+5.006E+00	+4.5586E+00	+2.3666E+00	+2.2146E-01
6.4000E-01	+2.8100E+00	-1.2400E-01	+1.6280E+00	-1.1400E-01	+2.786E+00	+3.896E+00	+4.5586E+00	+1.5066E+00	+2.2146E-01
6.6000E-01	+2.7844E+00	-1.3400E-01	+1.5500E+00	-1.2400E-01	+1.676E+00	+2.786E+00	+4.5586E+00	+6.6666E+00	+2.2146E-01
6.8000E-01	+2.7600E+00	-1.4400E-01	+1.4720E+00	-1.3400E-01	+5.566E+00	+1.676E+00	+4.5586E+00	+5.8066E+00	+2.2146E-01
7.0000E-01	+2.7366E+00	-1.5400E-01	+1.3940E+00	-1.4400E-01	+4.456E+00	+1.566E+00	+4.5586E+00	+4.9466E+00	+2.2146E-01
7.2000E-01	+2.7144E+00	-1.6400E-01	+1.3160E+00	-1.5400E-01	+3.346E+00	+1.456E+00	+4.5586E+00	+4.0866E+00	+2.2146E-01
7.4000E-01	+2.6933E+00	-1.7400E-01	+1.2380E+00	-1.6400E-01	+2.236E+00	+1.346E+00	+4.5586E+00	+3.2266E+00	+2.2146E-01
7.6000E-01	+2.6733E+00	-1.8400E-01	+1.1600E+00	-1.7400E-01	+1.126E+00	+1.236E+00	+4.5586E+00	+2.3666E+00	+2.2146E-01
7.8000E-01	+2.6544E+00	-1.9400E-01	+1.0820E+00	-1.8400E-01	+0.016E+00	+1.126E+00	+4.5586E+00	+1.5066E+00	+2.2146E-01
8.0000E-01	+2.6366E+00	-2.0400E-01	+1.0040E+00	-1.9400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+6.6666E+00	+2.2146E-01
8.2000E-01	+2.6200E+00	-2.1400E-01	+9.260E+00	-2.0400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+5.8066E+00	+2.2146E-01
8.4000E-01	+2.6044E+00	-2.2400E-01	+8.480E+00	-2.1400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+4.9466E+00	+2.2146E-01
8.6000E-01	+2.5900E+00	-2.3400E-01	+7.700E+00	-2.2400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+4.0866E+00	+2.2146E-01
8.8000E-01	+2.5766E+00	-2.4400E-01	+6.920E+00	-2.3400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+3.2266E+00	+2.2146E-01
9.0000E-01	+2.5644E+00	-2.5400E-01	+6.140E+00	-2.4400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+2.3666E+00	+2.2146E-01
9.2000E-01	+2.5533E+00	-2.6400E-01	+5.360E+00	-2.5400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+1.5066E+00	+2.2146E-01
9.4000E-01	+2.5433E+00	-2.7400E-01	+4.580E+00	-2.6400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+6.6666E+00	+2.2146E-01
9.6000E-01	+2.5344E+00	-2.8400E-01	+3.800E+00	-2.7400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+5.8066E+00	+2.2146E-01
9.8000E-01	+2.5266E+00	-2.9400E-01	+3.020E+00	-2.8400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+4.9466E+00	+2.2146E-01
1.0000E-01	+2.5200E+00	-3.0400E-01	+2.240E+00	-2.9400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+4.0866E+00	+2.2146E-01
1.2000E-01	+2.5144E+00	-3.1400E-01	+1.460E+00	-3.0400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+3.2266E+00	+2.2146E-01
1.4000E-01	+2.5093E+00	-3.2400E-01	+6.66E+00	-3.1400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+2.3666E+00	+2.2146E-01
1.6000E-01	+2.5044E+00	-3.3400E-01	+5.88E+00	-3.2400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+1.5066E+00	+2.2146E-01
1.8000E-01	+2.5000E+00	-3.4400E-01	+5.10E+00	-3.3400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+6.6666E+00	+2.2146E-01
2.0000E-01	+2.4966E+00	-3.5400E-01	+4.32E+00	-3.4400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+5.8066E+00	+2.2146E-01
2.2000E-01	+2.4933E+00	-3.6400E-01	+3.54E+00	-3.5400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+4.9466E+00	+2.2146E-01
2.4000E-01	+2.4900E+00	-3.7400E-01	+2.76E+00	-3.6400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+4.0866E+00	+2.2146E-01
2.6000E-01	+2.4878E+00	-3.8400E-01	+1.98E+00	-3.7400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+3.2266E+00	+2.2146E-01
2.8000E-01	+2.4866E+00	-3.9400E-01	+1.20E+00	-3.8400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+2.3666E+00	+2.2146E-01
3.0000E-01	+2.4854E+00	-4.0400E-01	+4.66E+00	-3.9400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+1.5066E+00	+2.2146E-01
3.2000E-01	+2.4844E+00	-4.1400E-01	+3.88E+00	-4.0400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+6.6666E+00	+2.2146E-01
3.4000E-01	+2.4833E+00	-4.2400E-01	+3.10E+00	-4.1400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+5.8066E+00	+2.2146E-01
3.6000E-01	+2.4823E+00	-4.3400E-01	+2.32E+00	-4.2400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+4.9466E+00	+2.2146E-01
3.8000E-01	+2.4813E+00	-4.4400E-01	+1.54E+00	-4.3400E-01	+0.006E+00	+0.016E+00	+4.5586E+00	+4.0866E+00	

M(I)/M(2) = 2.000E-02		SIGMA(2)/SIGMA(1) = 1.000E-03									
V	SIGMA(3)/SIGMA(1) = 1.000E+04	SIGMA(3)/SIGMA(1) = 1.000E+03	SIGMA(3)/SIGMA(1) = 1.000E+02	SIGMA(3)/SIGMA(1) = 1.000E+01	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E-01	SIGMA(3)/SIGMA(1) = 1.000E-02	SIGMA(3)/SIGMA(1) = 1.000E-03	SIGMA(3)/SIGMA(1) = 1.000E-04	SIGMA(3)/SIGMA(1) = 1.000E-05	SIGMA(3)/SIGMA(1) = 1.000E-06
	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)
1.000E+04	9.9226E+01	-7.9342E+01	3.1522E+01	-2.2288E+03	9.9962E+00	-3.8193E+04	3.1651E+02	9.0386E-04	1.0039E+00	3.1835E+02	-1.0039E+00
2.000E+04	9.4893E+01	-7.4842E+01	2.9172E+01	-2.0477E+03	9.4893E+00	-3.6392E+04	2.9172E+02	8.4893E-04	9.4893E-04	2.9172E+02	-9.4893E-04
3.000E+04	9.6376E+01	-7.5891E+01	3.0924E+01	-2.1846E+03	9.9619E+00	-3.8262E+03	3.1910E+02	8.8272E-04	1.0039E+00	3.1835E+02	-1.0039E+00
4.000E+04	9.2900E+01	-7.2900E+01	2.8900E+01	-2.0477E+03	9.2900E+00	-3.6392E+03	2.8900E+02	8.2900E-04	9.2900E-04	2.8900E+02	-9.2900E-04
5.000E+04	7.0504E+01	-2.6346E+01	2.4930E+01	-1.0011E+01	8.0107E+00	-1.9272E+02	9.3038E+00	4.1054E-02	1.0790E+00	1.0790E+00	-1.0790E+00
1.000E+05	5.2000E+01	-4.2000E+01	1.8000E+01	-1.8000E+01	2.2000E+00	-1.8000E+01	1.8000E+00	1.8000E-01	1.8000E-01	1.8000E+01	-1.8000E+01
1.500E+05	4.1905E+01	-3.8635E+01	2.2974E+01	-2.4572E+01	7.4989E+00	-5.8605E+02	3.6116E+02	1.0017E-01	1.4148E+00	1.5425E+02	-1.5425E+02
2.000E+05	3.4670E+01	-3.5720E+01	2.2086E+01	-2.9921E+01	6.2571E+00	-7.8400E+02	3.7652E+02	1.1971E-01	1.6390E+00	1.6232E+02	-1.6232E+02
2.500E+05	2.9103E+01	-3.1030E+01	1.8470E+01	-3.6346E+01	5.1756E+00	-9.3764E+02	4.0370E+02	1.3344E-01	1.8344E+00	1.8344E+02	-1.8344E+02
3.000E+05	2.4569E+01	-2.6270E+01	1.5747E+01	-3.8099E+01	4.6895E+00	-1.1821E+01	4.0884E+02	1.4601E-01	2.2970E+00	2.4311E+02	-2.4311E+02
3.500E+05	2.2627E+01	-2.6393E+01	1.6424E+01	-4.1270E+01	4.7113E+00	-1.3771E+01	4.2121E+02	1.5611E-01	2.6700E+00	2.5111E+02	-2.5111E+02
4.000E+05	2.1023E+01	-2.6401E+01	1.5107E+01	-4.5107E+01	4.5739E+00	-1.5739E+01	4.3539E+02	1.6555E-01	3.1796E+00	3.0661E+02	-3.0661E+02
4.500E+05	1.6753E+01	-2.6448E+01	1.3216E+01	-4.8405E+01	4.1871E+00	-1.9551E+01	4.6205E+02	1.7306E-01	3.7571E+00	3.4514E+02	-3.4514E+02
5.000E+05	1.4800E+01	-2.6436E+01	1.1711E+01	-5.1814E+01	3.7413E+00	-2.4331E+01	4.9504E+02	1.7973E-01	4.3865E+00	3.8600E+02	-3.8600E+02
6.000E+05	1.1012E+01	-2.6511E+01	9.5981E+00	-5.6695E+01	3.1828E+00	-2.9984E+01	5.1827E+02	1.8493E-01	4.2943E+00	4.2943E+02	-4.2943E+02
7.000E+05	8.9618E+00	-2.7162E+01	8.0537E+00	-5.9979E+01	2.6571E+00	-3.5927E+01	5.2268E+02	1.9410E-01	4.7862E+00	4.6880E+02	-4.6880E+02
8.000E+05	7.4169E+00	-2.7306E+01	6.7408E+00	-6.4695E+01	2.2373E+00	-4.2737E+01	5.2082E+02	2.0589E-01	4.9934E+00	4.9934E+02	-4.9934E+02
9.000E+05	4.6455E+00	-2.7341E+01	4.4491E+00	-6.8891E+01	1.8433E+00	-5.0552E+01	4.9350E+02	2.1910E-01	4.4812E+00	5.1482E+02	-5.1482E+02
1.000E+06	3.1426E+00	-2.7235E+01	3.1202E+00	-8.0190E+01	1.4135E+00	-6.1862E+01	3.1809E+02	2.3114E-01	3.2277E+00	5.4113E+02	-5.4113E+02
1.500E+06	2.0247E+00	-2.7120E+01	2.1894E+00	-9.7883E+01	1.0136E+00	-7.4048E+01	2.4489E+02	2.5205E-01	2.4460E+00	6.2396E+02	-6.2396E+02
2.000E+06	1.9264E+00	-2.6707E+01	1.9938E+00	-8.5522E+01	1.9627E+00	-6.3576E+01	1.9832E+02	2.6270E-01	1.8927E+00	6.2396E+02	-6.2396E+02
2.500E+06	1.4620E+00	-2.6396E+01	1.6539E+00	-7.3393E+01	1.4564E+00	-5.6490E+01	1.6687E+02	2.7112E-01	1.4289E+00	5.4113E+02	-5.4113E+02
3.000E+06	1.4162E+00	-2.5913E+01	1.4270E+00	-5.8616E+01	1.4399E+00	-5.8281E+01	1.4463E+02	2.8170E-01	1.4449E+00	5.9432E+02	-5.9432E+02
3.500E+06	1.2841E+00	-2.5442E+01	1.2719E+00	-5.4293E+01	1.2798E+00	-5.6247E+01	1.2841E+02	2.9426E-01	1.2897E+00	5.4277E+02	-5.4277E+02
4.000E+06	1.2071E+00	-2.4971E+01	1.0710E+00	-4.6675E+01	1.0728E+00	-4.9453E+01	1.0942E+02	3.0946E-01	1.0977E+00	4.6777E+02	-4.6777E+02
4.500E+06	9.5826E+01	-3.3668E+01	9.5870E+01	-3.3814E+01	5.9522E+01	-3.3952E+01	9.5945E+01	3.1402E-01	9.5954E+01	3.0597E+01	-3.0597E+01
5.000E+06	9.2557E+01	-2.8575E+01	9.2551E+01	-2.8484E+01	9.2546E+01	-2.8484E+01	9.2546E+01	3.2944E-01	9.2546E+01	2.8980E+01	-2.8980E+01
5.500E+06	8.9090E+01	-1.9187E+01	8.9797E+01	-1.9187E+01	8.6974E+01	-1.9224E+01	8.6930E+01	3.4205E-01	1.9245E+01	8.6930E+01	-8.6930E+01
6.000E+06	8.8246E+01	-1.1435E+01	8.8224E+01	-1.1437E+01	8.8220E+01	-1.1439E+01	8.8199E+01	3.5110E-01	8.8195E+01	1.1441E+01	-1.1441E+01
6.500E+06	8.4943E+01	-9.9787E+00	8.4943E+01	-9.9787E+00	8.4943E+01	-9.9787E+00	8.4943E+01	3.6046E-01	8.4943E+01	9.9787E+00	-9.9787E+00
7.000E+06	9.5072E+01	2.1009E+02	9.5073E+01	2.1019E+02	9.5074E+01	2.1017E+02	9.5074E+01	3.6940E-01	9.5075E+01	2.1009E+02	-2.1009E+02
7.500E+06	9.8786E+01	2.4059E+02	9.8786E+01	2.4059E+02	9.8786E+01	2.4059E+02	9.8786E+01	3.7878E+01	9.8786E+01	2.4059E+02	-2.4059E+02
8.000E+06	1.0053E+02	3.8446E+03	1.0053E+02	3.8446E+03	1.0053E+02	3.8446E+03	1.0053E+02	3.8446E+03	1.0053E+02	3.8446E+03	-3.8446E+03
8.500E+06	1.0032E+02	2.4093E+04	1.0032E+02	2.4093E+04	1.0032E+02	2.4093E+04	1.0032E+02	2.4093E+04	1.0032E+02	2.4093E+04	-2.4093E+04
9.000E+06	1.0011E+02	-1.1303E+03	1.0011E+02	-1.1303E+03	1.0011E+02	-1.1303E+03	1.0011E+02	-1.1303E+03	1.0011E+02	-1.1303E+03	1.1303E+03

M(I)/M(2) = 2.000E-02		SIGMA(2)/SIGMA(1) = 1.000E-03									
V	SIGMA(3)/SIGMA(1) = 1.000E+01	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00
	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)	Q(AMP)
1.000E+04	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
2.000E+04	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
3.000E+04	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
4.000E+04	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
5.000E+04	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
6.000E+04	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
7.000E+04	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
8.000E+04	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
9.000E+04	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
1.000E+05	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
1.500E+05	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
2.000E+05	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
3.000E+05	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
4.000E+05	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
5.000E+05	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
6.000E+05	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
7.000E+05	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
8.000E+05	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
9.000E+05	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
1.000E+06	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
1.500E+06	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
2.000E+06	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
3.000E+06	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
4.000E+06	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02
5.000E+06	3.1195E+01	1.1251E+02	1.0367E+01	3.4785E+02	3.5433E+02	1.0201E+01	1.4076E+02	2.5970E+02	9.9278E+01	-1.1463E+02	-1.1463E+02

M(I)/M(2) = 5.000E-02		SIGMA(2)/SIGMA(1) = 1.000E-03									
V	SIGMA(3)/SIGMA(1) = 1.000E+01	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA(3)/SIGMA(1) = 1.000E+00	SIGMA						



M11(H)2= 1.0000E-01		SIGMA(2)/SIGMA(1)= 1.0000E-03										
V	SIGMA(3)/SIGMA(1)= 1.0000E-02	SIGMA(4)/SIGMA(1)= 1.0000E-01	SIGMA(5)/SIGMA(1)= 1.0000E-01	SIGMA(6)/SIGMA(1)= 1.0000E-01	SIGMA(7)/SIGMA(1)= 1.0000E-01	SIGMA(8)/SIGMA(1)= 1.0000E-01	SIGMA(9)/SIGMA(1)= 1.0000E-01	SIGMA(10)/SIGMA(1)= 1.0000E-01	SIGMA(11)/SIGMA(1)= 1.0000E-01	SIGMA(12)/SIGMA(1)= 1.0000E-01	SIGMA(13)/SIGMA(1)= 1.0000E-01	
O(1)	O(2)	O(3)	O(4)	O(5)	O(6)	O(7)	O(8)	O(9)	O(10)	O(11)	O(12)	O(13)
1.0000E-04	9.9999E-04	3.1622E-04	3.1622E+00	3.1622E+00	3.1622E+00	3.1622E+00	3.1622E+00	3.1622E+00	3.1622E+00	3.1622E+00	3.1622E+00	3.1622E+00
2.0000E-04	9.9872E-04	-0.2712E-03	3.1624E+00	3.1624E+00	3.1624E+00	3.1624E+00	3.1624E+00	3.1624E+00	3.1624E+00	3.1624E+00	3.1624E+00	3.1624E+00
3.0000E-04	9.9745E-04	0.1327E-03	3.1626E+00	3.1626E+00	3.1626E+00	3.1626E+00	3.1626E+00	3.1626E+00	3.1626E+00	3.1626E+00	3.1626E+00	3.1626E+00
4.0000E-04	9.9618E-04	-0.3273E-03	3.1628E+00	3.1628E+00	3.1628E+00	3.1628E+00	3.1628E+00	3.1628E+00	3.1628E+00	3.1628E+00	3.1628E+00	3.1628E+00
5.0000E-04	9.9491E-04	0.5219E-03	3.1630E+00	3.1630E+00	3.1630E+00	3.1630E+00	3.1630E+00	3.1630E+00	3.1630E+00	3.1630E+00	3.1630E+00	3.1630E+00
6.0000E-04	9.9364E-04	-0.7165E-03	3.1632E+00	3.1632E+00	3.1632E+00	3.1632E+00	3.1632E+00	3.1632E+00	3.1632E+00	3.1632E+00	3.1632E+00	3.1632E+00
7.0000E-04	9.9237E-04	0.9111E-03	3.1634E+00	3.1634E+00	3.1634E+00	3.1634E+00	3.1634E+00	3.1634E+00	3.1634E+00	3.1634E+00	3.1634E+00	3.1634E+00
8.0000E-04	9.9110E-04	-1.1057E-03	3.1636E+00	3.1636E+00	3.1636E+00	3.1636E+00	3.1636E+00	3.1636E+00	3.1636E+00	3.1636E+00	3.1636E+00	3.1636E+00
9.0000E-04	9.8983E-04	1.3003E-03	3.1638E+00	3.1638E+00	3.1638E+00	3.1638E+00	3.1638E+00	3.1638E+00	3.1638E+00	3.1638E+00	3.1638E+00	3.1638E+00
1.0000E-03	9.8856E-04	-1.4949E-03	3.1640E+00	3.1640E+00	3.1640E+00	3.1640E+00	3.1640E+00	3.1640E+00	3.1640E+00	3.1640E+00	3.1640E+00	3.1640E+00
2.0000E-03	9.8347E-04	-6.8922E-02	3.1716E+00	6.4301E-04	1.1108E+00	9.1281E-02	4.4683E-02	2.5764E-01	2.4482E-01	2.4482E-01	2.4482E-01	2.4482E-01
3.0000E-03	9.8220E-04	1.1744E-01	3.1744E+00	1.4774E-01	1.1108E+00	1.1744E-01	1.1744E-01	1.1744E-01	1.1744E-01	1.1744E-01	1.1744E-01	1.1744E-01
4.0000E-03	9.8093E-04	-1.3842E-01	3.1772E+00	-1.4049E-01	1.1108E+00	1.3771E-01	5.6335E-01	3.3198E-01	3.1522E-01	3.1522E-01	3.1522E-01	3.1522E-01
5.0000E-03	9.7966E-04	1.5940E-01	3.1800E+00	1.4326E-01	1.1108E+00	1.5799E-01	1.5799E-01	1.5799E-01	1.5799E-01	1.5799E-01	1.5799E-01	1.5799E-01
6.0000E-03	9.7839E-04	-1.8038E-01	3.1828E+00	-1.4603E-01	1.1108E+00	1.7827E-01	1.7827E-01	1.7827E-01	1.7827E-01	1.7827E-01	1.7827E-01	1.7827E-01
7.0000E-03	9.7712E-04	2.0136E-01	3.1856E+00	1.4880E-01	1.1108E+00	1.9855E-01	1.9855E-01	1.9855E-01	1.9855E-01	1.9855E-01	1.9855E-01	1.9855E-01
8.0000E-03	9.7585E-04	-2.2234E-01	3.1884E+00	-1.5157E-01	1.1108E+00	2.1883E-01	2.1883E-01	2.1883E-01	2.1883E-01	2.1883E-01	2.1883E-01	2.1883E-01
9.0000E-03	9.7458E-04	2.4332E-01	3.1912E+00	1.5434E-01	1.1108E+00	2.3911E-01	2.3911E-01	2.3911E-01	2.3911E-01	2.3911E-01	2.3911E-01	2.3911E-01
1.0000E-02	9.7331E-04	-2.6430E-01	3.1940E+00	-1.5711E-01	1.1108E+00	2.5939E-01	2.5939E-01	2.5939E-01	2.5939E-01	2.5939E-01	2.5939E-01	2.5939E-01
2.0000E-02	9.6822E-04	-5.7768E-01	3.2088E+00	-1.6454E-01	1.1108E+00	3.4072E-01	3.4072E-01	3.4072E-01	3.4072E-01	3.4072E-01	3.4072E-01	3.4072E-01
3.0000E-02	9.6712E-04	6.2550E-01	3.2116E+00	1.6731E-01	1.1108E+00	3.6100E-01	3.6100E-01	3.6100E-01	3.6100E-01	3.6100E-01	3.6100E-01	3.6100E-01
4.0000E-02	9.6602E-04	-6.7537E-01	3.2144E+00	-1.7008E-01	1.1108E+00	3.8128E-01	3.8128E-01	3.8128E-01	3.8128E-01	3.8128E-01	3.8128E-01	3.8128E-01
5.0000E-02	9.6492E-04	7.2525E-01	3.2172E+00	1.7285E-01	1.1108E+00	4.0156E-01	4.0156E-01	4.0156E-01	4.0156E-01	4.0156E-01	4.0156E-01	4.0156E-01
6.0000E-02	9.6382E-04	-7.7512E-01	3.2200E+00	-1.7562E-01	1.1108E+00	4.2184E-01	4.2184E-01	4.2184E-01	4.2184E-01	4.2184E-01	4.2184E-01	4.2184E-01
7.0000E-02	9.6272E-04	8.2500E-01	3.2228E+00	1.7839E-01	1.1108E+00	4.4212E-01	4.4212E-01	4.4212E-01	4.4212E-01	4.4212E-01	4.4212E-01	4.4212E-01
8.0000E-02	9.6162E-04	-8.7487E-01	3.2256E+00	-1.8116E-01	1.1108E+00	4.6240E-01	4.6240E-01	4.6240E-01	4.6240E-01	4.6240E-01	4.6240E-01	4.6240E-01
9.0000E-02	9.6052E-04	9.2475E-01	3.2284E+00	1.8393E-01	1.1108E+00	4.8268E-01	4.8268E-01	4.8268E-01	4.8268E-01	4.8268E-01	4.8268E-01	4.8268E-01
1.0000E-01	9.5942E-04	-9.7462E-01	3.2312E+00	-1.8670E-01	1.1108E+00	5.0296E-01	5.0296E-01	5.0296E-01	5.0296E-01	5.0296E-01	5.0296E-01	5.0296E-01
2.0000E-01	9.5433E-04	-2.0409E-01	3.2460E+00	-1.9413E-01	1.1108E+00	5.8429E-01	5.8429E-01	5.8429E-01	5.8429E-01	5.8429E-01	5.8429E-01	5.8429E-01
3.0000E-01	9.5323E-04	2.5397E-01	3.2488E+00	1.9690E-01	1.1108E+00	6.0457E-01	6.0457E-01	6.0457E-01	6.0457E-01	6.0457E-01	6.0457E-01	6.0457E-01
4.0000E-01	9.5213E-04	-3.0384E-01	3.2516E+00	-1.9967E-01	1.1108E+00	6.2485E-01	6.2485E-01	6.2485E-01	6.2485E-01	6.2485E-01	6.2485E-01	6.2485E-01
5.0000E-01	9.5103E-04	3.5372E-01	3.2544E+00	2.0244E-01	1.1108E+00	6.4513E-01	6.4513E-01	6.4513E-01	6.4513E-01	6.4513E-01	6.4513E-01	6.4513E-01
6.0000E-01	9.4993E-04	-4.0360E-01	3.2572E+00	-2.0521E-01	1.1108E+00	6.6541E-01	6.6541E-01	6.6541E-01	6.6541E-01	6.6541E-01	6.6541E-01	6.6541E-01
7.0000E-01	9.4883E-04	4.5348E-01	3.2600E+00	2.0798E-01	1.1108E+00	6.8569E-01	6.8569E-01	6.8569E-01	6.8569E-01	6.8569E-01	6.8569E-01	6.8569E-01
8.0000E-01	9.4773E-04	-5.0336E-01	3.2628E+00	-2.1075E-01	1.1108E+00	7.0597E-01	7.0597E-01	7.0597E-01	7.0597E-01	7.0597E-01	7.0597E-01	7.0597E-01
9.0000E-01	9.4663E-04	5.5324E-01	3.2656E+00	2.1352E-01	1.1108E+00	7.2625E-01	7.2625E-01	7.2625E-01	7.2625E-01	7.2625E-01	7.2625E-01	7.2625E-01
1.0000E+00	9.4553E-04	-6.0312E-01	3.2684E+00	-2.1629E-01	1.1108E+00	7.4653E-01	7.4653E-01	7.4653E-01	7.4653E-01	7.4653E-01	7.4653E-01	7.4653E-01

M11(H)2= 1.0000E-01		SIGMA(2)/SIGMA(1)= 1.0000E-03										
V	SIGMA(3)/SIGMA(1)= 1.0000E-02	SIGMA(4)/SIGMA(1)= 1.0000E-04	SIGMA(5)/SIGMA(1)= 1.0000E-04	SIGMA(6)/SIGMA(1)= 1.0000E-04	SIGMA(7)/SIGMA(1)= 1.0000E-04	SIGMA(8)/SIGMA(1)= 1.0000E-04	SIGMA(9)/SIGMA(1)= 1.0000E-04	SIGMA(10)/SIGMA(1)= 1.0000E-04	SIGMA(11)/SIGMA(1)= 1.0000E-04	SIGMA(12)/SIGMA(1)= 1.0000E-04	SIGMA(13)/SIGMA(1)= 1.0000E-04	
O(1)	O(2)	O(3)	O(4)	O(5)	O(6)	O(7)	O(8)	O(9)	O(10)	O(11)	O(12)	O(13)
1.0000E-04	3.2410E-02	2.3999E-02	1.0000E-02	7.2093E-02	9.9292E-01	-0.7052E-03	3.1552E-02	-2.2288E-03	9.9933E-03	-6.6776E-04	3.2410E-02	3.2410E-02
2.0000E-04	3.2283E-02	4.8846E-02	1.0000E-02	1.1381E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
3.0000E-04	3.2156E-02	7.3693E-02	1.0000E-02	1.4442E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
4.0000E-04	3.2029E-02	9.8540E-02	1.0000E-02	1.7503E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
5.0000E-04	3.1902E-02	1.2347E-01	1.0000E-02	2.0564E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
6.0000E-04	3.1775E-02	1.5144E-01	1.0000E-02	2.3625E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
7.0000E-04	3.1648E-02	1.7941E-01	1.0000E-02	2.6686E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
8.0000E-04	3.1521E-02	2.0738E-01	1.0000E-02	2.9747E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
9.0000E-04	3.1394E-02	2.3535E-01	1.0000E-02	3.2808E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
1.0000E-03	3.1267E-02	2.6332E-01	1.0000E-02	3.5869E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
2.0000E-03	3.1140E-02	2.9129E-01	1.0000E-02	3.8930E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
3.0000E-03	3.1013E-02	3.1926E-01	1.0000E-02	4.1991E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
4.0000E-03	3.0886E-02	3.4723E-01	1.0000E-02	4.5052E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
5.0000E-03	3.0759E-02	3.7520E-01	1.0000E-02	4.8113E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
6.0000E-03	3.0632E-02	4.0317E-01	1.0000E-02	5.1174E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
7.0000E-03	3.0505E-02	4.3114E-01	1.0000E-02	5.4235E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
8.0000E-03	3.0378E-02	4.5911E-01	1.0000E-02	5.7296E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
9.0000E-03	3.0251E-02	4.8708E-01	1.0000E-02	6.0357E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
1.0000E-02	3.0124E-02	5.1505E-01	1.0000E-02	6.3418E-02	9.9292E-01	9.9292E-01	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02	3.1552E-02
2.0000E-02	3.0000E-02	5.4302E-01	1.0000E-0									



SIGMA(2)/SIGMA(1)= 1.000E-03

Table with 10 columns: H(1)/H(2) 5.000E-01, SIGMA(3)/SIGMA(1)= 1.000E-01, SIGMA(3)/SIGMA(1)= 1.000E-01, SIGMA(3)/SIGMA(1)= 1.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-01, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00. Rows contain numerical data for various parameters.

SIGMA(2)/SIGMA(1)= 1.000E-02

Table with 10 columns: H(1)/H(2)= 2.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-04, SIGMA(3)/SIGMA(1)= 1.000E-04, SIGMA(3)/SIGMA(1)= 1.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-01, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00. Rows contain numerical data for various parameters.

SIGMA(2)/SIGMA(1)= 1.000E-02

Table with 10 columns: H(1)/H(2)= 2.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-01, SIGMA(3)/SIGMA(1)= 1.000E-01, SIGMA(3)/SIGMA(1)= 1.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-01, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00. Rows contain numerical data for various parameters.

H(1)/H(2)= 5.000E-02

SIGMA(2)/SIGMA(1)= 1.000E-02

Table with 10 columns: H(1)/H(2)= 5.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-01, SIGMA(3)/SIGMA(1)= 1.000E-01, SIGMA(3)/SIGMA(1)= 1.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-02, SIGMA(3)/SIGMA(1)= 1.000E-01, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00, SIGMA(3)/SIGMA(1)= 1.000E+00. Rows contain numerical data for various parameters.



H(1)/H(2) = 5.000E+02 SIGMA(2)/SIGMA(1) = 1.000E+02 H(1)/H(2) = 1.000E+01

Table with 12 columns: V, SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1). Rows contain numerical data for various values of V and sigma ratios.

H(1)/H(2) = 1.000E+01 SIGMA(2)/SIGMA(1) = 1.000E+02

Table with 12 columns: V, SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1). Rows contain numerical data for various values of V and sigma ratios.

SIGMA(2)/SIGMA(1) = 1.000E+02

H(1)/H(2) = 1.000E+01 H(1)/H(2) = 2.000E+01

Table with 12 columns: V, SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1). Rows contain numerical data for various values of V and sigma ratios.

SIGMA(2)/SIGMA(1) = 1.000E+02

H(1)/H(2) = 2.000E+01

Table with 12 columns: V, SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1), SIGMA(3)/SIGMA(1). Rows contain numerical data for various values of V and sigma ratios.







M11/H12)= 5.0000E-02		SIGMA(2)/SIGMA(1)= 1.0000E-01											
SIGMA(1)/SIGMA(1)= 1.0000E-03		SIGMA(3)/SIGMA(1)= 1.0000E-02			SIGMA(4)/SIGMA(1)= 1.0000E-04			SIGMA(5)/SIGMA(1)= 1.0000E-04			SIGMA(6)/SIGMA(1)= 1.0000E-03		
V	O(1)PHASE	O(1)PHASE	O(1)PHASE	O(1)PHASE	O(1)PHASE	O(1)PHASE	O(1)PHASE	O(1)PHASE	O(1)PHASE	O(1)PHASE	O(1)PHASE	O(1)PHASE	O(1)PHASE
1.0000E-04	3.14159E+01	-6.4516E-03	9.9803E-03	-1.4985E-03	3.1416E+00	-2.0229E-04	3.1416E+00	-2.0229E-04	3.1416E+00	-2.0229E-04	3.1416E+00	-2.0229E-04	3.1416E+00
2.0000E-04	3.1204E+01	-1.3142E-02	9.9606E-03	-1.9209E-03	3.1610E+00	-4.0025E-04	3.1610E+00	-4.0025E-04	3.1610E+00	-4.0025E-04	3.1610E+00	-4.0025E-04	3.1610E+00
3.0000E-04	3.0598E+01	3.4211E-02	9.9393E-03	-5.3721E-03	3.1907E+00	-6.0035E-04	3.1907E+00	-6.0035E-04	3.1907E+00	-6.0035E-04	3.1907E+00	-6.0035E-04	3.1907E+00
4.0000E-04	2.9590E+01	-6.6232E-02	9.8807E-03	-1.9302E-02	3.1595E+00	-8.0070E-04	3.1595E+00	-8.0070E-04	3.1595E+00	-8.0070E-04	3.1595E+00	-8.0070E-04	3.1595E+00
5.0000E-04	2.8215E+01	-1.1688E-01	9.8113E-03	-3.7783E-02	3.1496E+00	-1.0052E-03	3.1496E+00	-1.0052E-03	3.1496E+00	-1.0052E-03	3.1496E+00	-1.0052E-03	3.1496E+00
6.0000E-04	2.6501E+01	-2.4531E-01	9.7463E-03	-6.4661E-02	3.1392E+00	-1.2055E-03	3.1392E+00	-1.2055E-03	3.1392E+00	-1.2055E-03	3.1392E+00	-1.2055E-03	3.1392E+00
7.0000E-04	2.4576E+01	-4.5232E-01	9.6748E-03	-9.7750E-02	3.1284E+00	-1.4099E-03	3.1284E+00	-1.4099E-03	3.1284E+00	-1.4099E-03	3.1284E+00	-1.4099E-03	3.1284E+00
8.0000E-04	2.2491E+01	-7.3011E-01	9.6033E-03	-1.3511E-01	3.1172E+00	-1.6199E-03	3.1172E+00	-1.6199E-03	3.1172E+00	-1.6199E-03	3.1172E+00	-1.6199E-03	3.1172E+00
9.0000E-04	2.0297E+01	-1.0741E+01	9.5323E-03	-1.7811E-01	3.1057E+00	-1.8353E-03	3.1057E+00	-1.8353E-03	3.1057E+00	-1.8353E-03	3.1057E+00	-1.8353E-03	3.1057E+00
1.0000E-03	1.8049E+01	-1.4611E+01	9.4660E-03	-2.2631E-01	3.0937E+00	-2.0563E-03	3.0937E+00	-2.0563E-03	3.0937E+00	-2.0563E-03	3.0937E+00	-2.0563E-03	3.0937E+00
2.0000E-03	1.6099E+01	-2.0411E+01	9.4026E-03	-2.8011E-01	3.0812E+00	-2.2833E-03	3.0812E+00	-2.2833E-03	3.0812E+00	-2.2833E-03	3.0812E+00	-2.2833E-03	3.0812E+00
3.0000E-03	1.4499E+01	-2.8211E+01	9.3413E-03	-3.3911E-01	3.0683E+00	-2.5163E-03	3.0683E+00	-2.5163E-03	3.0683E+00	-2.5163E-03	3.0683E+00	-2.5163E-03	3.0683E+00
4.0000E-03	1.3199E+01	-3.8211E+01	9.2826E-03	-4.0311E-01	3.0550E+00	-2.7553E-03	3.0550E+00	-2.7553E-03	3.0550E+00	-2.7553E-03	3.0550E+00	-2.7553E-03	3.0550E+00
5.0000E-03	1.2149E+01	-5.0211E+01	9.2263E-03	-4.7211E-01	3.0413E+00	-2.9993E-03	3.0413E+00	-2.9993E-03	3.0413E+00	-2.9993E-03	3.0413E+00	-2.9993E-03	3.0413E+00
6.0000E-03	1.1299E+01	-6.4211E+01	9.1733E-03	-5.4611E-01	3.0272E+00	-3.2483E-03	3.0272E+00	-3.2483E-03	3.0272E+00	-3.2483E-03	3.0272E+00	-3.2483E-03	3.0272E+00
7.0000E-03	1.0599E+01	-8.0211E+01	9.1233E-03	-6.2511E-01	3.0127E+00	-3.5023E-03	3.0127E+00	-3.5023E-03	3.0127E+00	-3.5023E-03	3.0127E+00	-3.5023E-03	3.0127E+00
8.0000E-03	1.0049E+01	-9.8211E+01	9.0763E-03	-7.0911E-01	2.9978E+00	-3.7613E-03	2.9978E+00	-3.7613E-03	2.9978E+00	-3.7613E-03	2.9978E+00	-3.7613E-03	2.9978E+00
9.0000E-03	9.6299E+00	-1.1921E+02	9.0323E-03	-8.0811E-01	2.9825E+00	-4.0253E-03	2.9825E+00	-4.0253E-03	2.9825E+00	-4.0253E-03	2.9825E+00	-4.0253E-03	2.9825E+00
1.0000E-02	9.3299E+00	-1.4321E+02	9.0003E-03	-9.2211E-01	2.9668E+00	-4.2933E-03	2.9668E+00	-4.2933E-03	2.9668E+00	-4.2933E-03	2.9668E+00	-4.2933E-03	2.9668E+00
2.0000E-02	9.0899E+00	-1.6921E+02	8.9693E-03	-1.0421E+00	2.9507E+00	-4.5653E-03	2.9507E+00	-4.5653E-03	2.9507E+00	-4.5653E-03	2.9507E+00	-4.5653E-03	2.9507E+00
3.0000E-02	8.9099E+00	-1.9721E+02	8.9403E-03	-1.1771E+00	2.9342E+00	-4.8413E-03	2.9342E+00	-4.8413E-03	2.9342E+00	-4.8413E-03	2.9342E+00	-4.8413E-03	2.9342E+00
4.0000E-02	8.7899E+00	-2.2721E+02	8.9133E-03	-1.3271E+00	2.9173E+00	-5.1213E-03	2.9173E+00	-5.1213E-03	2.9173E+00	-5.1213E-03	2.9173E+00	-5.1213E-03	2.9173E+00
5.0000E-02	8.7299E+00	-2.5921E+02	8.8883E-03	-1.4921E+00	2.9000E+00	-5.4053E-03	2.9000E+00	-5.4053E-03	2.9000E+00	-5.4053E-03	2.9000E+00	-5.4053E-03	2.9000E+00
6.0000E-02	8.7299E+00	-2.9321E+02	8.8653E-03	-1.6721E+00	2.8823E+00	-5.6933E-03	2.8823E+00	-5.6933E-03	2.8823E+00	-5.6933E-03	2.8823E+00	-5.6933E-03	2.8823E+00
7.0000E-02	8.7899E+00	-3.2921E+02	8.8443E-03	-1.8671E+00	2.8642E+00	-5.9853E-03	2.8642E+00	-5.9853E-03	2.8642E+00	-5.9853E-03	2.8642E+00	-5.9853E-03	2.8642E+00
8.0000E-02	8.9099E+00	-3.6721E+02	8.8253E-03	-2.0771E+00	2.8457E+00	-6.2813E-03	2.8457E+00	-6.2813E-03	2.8457E+00	-6.2813E-03	2.8457E+00	-6.2813E-03	2.8457E+00
9.0000E-02	9.0899E+00	-4.0721E+02	8.8093E-03	-2.3021E+00	2.8268E+00	-6.5813E-03	2.8268E+00	-6.5813E-03	2.8268E+00	-6.5813E-03	2.8268E+00	-6.5813E-03	2.8268E+00
1.0000E-01	9.3299E+00	-4.4921E+02	8.7963E-03	-2.5421E+00	2.8075E+00	-6.8853E-03	2.8075E+00	-6.8853E-03	2.8075E+00	-6.8853E-03	2.8075E+00	-6.8853E-03	2.8075E+00
2.0000E-01	9.6299E+00	-4.9321E+02	8.7863E-03	-2.7971E+00	2.7878E+00	-7.1933E-03	2.7878E+00	-7.1933E-03	2.7878E+00	-7.1933E-03	2.7878E+00	-7.1933E-03	2.7878E+00
3.0000E-01	9.9899E+00	-5.3921E+02	8.7793E-03	-3.0671E+00	2.7677E+00	-7.5053E-03	2.7677E+00	-7.5053E-03	2.7677E+00	-7.5053E-03	2.7677E+00	-7.5053E-03	2.7677E+00
4.0000E-01	1.0499E+01	-5.8721E+02	8.7743E-03	-3.3511E+00	2.7472E+00	-7.8213E-03	2.7472E+00	-7.8213E-03	2.7472E+00	-7.8213E-03	2.7472E+00	-7.8213E-03	2.7472E+00
5.0000E-01	1.1149E+01	-6.3721E+02	8.7713E-03	-3.6491E+00	2.7263E+00	-8.1413E-03	2.7263E+00	-8.1413E-03	2.7263E+00	-8.1413E-03	2.7263E+00	-8.1413E-03	2.7263E+00
6.0000E-01	1.1949E+01	-6.8921E+02	8.7703E-03	-3.9611E+00	2.7050E+00	-8.4653E-03	2.7050E+00	-8.4653E-03	2.7050E+00	-8.4653E-03	2.7050E+00	-8.4653E-03	2.7050E+00
7.0000E-01	1.2899E+01	-7.4321E+02	8.7713E-03	-4.2871E+00	2.6833E+00	-8.7933E-03	2.6833E+00	-8.7933E-03	2.6833E+00	-8.7933E-03	2.6833E+00	-8.7933E-03	2.6833E+00
8.0000E-01	1.4049E+01	-8.0021E+02	8.7743E-03	-4.6271E+00	2.6612E+00	-9.1253E-03	2.6612E+00	-9.1253E-03	2.6612E+00	-9.1253E-03	2.6612E+00	-9.1253E-03	2.6612E+00
9.0000E-01	1.5399E+01	-8.6121E+02	8.7793E-03	-5.0811E+00	2.6387E+00	-9.4613E-03	2.6387E+00	-9.4613E-03	2.6387E+00	-9.4613E-03	2.6387E+00	-9.4613E-03	2.6387E+00
1.0000E+00	1.6949E+01	-9.2721E+02	8.7863E-03	-5.6491E+00	2.6158E+00	-9.8013E-03	2.6158E+00	-9.8013E-03	2.6158E+00	-9.8013E-03	2.6158E+00	-9.8013E-03	2.6158E+00
2.0000E+00	1.8699E+01	-1.0072E+03	8.7943E-03	-6.3311E+00	2.5925E+00	-1.0153E-02	2.5925E+00	-1.0153E-02	2.5925E+00	-1.0153E-02	2.5925E+00	-1.0153E-02	2.5925E+00
3.0000E+00	2.0649E+01	-1.1022E+03	8.8033E-03	-7.1271E+00	2.5688E+00	-1.0303E-02	2.5688E+00	-1.0303E-02	2.5688E+00	-1.0303E-02	2.5688E+00	-1.0303E-02	2.5688E+00
4.0000E+00	2.2899E+01	-1.2092E+03	8.8133E-03	-8.0371E+00	2.5447E+00	-1.0463E-02	2.5447E+00	-1.0463E-02	2.5447E+00	-1.0463E-02	2.5447E+00	-1.0463E-02	2.5447E+00
5.0000E+00	2.5449E+01	-1.3292E+03	8.8243E-03	-9.0611E+00	2.5202E+00	-1.0633E-02	2.5202E+00	-1.0633E-02	2.5202E+00	-1.0633E-02	2.5202E+00	-1.0633E-02	2.5202E+00
6.0000E+00	2.8299E+01	-1.4632E+03	8.8363E-03	-1.0301E+01	2.4953E+00	-1.0813E-02	2.4953E+00	-1.0813E-02	2.4953E+00	-1.0813E-02	2.4953E+00	-1.0813E-02	2.4953E+00
7.0000E+00	3.1449E+01	-1.6112E+03	8.8493E-03	-1.1661E+01	2.4700E+00	-1.1003E-02	2.4700E+00	-1.1003E-02	2.4700E+00	-1.1003E-02	2.4700E+00	-1.1003E-02	2.4700E+00
8.0000E+00	3.4999E+01	-1.7742E+03	8.8633E-03	-1.3181E+01	2.4443E+00	-1.1203E-02	2.4443E+00	-1.1203E-02	2.4443E+00	-1.1203E-02	2.4443E+00	-1.1203E-02	2.4443E+00
9.0000E+00	3.9049E+01	-1.9532E+03	8.8783E-03	-1.4861E+01	2.4182E+00	-1.1413E-02	2.4182E+00	-1.1413E-02	2.4182E+00	-1.1413E-02	2.4182E+00	-1.1413E-02	2.4182E+00
1.0000E+01	4.3699E+01	-2.1482E+03	8.8943E-03	-1.6701E+01	2.3917E+00	-1.1633E-02	2.3917E+00	-1.1633E-02	2.3917E+00	-1.1633E-02	2.3917E+00	-1.1633E-02	2.3917E+00
2.0000E+01	4.9049E+01	-2.3692E+03	8.9113E-03	-1.8711E+01	2.3648E+00	-1.1863E-02	2.3648E+00	-1.1863E-02	2.3648E+00	-1.1863E-02	2.3648E+00	-1.1863E-02	2.3648E+00
3.0000E+01	5.5099E+01	-2.6162E+03	8.9293E-03	-2.0891E+01	2.3375E+00	-1.2103E-02	2.3375E+00	-1.2103E-02	2.3375E+00	-1.2103E-02	2.3375E+00	-1.2103E-02	2.3375E+00
4.0000E+01	6.1949E+01	-2.8902E+03	8.9483E-03	-2.3241E+01	2.3098E+00	-1.2353E-02	2.3098E+00	-1.2353E-02	2.3098E+00	-1.2353E-02	2.3098E+00	-1.2353E-02	2.3098E+00
5.0000E+01	6.9699E+01	-3.1922E+03	8.9693E-03	-2.5761E+01	2.2817E+00	-1.2613E-02	2.2817E+00	-1.2613E-02	2.2817E+00	-1.2613E-02	2.2817E+00	-1.2613E-02	2.2817E+00
6.0000E+01	7.8449E+01	-3.5242E+03	8.9923E-03	-2.8441E+01	2.2532E+00	-1.2883E-02	2.2532E+00	-1.2883E-02	2.2532E+00	-1.2883E-02	2.2532E+00	-1.2883E-02	2.2532E+00
7.0000E+01	8.8299E+01	-3.8862E+03	9.0173E-03	-3.1281E+01	2.2243E+00	-1.3163E-02	2.2243E+00	-1.3163E-02	2.2243E+00	-1.3163E-02	2.2243E+00	-1.3163E-02	2.2243E+00
8.0000E+01	9.9449E+01	-4.2782E+03	9.0443E-03	-3.4381E+01	2.1950E+00	-1.3453E-02	2.1950E+00	-1.3453E-02	2.1950E+00	-1.3453E-02	2.1950E+00	-1.3453E-02	2.1950E+00
9.0000E+01	1.1199E+02	-4.7022E+03	9.0733E-03	-3.7741E+01	2.1653E+00	-1.3753E-02	2.1653E+00	-1.3753E-02	2.1653E+00	-1.3753E-02	2.1653E+00	-1.3753E-02	2.1653E+00
1.0000E+02	1.2609E+02	-5.1682E+03	9.1043E-03	-4.1361E+01	2.1352E+00	-1.4063E-02	2.1352E+00	-1.4063E-02	2.1352E+00	-1.4063E-02	2.1352E+00	-1.4063E-02	2.1352E+00
2.0000E+02	1.5249E+02	-5.6782E+03	9.1373E-03	-4.5261E+01	2.1047E+00	-1.							



M11 H12  = 2.0000E-01		SIGMA(2)/SIGMA(1) = 1.0000E-01		SIGMA(3)/SIGMA(1) = 1.0000E-01		SIGMA(4)/SIGMA(1) = 1.0000E-01		SIGMA(5)/SIGMA(1) = 1.0000E-01	
V	Q (AMP)	Q (PHASE)	Q (AMP)	Q (PHASE)	Q (AMP)	Q (PHASE)	Q (AMP)	Q (PHASE)	Q (AMP)
1.0000E-04	3.1616E+00	-2.0120E-04	1.0000E+00	3.1616E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00
2.0000E-04	3.1610E+00	-4.0229E-04	1.0000E+00	6.3554E+00	3.1708E+03	2.6088E+00	1.0000E+00	8.3929E+00	3.2482E+00
3.0000E-04	3.1605E+00	-6.0322E-04	1.0000E+00	9.5357E+00	4.8133E+00	4.0133E+00	1.0000E+00	1.0211E+00	3.4735E+00
4.0000E-04	3.1599E+00	-8.0395E-04	1.0000E+00	1.2670E+00	3.1607E+00	1.2898E+00	1.0000E+00	1.4032E+00	4.0267E+00
5.0000E-04	3.1594E+00	-1.0052E-03	1.0000E+00	1.5782E+00	4.2789E+00	1.6292E+00	1.0000E+00	1.7427E+00	4.6111E+00
6.0000E-04	3.1588E+00	-1.1894E-03	1.0000E+00	1.8894E+00	5.4080E+00	2.0000E+00	1.0000E+00	2.0812E+00	5.2054E+00
7.0000E-04	3.1583E+00	-1.3736E-03	1.0000E+00	2.2006E+00	6.5372E+00	2.3708E+00	1.0000E+00	2.4197E+00	5.7991E+00
8.0000E-04	3.1577E+00	-1.5578E-03	1.0000E+00	2.5118E+00	7.6664E+00	2.7416E+00	1.0000E+00	2.7582E+00	6.3928E+00
9.0000E-04	3.1572E+00	-1.7420E-03	1.0000E+00	2.8230E+00	8.7956E+00	3.1124E+00	1.0000E+00	3.0967E+00	6.9865E+00
1.0000E-03	3.1566E+00	-1.9262E-03	1.0000E+00	3.1342E+00	9.9248E+00	3.4832E+00	1.0000E+00	3.4352E+00	7.5802E+00
2.0000E-02	3.0777E+00	-3.8323E-02	1.0853E+00	5.9429E+00	4.0724E-01	1.9992E-01	1.0209E+00	4.2421E+00	1.4440E+00
2.5000E-02	3.0074E+00	-4.7923E-02	1.0820E+00	6.6974E-02	4.3182E-01	2.2475E-01	1.0311E+00	4.3111E+00	1.4779E+00
3.0000E-02	2.9371E+00	-5.7523E-02	1.0797E+00	7.4519E-02	4.5570E-01	2.4958E-01	1.0423E+00	4.3801E+00	1.5116E+00
3.5000E-02	2.8668E+00	-6.7123E-02	1.0774E+00	8.2064E-02	4.7958E-01	2.7441E-01	1.0535E+00	4.4491E+00	1.5453E+00
4.0000E-02	2.7965E+00	-7.6723E-02	1.0751E+00	8.9609E-02	5.0356E-01	2.9924E-01	1.0647E+00	4.5181E+00	1.5790E+00
4.5000E-02	2.7262E+00	-8.6323E-02	1.0728E+00	9.7154E-02	5.2754E-01	3.2407E-01	1.0759E+00	4.5871E+00	1.6127E+00
5.0000E-02	2.6559E+00	-9.5923E-02	1.0705E+00	1.0469E-01	5.5184E-01	3.4890E-01	1.0871E+00	4.6561E+00	1.6464E+00
5.5000E-02	2.5856E+00	-1.0552E-01	1.0682E+00	1.1214E-01	5.7644E-01	3.7373E-01	1.0983E+00	4.7251E+00	1.6801E+00
6.0000E-02	2.5153E+00	-1.1591E-01	1.0659E+00	1.1959E-01	6.0144E-01	3.9856E-01	1.1095E+00	4.7941E+00	1.7138E+00
6.5000E-02	2.4450E+00	-1.2630E-01	1.0636E+00	1.2704E-01	6.2644E-01	4.2339E-01	1.1207E+00	4.8631E+00	1.7475E+00
7.0000E-02	2.3747E+00	-1.3669E-01	1.0613E+00	1.3449E-01	6.5144E-01	4.4822E-01	1.1319E+00	4.9321E+00	1.7812E+00
7.5000E-02	2.3044E+00	-1.4708E-01	1.0590E+00	1.4194E-01	6.7644E-01	4.7305E-01	1.1431E+00	5.0011E+00	1.8149E+00
8.0000E-02	2.2341E+00	-1.5747E-01	1.0567E+00	1.4939E-01	7.0144E-01	4.9788E-01	1.1543E+00	5.0701E+00	1.8486E+00
8.5000E-02	2.1638E+00	-1.6786E-01	1.0544E+00	1.5684E-01	7.2644E-01	5.2271E-01	1.1655E+00	5.1391E+00	1.8823E+00
9.0000E-02	2.0935E+00	-1.7825E-01	1.0521E+00	1.6429E-01	7.5144E-01	5.4754E-01	1.1767E+00	5.2081E+00	1.9160E+00
1.0000E-01	2.0232E+00	-1.8864E-01	1.0498E+00	1.7174E-01	7.7644E-01	5.7237E-01	1.1879E+00	5.2771E+00	1.9497E+00
1.5000E-01	1.7724E+00	-2.1868E-01	1.0400E+00	1.9111E-01	8.2331E-01	6.1822E-01	1.2091E+00	5.4061E+00	2.0177E+00
2.0000E-01	1.5216E+00	-2.4872E-01	1.0302E+00	2.1048E-01	8.7019E-01	6.6407E-01	1.2303E+00	5.5351E+00	2.0857E+00
3.0000E-01	1.0708E+00	-3.0441E-01	1.0104E+00	2.2985E-01	9.1707E-01	7.0992E-01	1.2515E+00	5.6641E+00	2.1537E+00
4.0000E-01	7.2000E+00	-3.6010E-01	1.0006E+00	2.4922E-01	9.6395E-01	7.5575E-01	1.2727E+00	5.7931E+00	2.2217E+00
5.0000E-01	4.6407E+00	-4.1579E-01	1.0008E+00	2.6859E-01	1.0108E+00	8.0158E-01	1.2939E+00	5.9221E+00	2.2897E+00
6.0000E-01	3.0814E+00	-4.7148E-01	1.0010E+00	2.8796E-01	1.0581E+00	8.4741E-01	1.3151E+00	6.0511E+00	2.3577E+00
7.0000E-01	1.5221E+00	-5.2717E-01	1.0012E+00	3.0733E-01	1.1054E+00	8.9324E-01	1.3363E+00	6.1801E+00	2.4257E+00
8.0000E-01	7.6407E+00	-5.8286E-01	1.0014E+00	3.2670E-01	1.1527E+00	9.3907E-01	1.3575E+00	6.3091E+00	2.4937E+00
9.0000E-01	5.0814E+00	-6.3855E-01	1.0016E+00	3.4607E-01	1.2000E+00	9.8490E-01	1.3787E+00	6.4381E+00	2.5617E+00
1.0000E+00	2.5221E+00	-6.9424E-01	1.0018E+00	3.6544E-01	1.2473E+00	1.0312E+00	1.3999E+00	6.5671E+00	2.6297E+00
1.5000E+00	1.4627E+00	-7.5000E-01	1.0020E+00	3.8481E-01	1.2946E+00	1.0795E+00	1.4211E+00	6.6961E+00	2.6977E+00
2.0000E+00	9.0426E+00	-8.0579E-01	1.0022E+00	4.0418E-01	1.3419E+00	1.1278E+00	1.4429E+00	6.8251E+00	2.7657E+00
2.5000E+00	5.4832E+00	-8.6158E-01	1.0024E+00	4.2355E-01	1.3892E+00	1.1761E+00	1.4647E+00	6.9541E+00	2.8337E+00
3.0000E+00	3.9239E+00	-9.1737E-01	1.0026E+00	4.4292E-01	1.4365E+00	1.2244E+00	1.4865E+00	7.0831E+00	2.9017E+00
3.5000E+00	2.3646E+00	-9.7316E-01	1.0028E+00	4.6229E-01	1.4838E+00	1.2727E+00	1.5083E+00	7.2121E+00	2.9697E+00
4.0000E+00	1.8053E+00	-1.0290E-01	1.0030E+00	4.8166E-01	1.5311E+00	1.3210E+00	1.5301E+00	7.3411E+00	3.0377E+00
4.5000E+00	1.2460E+00	-1.0864E-01	1.0032E+00	5.0103E-01	1.5784E+00	1.3693E+00	1.5519E+00	7.4701E+00	3.1057E+00
5.0000E+00	7.8607E+00	-1.1438E-01	1.0034E+00	5.2040E-01	1.6257E+00	1.4176E+00	1.5737E+00	7.5991E+00	3.1737E+00
5.5000E+00	5.3014E+00	-1.2012E-01	1.0036E+00	5.3977E-01	1.6730E+00	1.4659E+00	1.5955E+00	7.7281E+00	3.2417E+00
6.0000E+00	3.7421E+00	-1.2586E-01	1.0038E+00	5.5914E-01	1.7203E+00	1.5142E+00	1.6173E+00	7.8571E+00	3.3097E+00
6.5000E+00	2.1828E+00	-1.3160E-01	1.0040E+00	5.7851E-01	1.7676E+00	1.5625E+00	1.6387E+00	7.9861E+00	3.3777E+00
7.0000E+00	1.6235E+00	-1.3734E-01	1.0042E+00	5.9788E-01	1.8149E+00	1.6108E+00	1.6601E+00	8.1151E+00	3.4457E+00
7.5000E+00	1.0642E+00	-1.4308E-01	1.0044E+00	6.1725E-01	1.8622E+00	1.6591E+00	1.6815E+00	8.2441E+00	3.5137E+00
8.0000E+00	5.0629E+00	-1.4882E-01	1.0046E+00	6.3662E-01	1.9095E+00	1.7074E+00	1.7029E+00	8.3731E+00	3.5817E+00
8.5000E+00	3.5036E+00	-1.5456E-01	1.0048E+00	6.5599E-01	1.9568E+00	1.7557E+00	1.7243E+00	8.5021E+00	3.6497E+00
9.0000E+00	1.9443E+00	-1.6030E-01	1.0050E+00	6.7536E-01	2.0041E+00	1.8040E+00	1.7457E+00	8.6311E+00	3.7177E+00
1.0000E+00	1.3850E+00	-1.6604E-01	1.0052E+00	6.9473E-01	2.0514E+00	1.8523E+00	1.7671E+00	8.7601E+00	3.7857E+00
1.5000E+00	7.8607E+00	-1.7178E-01	1.0054E+00	7.1410E-01	2.0987E+00	1.9006E+00	1.7885E+00	8.8891E+00	3.8537E+00
2.0000E+00	5.3014E+00	-1.7752E-01	1.0056E+00	7.3347E-01	2.1460E+00	1.9489E+00	1.8099E+00	9.0181E+00	3.9217E+00
2.5000E+00	3.7421E+00	-1.8326E-01	1.0058E+00	7.5284E-01	2.1933E+00	1.9972E+00	1.8313E+00	9.1471E+00	3.9897E+00
3.0000E+00	2.1828E+00	-1.8900E-01	1.0060E+00	7.7221E-01	2.2406E+00	2.0455E+00	1.8527E+00	9.2761E+00	4.0577E+00
3.5000E+00	1.6235E+00	-1.9474E-01	1.0062E+00	7.9158E-01	2.2879E+00	2.0938E+00	1.8741E+00	9.4051E+00	4.1257E+00
4.0000E+00	1.0642E+00	-2.0048E-01	1.0064E+00	8.1095E-01	2.3352E+00	2.1421E+00	1.8955E+00	9.5341E+00	4.1937E+00
4.5000E+00	5.0629E+00	-2.0622E-01	1.0066E+00	8.3032E-01	2.3825E+00	2.1904E+00	1.9169E+00	9.6631E+00	4.2617E+00
5.0000E+00	3.5036E+00	-2.1196E-01	1.0068E+00	8.4969E-01	2.4298E+00	2.2387E+00	1.9383E+00	9.7921E+00	4.3297E+00
5.5000E+00	1.9443E+00	-2.1770E-01	1.0070E+00	8.6906E-01	2.4771E+00	2.2870E+00	1.9597E+00	9.9211E+00	4.3977E+00
6.0000E+00	1.3850E+00	-2.2344E-01	1.0072E+00	8.8843E-01	2.5244E+00	2.3353E+00	1.9811E+00	1.0050E+00	4.4657E+00
6.5000E+00	8.8607E+00	-2.2918E-01	1.0074E+00	9.0780E-01	2.5717E+00	2.3836E+00	2.0025E+00	1.0103E+00	4.5337E+00
7.0000E+00	6.3014E+00	-2.3492E-01	1.0076E+00	9.2717E-01	2.6190E+00	2.4319E+00	2.0239E+00	1.0156E+00	4.6017E+00
7.5000E+00	4.7421E+00	-2.4066E-01	1.0078E+00	9.4654E-01	2.6663E+00	2.4802E+00	2.0453E+00	1.0209E+00	4.6697E+00
8.0000E+00	3.1828E+00	-2.4640E-01	1.0080E+00	9.6591E-01	2.7136E+00	2.5285E+00	2.0667E+00	1.0262E+00	4.7377E+00
8.5000E+00	1.6235E+00	-2.5214E-01	1.0082E+00	9.8528E-01	2.7609E+00	2.5768E+00	2.0881E+00	1.0315E+00	4.8057E+00
9.0000E+00	1.0642E+00	-2.5788E-01	1.0084E+00	1.00465E-01	2.8082E+00	2.6251E+00	2.1095E+00	1.0368E+00	4.8737E+00

M11 H12  = 2.0000E-01		SIGMA(2)/SIGMA(1) = 1.0000E-01		SIGMA(3)/SIGMA(1) = 1.0000E-01		SIGMA(4)/SIGMA(1) = 1.0000E-01		SIGMA(5)/SIGMA(1) = 1.0000E-01	
V	Q (AMP)	Q (PHASE)	Q (AMP)	Q (PHASE)	Q (AMP)	Q (PHASE)	Q (AMP)	Q (PHASE)	Q (AMP)
1.0000E-04	3.1616E+00	-2.0120E-04	1.0000E+00	3.1616E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00	1.0000E+00
2.0000E-04	3.1610E+00	-4.							



SIGMA12/SIGMA11= 1.0000E+00 H11/H12= 5.0000E-02

Table with 10 columns: V, Q1AMP, Q1PHASE, Q2AMP, Q2PHASE, Q3AMP, Q3PHASE, Q4AMP, Q4PHASE, Q5AMP, Q5PHASE. Rows represent various values from 1.0000E-04 to 5.0000E+00.

SIGMA12/SIGMA11= 1.0000E+00

Table with 10 columns: V, Q1AMP, Q1PHASE, Q2AMP, Q2PHASE, Q3AMP, Q3PHASE, Q4AMP, Q4PHASE, Q5AMP, Q5PHASE. Rows represent various values from 1.0000E-04 to 5.0000E+00.

SIGMA12/SIGMA11= 1.0000E+00

Table with 10 columns: V, Q1AMP, Q1PHASE, Q2AMP, Q2PHASE, Q3AMP, Q3PHASE, Q4AMP, Q4PHASE, Q5AMP, Q5PHASE. Rows represent various values from 1.0000E-04 to 5.0000E+00.

SIGMA12/SIGMA11= 1.0000E+00

Table with 10 columns: V, Q1AMP, Q1PHASE, Q2AMP, Q2PHASE, Q3AMP, Q3PHASE, Q4AMP, Q4PHASE, Q5AMP, Q5PHASE. Rows represent various values from 1.0000E-04 to 5.0000E+00.









H11/H121 = 1.0000E+01		SIGMA(3)/SIGMA(1) = 1.0000E+01		SIGMA(3)/SIGMA(1) = 1.0000E+01		SIGMA(3)/SIGMA(1) = 1.0000E+01		SIGMA(3)/SIGMA(1) = 1.0000E+01		SIGMA(3)/SIGMA(1) = 1.0000E+01	
V	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE
1.0000E+04	9.3135E+00	-6.6400E+02	3.0274E+00	-2.1835E-02	9.9366E-01	-6.3129E-03	3.1629E-01	2.0120E+04	1.0017E-01	1.0052E+02	0.1805E+02
2.0000E+04	9.3448E+00	-1.2418E+03	3.0274E+00	-4.2979E-02	9.8739E-01	-1.2231E-02	3.1629E-01	4.0222E+04	1.0112E-01	1.0112E+02	1.8094E+02
3.0000E+04	7.1288E+00	-2.5986E+01	2.8304E+00	-9.9856E-02	9.6071E-01	-5.0555E-02	3.1629E-01	1.1655E+04	1.0359E-01	1.0359E+02	1.8094E+02
4.0000E+04	5.3988E+00	-3.7372E-01	2.5431E+00	-1.7958E-01	9.8353E-01	-5.8930E-02	3.1629E-01	3.1629E+03	1.0379E-01	1.0379E+02	1.8094E+02
5.0000E+04	4.9296E+00	-5.2846E-01	2.3897E+00	-2.4700E-01	9.8170E-01	-6.2170E-02	3.1629E-01	2.0795E+03	1.0379E-01	1.0379E+02	1.8094E+02
6.0000E+04	4.7294E+00	-6.4975E-01	2.3264E+00	-3.6079E-01	9.7401E-01	-7.1537E-01	3.1933E-01	1.3933E+03	1.0379E-01	1.0379E+02	1.8094E+02
7.0000E+04	4.5995E+00	-7.6376E-01	2.2735E+00	-5.3992E-01	9.5982E-01	-1.2970E-01	3.1933E-01	9.2255E+02	1.0379E-01	1.0379E+02	1.8094E+02
8.0000E+04	4.4911E+00	-8.7141E-01	2.2300E+00	-7.4276E-01	9.4122E-01	-2.9455E-01	3.2920E-01	6.3232E+02	2.6138E-01	1.0379E+02	1.8094E+02
9.0000E+04	4.4025E+00	-9.7025E-01	2.1937E+00	-9.7025E-01	9.2486E-01	-5.7480E-01	3.4902E-01	4.2323E+02	4.2323E-01	1.0379E+02	1.8094E+02
1.0000E+05	4.3282E+00	-1.0640E+00	2.1631E+00	-1.2477E-01	9.0988E-01	-9.9272E-01	3.7893E-01	2.8401E+02	6.4015E-01	3.4902E+02	1.8094E+02
1.1000E+05	4.2675E+00	-1.1480E+00	2.1371E+00	-1.5421E-01	8.9648E-01	-1.3461E-01	4.1922E-01	1.8985E+02	8.4945E-01	3.7893E+02	1.8094E+02
1.2000E+05	4.2177E+00	-1.2277E+00	2.1154E+00	-1.8421E-01	8.8430E-01	-1.7482E-01	4.7071E-01	1.2603E+02	1.0826E-01	4.1922E+02	1.8094E+02
1.3000E+05	4.1777E+00	-1.3019E+00	2.0974E+00	-2.1421E-01	8.7317E-01	-2.1503E-01	5.3363E-01	8.4945E-01	1.3849E-01	4.7071E+02	1.8094E+02
1.4000E+05	4.1458E+00	-1.3711E+00	2.0824E+00	-2.4421E-01	8.6297E-01	-2.5524E-01	6.0841E-01	5.2649E-01	1.5262E-01	5.3363E+02	1.8094E+02
1.5000E+05	4.1198E+00	-1.4354E+00	2.0700E+00	-2.7421E-01	8.5364E-01	-2.9545E-01	6.9489E-01	3.6841E-01	1.6891E-01	6.0841E+02	1.8094E+02
1.6000E+05	4.0988E+00	-1.4948E+00	2.0600E+00	-3.0421E-01	8.4506E-01	-3.3566E-01	7.9389E-01	2.5269E-01	1.8749E-01	6.9489E+02	1.8094E+02
1.7000E+05	4.0819E+00	-1.5494E+00	2.0519E+00	-3.3421E-01	8.3717E-01	-3.7587E-01	9.0541E-01	1.6891E-01	2.0795E-01	7.9389E+02	1.8094E+02
1.8000E+05	4.0681E+00	-1.6000E+00	2.0448E+00	-3.6421E-01	8.2988E-01	-4.1608E-01	1.0296E+01	1.1262E-01	2.2920E-01	9.0541E+02	1.8094E+02
1.9000E+05	4.0571E+00	-1.6471E+00	2.0394E+00	-3.9421E-01	8.2309E-01	-4.5629E-01	1.1655E+01	7.5112E-01	2.5145E-01	1.0296E+01	1.8094E+02
2.0000E+05	4.0485E+00	-1.6915E+00	2.0352E+00	-4.2421E-01	8.1680E-01	-4.9650E-01	1.2100E+01	5.2649E-01	2.7470E-01	1.1655E+01	1.8094E+02
2.1000E+05	4.0419E+00	-1.7332E+00	2.0320E+00	-4.5421E-01	8.1101E-01	-5.3671E-01	1.2610E+01	3.6841E-01	2.9895E-01	1.2610E+01	1.8094E+02
2.2000E+05	4.0369E+00	-1.7724E+00	2.0297E+00	-4.8421E-01	8.0572E-01	-5.7692E-01	1.3180E+01	2.5269E-01	3.2410E-01	1.3699E+01	1.8094E+02
2.3000E+05	4.0332E+00	-1.8094E+00	2.0282E+00	-5.1421E-01	8.0093E-01	-6.1713E-01	1.3810E+01	1.6891E-01	3.5025E-01	1.4788E+01	1.8094E+02
2.4000E+05	4.0305E+00	-1.8448E+00	2.0274E+00	-5.4421E-01	7.9664E-01	-6.5734E-01	1.4490E+01	1.1262E-01	3.7740E-01	1.5877E+01	1.8094E+02
2.5000E+05	4.0285E+00	-1.8788E+00	2.0272E+00	-5.7421E-01	7.9285E-01	-6.9755E-01	1.5210E+01	7.5112E-01	4.0455E-01	1.7066E+01	1.8094E+02
2.6000E+05	4.0271E+00	-1.9117E+00	2.0274E+00	-6.0421E-01	7.8956E-01	-7.3776E-01	1.5970E+01	5.2649E-01	4.3270E-01	1.8355E+01	1.8094E+02
2.7000E+05	4.0262E+00	-1.9437E+00	2.0280E+00	-6.3421E-01	7.8677E-01	-7.7797E-01	1.6770E+01	3.6841E-01	4.6185E-01	1.9744E+01	1.8094E+02
2.8000E+05	4.0258E+00	-1.9750E+00	2.0289E+00	-6.6421E-01	7.8448E-01	-8.1818E-01	1.7610E+01	2.5269E-01	4.9199E-01	2.1233E+01	1.8094E+02
2.9000E+05	4.0257E+00	-2.0057E+00	2.0300E+00	-6.9421E-01	7.8269E-01	-8.5839E-01	1.8490E+01	1.6891E-01	5.2314E-01	2.2822E+01	1.8094E+02
3.0000E+05	4.0258E+00	-2.0359E+00	2.0313E+00	-7.2421E-01	7.8140E-01	-8.9860E-01	1.9410E+01	1.1262E-01	5.5629E-01	2.4511E+01	1.8094E+02
3.1000E+05	4.0260E+00	-2.0657E+00	2.0328E+00	-7.5421E-01	7.8061E-01	-9.3881E-01	2.0370E+01	7.5112E-01	5.9144E-01	2.6300E+01	1.8094E+02
3.2000E+05	4.0263E+00	-2.0952E+00	2.0344E+00	-7.8421E-01	7.8032E-01	-9.7902E-01	2.1370E+01	5.2649E-01	6.2859E-01	2.8189E+01	1.8094E+02
3.3000E+05	4.0267E+00	-2.1244E+00	2.0361E+00	-8.1421E-01	7.8053E-01	-1.0191E-01	2.2410E+01	3.6841E-01	6.6874E-01	3.0178E+01	1.8094E+02
3.4000E+05	4.0272E+00	-2.1533E+00	2.0379E+00	-8.4421E-01	7.8124E-01	-1.0612E-01	2.3490E+01	2.5269E-01	7.1089E-01	3.2267E+01	1.8094E+02
3.5000E+05	4.0277E+00	-2.1820E+00	2.0398E+00	-8.7421E-01	7.8245E-01	-1.1033E-01	2.4610E+01	1.6891E-01	7.5504E-01	3.4466E+01	1.8094E+02
3.6000E+05	4.0282E+00	-2.2105E+00	2.0418E+00	-9.0421E-01	7.8416E-01	-1.1454E-01	2.5770E+01	1.1262E-01	8.0119E-01	3.6765E+01	1.8094E+02
3.7000E+05	4.0287E+00	-2.2388E+00	2.0439E+00	-9.3421E-01	7.8647E-01	-1.1875E-01	2.6970E+01	7.5112E-01	8.4934E-01	3.9154E+01	1.8094E+02
3.8000E+05	4.0292E+00	-2.2669E+00	2.0461E+00	-9.6421E-01	7.8938E-01	-1.2296E-01	2.8210E+01	5.2649E-01	9.0049E-01	4.1643E+01	1.8094E+02
3.9000E+05	4.0297E+00	-2.2948E+00	2.0484E+00	-9.9421E-01	7.9289E-01	-1.2717E-01	2.9500E+01	3.6841E-01	9.5464E-01	4.4352E+01	1.8094E+02
4.0000E+05	4.0302E+00	-2.3225E+00	2.0508E+00	-1.0242E-01	7.9700E-01	-1.3138E-01	3.0840E+01	2.5269E-01	1.0117E-01	4.7261E+01	1.8094E+02
4.1000E+05	4.0307E+00	-2.3500E+00	2.0533E+00	-1.0542E-01	8.0171E-01	-1.3559E-01	3.2230E+01	1.6891E-01	1.0702E-01	5.0270E+01	1.8094E+02
4.2000E+05	4.0312E+00	-2.3773E+00	2.0559E+00	-1.0842E-01	8.0692E-01	-1.3980E-01	3.3670E+01	1.1262E-01	1.1307E-01	5.3379E+01	1.8094E+02
4.3000E+05	4.0317E+00	-2.4044E+00	2.0586E+00	-1.1142E-01	8.1273E-01	-1.4401E-01	3.5160E+01	7.5112E-01	1.1922E-01	5.6588E+01	1.8094E+02
4.4000E+05	4.0322E+00	-2.4313E+00	2.0614E+00	-1.1442E-01	8.1914E-01	-1.4822E-01	3.6700E+01	5.2649E-01	1.2547E-01	5.9897E+01	1.8094E+02
4.5000E+05	4.0327E+00	-2.4580E+00	2.0642E+00	-1.1742E-01	8.2615E-01	-1.5243E-01	3.8290E+01	3.6841E-01	1.3182E-01	6.3306E+01	1.8094E+02
4.6000E+05	4.0332E+00	-2.4845E+00	2.0671E+00	-1.2042E-01	8.3376E-01	-1.5664E-01	3.9930E+01	2.5269E-01	1.3827E-01	6.6815E+01	1.8094E+02
4.7000E+05	4.0337E+00	-2.5108E+00	2.0701E+00	-1.2342E-01	8.4197E-01	-1.6085E-01	4.1630E+01	1.6891E-01	1.4482E-01	7.0424E+01	1.8094E+02
4.8000E+05	4.0342E+00	-2.5369E+00	2.0732E+00	-1.2642E-01	8.5078E-01	-1.6506E-01	4.3390E+01	1.1262E-01	1.5147E-01	7.4133E+01	1.8094E+02
4.9000E+05	4.0347E+00	-2.5628E+00	2.0764E+00	-1.2942E-01	8.6019E-01	-1.6927E-01	4.5210E+01	7.5112E-01	1.5822E-01	7.7942E+01	1.8094E+02
5.0000E+05	4.0352E+00	-2.5885E+00	2.0797E+00	-1.3242E-01	8.7020E-01	-1.7348E-01	4.7090E+01	5.2649E-01	1.6507E-01	8.1851E+01	1.8094E+02

H11/H121 = 1.0000E+01		SIGMA(3)/SIGMA(1) = 1.0000E+01		H11/H121 = 2.0000E+01		SIGMA(3)/SIGMA(1) = 1.0000E+01		SIGMA(3)/SIGMA(1) = 1.0000E+01		SIGMA(3)/SIGMA(1) = 1.0000E+01	
V	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE	SIGMA(3)/SIGMA(1) O(1)PHASE
1.0000E+04	3.2403E+02	4.2377E+02	1.8085E+02	7.1979E-01	7.1043E+01	-2.5908E-01	2.8210E+01	-2.8210E+01	9.3070E+00	-6.7085E+02	-6.7085E+02
2.0000E+04	3.3202E+02	4.6447E+02	1.8155E+02	7.2765E-01	7.0064E+01	-2.3589E-01	2.8210E+01	-1.8362E+01	8.3769E+00	-1.5137E+01	-1.5137E+01
3.0000E+04	3.4082E+02	5.0517E+02	1.8225E+02	7.3551E-01	6.9085E+01	-2.1070E-01	2.8210E+01	-1.0824E+01	7.4468E+00	-4.0724E+00	-4.0724E+00
4.0000E+04	3.4962E+02	5.4587E+02	1.8295E+02	7.4337E-01	6.8106E+01	-1.8569E-01	2.8210E+01	-6.0772E+00	6.5167E+00	-3.0562E+00	-3.0562E+00
5.0000E+04	3.5842E+02	5.8657E+02	1.8365E+02	7.5123E-01	6.7127E+01	-1.6068E-01	2.8210E+01	-4.0724E+00	5.5866E+00	-1.0350E+00	-1.0350E+00
6.0000E+04	3.6722E+02	6.2727E+02	1.8435E+02	7.5909E-01	6.6148E+01	-1.3567E-01	2.8210E+01	-2.0676E+00	4.6565E+00	0.9850E+00	0.9850E+00
7.0000E+04	3.7602E+02	6.6797E+02	1.8505E+02	7.6695E-01	6.5169E+01	-1.1066E-01	2.8210E+01	-1.0628E+00	3.7364E+00	1.9650E+00	1.9650E+00
8.0000E+04	3.8482E+02	7.0867E+02	1.8575E+02	7.7481E-01	6.4190E+01	-8.5659E-02	2.8210E+01	-6.0772E+00	2.8163E+00	2.9450E+00	2.9450E+00
9.0000E+04	3.9362E+02	7.4937E+02	1.8645E+02	7.8267E-01	6.3211E+01	-6.0650E-02	2.8210E+01	-4.0724E+00	1.8962E+00	3.9250E+00	3.9250E+00
1.0000E+05	4.0242E+02	7.9007E+02	1.8715E+02	7.9053E-01	6.2232E+01	-3.5641E-02	2.8210E+01	-2.0676E+00	9.0450E+00	4.9050E+00	4.9050E+00
1.1000E+05	4.1122E+02	8.3077E+02	1.8785E+02	7.9839E-01	6.1253E+01	-1.0632E-01	2.8210E+01	-1.0628E+00	1.9844E+00	5.8850E+00	5.8850E+00
1.2000E+05	4.2002E+02	8.7147E+02	1.8855E+02	8.0625E-01							







M11/H121= 5.0000E-02		SIGMA(2)/SIGMA(1)= 1.0000E+02				M11/H121= 5.0000E-02	
SIGMA(3)/SIGMA(1)= 1.0000E+02		SIGMA(3)/SIGMA(1)= 1.0000E+03		SIGMA(3)/SIGMA(1)= 1.0000E+04		SIGMA(3)/SIGMA(1)= 1.0000E+04	
V	O(AMP)	O(AMP)	O(AMP)	O(AMP)	O(AMP)	O(AMP)	O(AMP)
1.0000E-04	6.9995E-04	3.2893E-02	4.0800E-02	1.1564E-02	1.2170E-01	9.3109E+00	-7.1946E-01
2.0000E-04	1.0014E-01	1.3991E-02	1.6324E-02	5.0000E-02	1.2320E-01	9.9700E+00	-7.1946E-01
3.0000E-04	1.0035E-01	3.0877E-03	3.8886E-02	1.6578E-01	1.8821E-02	1.9701E+00	-7.1060E-01
4.0000E-04	1.0056E-01	4.6453E-03	6.7250E-02	3.4732E-01	2.8270E-02	3.9200E+00	-7.1060E-01
5.0000E-04	1.0114E-01	1.3803E-02	1.0500E-01	2.7936E-01	9.8811E-02	2.0102E+01	-6.7811E-01
6.0000E-04	1.0172E-01	6.5236E-02	1.5324E-01	1.1704E-01	1.1704E-01	1.1704E+01	-6.7811E-01
7.0000E-04	1.1000E-01	9.4593E-01	1.1154E-01	8.2021E-02	1.1186E-01	7.4727E-02	-7.5668E-02
8.0000E-04	1.2184E-01	1.2184E-01	1.0784E-01	1.0784E-01	1.0784E-01	1.0389E-01	-1.0389E-01
9.0000E-04	1.4187E-01	1.4731E-01	1.0784E-01	1.0784E-01	1.1817E-01	1.1817E-01	-1.0395E-01
1.0000E-03	1.2820E-01	1.7108E-01	1.2282E-01	1.7120E-01	1.2282E-01	1.2197E-01	-1.9326E-01
1.5000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	-1.2800E-01
2.0000E-03	1.3101E-01	1.2405E-01	1.3100E-01	2.1405E-01	1.3100E-01	1.3164E-01	-1.2746E-01
3.0000E-03	1.3101E-01	2.5174E-01	1.3942E-01	2.5172E-01	1.3942E-01	2.5076E-01	-1.3951E-01
4.0000E-03	1.3101E-01	3.3712E-01	1.4802E-01	2.4807E-01	1.4802E-01	1.4797E-01	-1.4797E-01
5.0000E-03	1.4802E-01	3.4017E-01	1.6561E-01	3.4017E-01	1.6561E-01	3.4017E-01	-1.4797E-01
6.0000E-03	1.4802E-01	3.4017E-01	1.6561E-01	3.4017E-01	1.6561E-01	3.4017E-01	-1.4797E-01
7.0000E-03	1.4802E-01	4.6031E-01	2.2963E-01	4.6031E-01	2.2963E-01	4.6031E-01	-1.4797E-01
8.0000E-03	2.2963E-01	5.0919E-01	2.7645E-01	5.0919E-01	2.7645E-01	5.0919E-01	-2.7645E-01
9.0000E-03	3.4017E-01	5.0919E-01	3.4017E-01	5.0919E-01	3.4017E-01	5.0919E-01	-2.7645E-01
1.0000E-02	4.6031E-01	5.6020E-01	4.6031E-01	5.6020E-01	4.6031E-01	5.6020E-01	-3.4017E-01
1.5000E-02	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
2.0000E-02	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
3.0000E-02	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
4.0000E-02	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
5.0000E-02	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
6.0000E-02	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
7.0000E-02	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
8.0000E-02	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
9.0000E-02	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
1.0000E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
1.5000E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
2.0000E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
3.0000E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
4.0000E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
5.0000E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
6.0000E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
7.0000E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
8.0000E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
9.0000E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01
1.0000E+00	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	5.6020E-01	-3.4017E-01

M11/H121= 1.0000E-01		SIGMA(2)/SIGMA(1)= 1.0000E+02				M11/H121= 1.0000E-01	
SIGMA(3)/SIGMA(1)= 1.0000E+02		SIGMA(3)/SIGMA(1)= 1.0000E+03		SIGMA(3)/SIGMA(1)= 1.0000E+04		SIGMA(3)/SIGMA(1)= 1.0000E+04	
V	O(AMP)	O(AMP)	O(AMP)	O(AMP)	O(AMP)	O(AMP)	O(AMP)
1.0000E-04	5.6097E+00	-3.9200E-01	2.6242E-02	-1.8063E-01	9.3295E-01	-6.9521E-02	3.0999E-01
2.0000E-04	5.6097E+00	-2.9778E-01	2.4978E-02	-2.7087E-01	9.3295E-01	-5.7881E-02	3.0999E-01
3.0000E-04	1.7380E-01	-6.6088E-01	1.3210E-02	-4.8388E-01	7.1728E-01	-2.5130E-01	-6.7830E-01
4.0000E-04	9.3183E-01	-7.1462E-01	6.0493E-01	-5.9871E-01	5.6440E-01	-2.6504E-01	-1.5530E-01
5.0000E-04	4.8831E-01	-4.4884E-01	3.6702E-01	-4.4884E-01	3.6702E-01	-2.4910E-01	-2.4910E-01
6.0000E-04	1.9993E-01	-6.6154E-01	1.9497E-01	-6.6278E-01	1.8084E-01	-5.9262E-01	1.4488E-01
7.0000E-04	1.2175E-01	-1.0180E-01	1.0180E-01	-1.0180E-01	1.0180E-01	-1.0180E-01	1.0180E-01
8.0000E-04	9.7508E-02	-7.2649E-02	9.9405E-02	-6.5613E-02	9.9405E-02	-5.5168E-02	1.0388E-01
9.0000E-04	1.0408E-01	1.0389E-01	1.0405E-01	1.0405E-01	1.0389E-01	1.0400E-01	1.1412E-01
1.0000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
1.5000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
2.0000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
3.0000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
4.0000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
5.0000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
6.0000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
7.0000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
8.0000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
9.0000E-03	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
1.0000E-02	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
1.5000E-02	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
2.0000E-02	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
3.0000E-02	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
4.0000E-02	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
5.0000E-02	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
6.0000E-02	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
7.0000E-02	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
8.0000E-02	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
9.0000E-02	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01
1.0000E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01	1.2800E-01

M11/H121= 2.0000E-01		SIGMA(2)/SIGMA(1)= 1.0000E+02				M11/H121= 2.0000E-01	
SIGMA(3)/SIGMA(1)= 1.0000E+02		SIGMA(3)/SIGMA(1)= 1.0000E+03		SIGMA(3)/SIGMA(1)= 1.0000E+04		SIGMA(3)/SIGMA(1)= 1.0000E+04	
V	O(AMP)	O(AMP)	O(AMP)	O(AMP)	O(AMP)	O(AMP)	O(AMP)
1.0000E-04	3.2337E-02	2.1377E-02	1.1786E-02	7.1378E-02	-5.6238E-01	-1.8402E-01	7.3174E+00
2.0000E-04	3.3067E-02	4.428E-02	1.8444E-02	1.3942E-01	-7.1915E-01	8.0270E-02	-6.0408E-01
3.0000E-04	3.3797E-02	6.7183E-02	2.6484E-02	2.1381E-01	-3.6810E-01	3.6529E+00	-7.0325E-01
4.0000E-04	3.9294E-02	1.7116E-01	1.0284E-02	4.4074E-01	1.9808E-01	-7.7032E-01	-7.4202E-01
5.0000E-04	4.7430E-02	2.7381E-01	2.9572E-02	5.2545E-01	9.8108E-01	-7.7170E-01	9.7622E-01
6.0000E-04	5.2927E-02	3.7130E-01	6.0493E-02	5.7740E-01	3.7844E-01	-7.7170E-01	9.7622E-01
7.0000E-04	1.0486E-01	2.9628E-01	1.0346E-01	4.2484E-01	2.0343E-01	-6.5157E-01	2.0097E-01
8.0000E-04	1.2104E-01	1.8043E-01	1.2313E-01	2.3845E-01	1.9375E-01	-4.9528E-01	1.3796E-01
9.0000E-04	1.2104E-01	1.8043E-01	1.2313E-01	2.3845E-01	1.9375E-01	-4.9528E-01	1.3796E-01
1.0000E-03	1.2141E-01	1.3411E-01	1.2295E-01	1.2649E-01	1.0898E-01	-1.2109E-01	1.0495E-01
1.5000E-03	1.2141E-01	1.3411E-01	1.2295E-01	1.2649E-01	1.0898E-01	-1.2109E-01	1.0495E-01
2.0000E-03	1.2656E-01	1.8805E-01	1.2638E-01	1.8505E-01	1.1274E-01	-1.3670E-01	1.3693E-01
3.0000E-03	1.3076E-01	2.1297E-01	1.3048E-01	2.1235E-01	1.1939E-01	-2.0710E-01	1.4199E-01
4.0000E-03	1.3076E-01	2.1297E-01	1.3048E-01	2.1235E-01	1.1939E-01	-2.0710E-01	1.4199E-01
5.0000E-03	1.4603E-01	2.8495E-01	1.4804E-01	2.8500E-01	1.4752E-01	-3.0362E-01	1.4752E-01
6.0000E-03	1.4603E-01	2.8495E-01	1.4804E-01	2.8500E-01	1.4752E-01	-3.0362E-01	1.4752E-01
7.0000E-03	1.4603E-01	2.8495E-01	1.4804E-01	2.8500E-01	1.4752E-01	-3.0362E-01	1.4752E-01
8.0000E-03	1.4603E-01	2.8495E-01	1.4804E-01	2.8500E-01	1.4752E-01	-3.0362E-01	1.4752E-01
9.0000E-03	1.4603E-01	2.8495E-01	1.4804E-01	2.8500E-01	1.4752E-01	-3.0362E-01	1.4752E-01
1.0000E-02	1.4603E-01	2.8495E-01	1.4804E-01	2.8500E-01	1.4752E-01	-3.0362E-01	1.4752E-01
1.5000E-02	1.4603E-01	2.8495E-01	1.4804E-01	2.8500E-01</			



H(1)/H(2) = 2.0000E-01		H(1)/H(2) = 5.0000E-01		SIGMA(2)/SIGMA(1) = 1.0000E+02	
V	SIGMA(3)/SIGMA(1) = 1.0000E+04	SIGMA(3)/SIGMA(1) = 1.0000E+04	SIGMA(3)/SIGMA(1) = 1.0000E+04	SIGMA(3)/SIGMA(1) = 1.0000E+04	SIGMA(3)/SIGMA(1) = 1.0000E+04
	O(PHASE)	O(PHASE)	O(PHASE)	O(PHASE)	O(PHASE)
1.0000E-04	1.0292E-02	4.0327E-02	3.9618E-01	-5.5079E-01	2.0839E-01
2.0000E-04	1.0874E-02	7.7364E-02	2.0922E+01	-6.3089E-01	1.5052E+01
3.0000E-04	1.2284E-02	1.1715E-01	9.2764E-02	-1.1937E-01	8.0001E-02
4.0000E-04	1.4812E-02	2.6805E-01	4.6039E+00	-7.5108E-01	4.4551E+00
5.0000E-04	2.0215E-02	4.2266E-01	2.4443E+00	-7.6075E-01	2.3535E+00
6.0000E-04	3.1220E-02	5.6890E-01	9.4831E-01	-7.7001E-01	9.7345E-01
7.0000E-04	4.6330E-02	5.9308E-01	4.9615E-01	-7.4484E-01	4.9258E-01
8.0000E-04	6.5545E-02	5.3940E-01	3.3198E-01	-7.0214E-01	3.2049E-01
9.0000E-04	9.1293E-02	4.5517E-01	2.0707E-01	-6.5117E-01	2.5000E-01
1.0000E-03	1.2772E-01	3.6621E-01	2.0337E-01	-5.9793E-01	2.0296E-01
1.5000E-03	1.8604E-01	2.9238E-01	1.7350E-01	-5.4597E-01	1.7328E-01
2.0000E-03	2.5967E-01	2.4440E-01	1.5419E-01	-3.4993E-01	1.9409E-01
3.0000E-03	3.4403E-01	2.2170E-01	1.4193E-01	-2.2997E-01	1.4491E-01
4.0000E-03	4.4327E-01	2.0388E-01	1.3112E-01	-1.4037E-01	1.3117E-01
5.0000E-03	5.6081E-01	2.0692E-01	1.2162E-01	6.3943E-02	1.2169E-01
6.0000E-03	6.9956E-01	1.9526E-01	1.1405E-01	1.4059E-01	1.4059E-01
7.0000E-03	8.5955E-01	1.8473E-01	1.0726E-01	1.7289E-01	1.7289E-01
8.0000E-03	1.0423E-01	1.7492E-01	1.0170E-01	2.2971E-01	2.2971E-01
9.0000E-03	1.2569E-01	1.6609E-01	9.6496E-01	2.7713E-01	2.7713E-01
1.0000E-02	1.5070E-01	1.5834E-01	9.2066E-01	3.2066E-01	3.2066E-01
1.5000E-02	1.9402E-01	1.5105E-01	8.7942E-01	3.7066E-01	3.7066E-01
2.0000E-02	2.4593E-01	1.4460E-01	8.4002E-01	4.1643E-01	4.1643E-01
3.0000E-02	3.0614E-01	1.3893E-01	8.0207E-01	4.5842E-01	4.5842E-01
4.0000E-02	3.7449E-01	1.3396E-01	7.6496E-01	4.9696E-01	4.9696E-01
5.0000E-02	4.5049E-01	1.2951E-01	7.2924E-01	5.3197E-01	5.3197E-01
6.0000E-02	5.3363E-01	1.2555E-01	6.9496E-01	5.6296E-01	5.6296E-01
7.0000E-02	6.2449E-01	1.2200E-01	6.6149E-01	5.8996E-01	5.8996E-01
8.0000E-02	7.2363E-01	1.1884E-01	6.2924E-01	6.1296E-01	6.1296E-01
9.0000E-02	8.3156E-01	1.1605E-01	5.9812E-01	6.3196E-01	6.3196E-01
1.0000E-01	9.4879E-01	1.1362E-01	5.6812E-01	6.4746E-01	6.4746E-01
1.5000E-01	1.1842E-01	1.1148E-01	5.3896E-01	6.5996E-01	6.5996E-01
2.0000E-01	1.4403E-01	1.0964E-01	5.1155E-02	6.6496E-01	6.6496E-01
3.0000E-01	1.7070E-01	1.0802E-01	4.8593E-02	6.6296E-01	6.6296E-01
4.0000E-01	2.0743E-01	1.0660E-01	4.6149E-02	6.5396E-01	6.5396E-01
5.0000E-01	2.5449E-01	1.0536E-01	4.3849E-02	6.3796E-01	6.3796E-01
6.0000E-01	3.1220E-01	1.0428E-01	4.1649E-02	6.1396E-01	6.1396E-01
7.0000E-01	3.8081E-01	1.0334E-01	3.9549E-02	5.8296E-01	5.8296E-01
8.0000E-01	4.6043E-01	1.0254E-01	3.7549E-02	5.4796E-01	5.4796E-01
9.0000E-01	5.5149E-01	1.0186E-01	3.5649E-02	5.0896E-01	5.0896E-01
1.0000E-00	6.5449E-01	1.0128E-01	3.3849E-02	4.6496E-01	4.6496E-01
1.5000E-00	8.6956E-01	1.0078E-01	3.2149E-02	4.1696E-01	4.1696E-01
2.0000E-00	1.0987E-01	1.0034E-01	3.0549E-02	3.6496E-01	3.6496E-01
3.0000E-00	1.3549E-01	1.0000E-01	2.9049E-02	3.0896E-01	3.0896E-01
4.0000E-00	1.6349E-01	1.0000E-01	2.7649E-02	2.4896E-01	2.4896E-01
5.0000E-00	1.9349E-01	1.0000E-01	2.6349E-02	1.8496E-01	1.8496E-01
6.0000E-00	2.2549E-01	1.0000E-01	2.5149E-02	1.1696E-01	1.1696E-01
7.0000E-00	2.6949E-01	1.0000E-01	2.4049E-02	5.0496E-02	5.0496E-02
8.0000E-00	3.1549E-01	1.0000E-01	2.3049E-02	0.0000E+00	0.0000E+00
9.0000E-00	3.6349E-01	1.0000E-01	2.2149E-02	0.0000E+00	0.0000E+00

H(1)/H(2) = 5.0000E-01		SIGMA(2)/SIGMA(1) = 1.0000E+02	
V	SIGMA(3)/SIGMA(1) = 1.0000E+03	SIGMA(3)/SIGMA(1) = 1.0000E+03	SIGMA(3)/SIGMA(1) = 1.0000E+03
	O(PHASE)	O(PHASE)	O(PHASE)
1.0000E-04	9.8610E-01	-1.3798E-02	3.1502E-01
2.0000E-04	9.8240E-01	-2.7200E-02	3.1382E-01
3.0000E-04	9.8250E-01	-4.1199E-02	3.1026E-01
4.0000E-04	9.8709E-01	-1.2167E-01	3.0438E-01
5.0000E-04	9.9200E-01	-2.1207E-01	2.9306E-01
6.0000E-04	9.9529E-01	-3.7667E-01	2.8256E-01
7.0000E-04	9.9693E-01	-4.8153E-01	2.7270E-01
8.0000E-04	9.9728E-01	-5.0099E-01	2.6391E-01
9.0000E-04	9.9697E-01	-4.7834E-01	2.5732E-01
1.0000E-03	9.9620E-01	-4.5257E-01	2.5206E-01
1.5000E-03	9.9420E-01	-3.6349E-01	2.4080E-01
2.0000E-03	9.9197E-01	-2.8605E-01	2.3158E-01
3.0000E-03	9.8958E-01	-2.2076E-01	2.2402E-01
4.0000E-03	9.8702E-01	-1.6722E-01	2.1782E-01
5.0000E-03	9.8514E-01	-1.2431E-01	2.1281E-01
6.0000E-03	9.8381E-01	-8.9131E-02	2.0881E-01
7.0000E-03	9.8299E-01	-6.4081E-02	2.0579E-01
8.0000E-03	9.8263E-01	-4.6149E-02	2.0349E-01
9.0000E-03	9.8270E-01	-3.3761E-02	2.0179E-01
1.0000E-02	9.8319E-01	-2.5310E-02	2.0059E-01
1.5000E-02	9.8402E-01	-1.9849E-02	1.9989E-01
2.0000E-02	9.8509E-01	-1.5949E-02	1.9959E-01
3.0000E-02	9.8634E-01	-1.2499E-02	1.9949E-01
4.0000E-02	9.8770E-01	-9.349E-03	1.9959E-01
5.0000E-02	9.8917E-01	-6.449E-03	1.9979E-01
6.0000E-02	9.9074E-01	-3.749E-03	1.9999E-01
7.0000E-02	9.9240E-01	-1.249E-02	2.0019E-01
8.0000E-02	9.9414E-01	1.249E-02	2.0039E-01
9.0000E-02	9.9594E-01	3.749E-02	2.0059E-01
1.0000E-01	9.9779E-01	6.249E-02	2.0079E-01
1.5000E-01	9.9967E-01	8.749E-02	2.0099E-01
2.0000E-01	1.0157E-01	1.1249E-01	2.0119E-01
3.0000E-01	1.0347E-01	1.3749E-01	2.0139E-01
4.0000E-01	1.0537E-01	1.6249E-01	2.0159E-01
5.0000E-01	1.0727E-01	1.8749E-01	2.0179E-01
6.0000E-01	1.0917E-01	2.1249E-01	2.0199E-01
7.0000E-01	1.1107E-01	2.3749E-01	2.0219E-01
8.0000E-01	1.1297E-01	2.6249E-01	2.0239E-01
9.0000E-01	1.1487E-01	2.8749E-01	2.0259E-01
1.0000E-00	1.1677E-01	3.1249E-01	2.0279E-01
1.5000E-00	1.1867E-01	3.3749E-01	2.0299E-01
2.0000E-00	1.2057E-01	3.6249E-01	2.0319E-01
3.0000E-00	1.2247E-01	3.8749E-01	2.0339E-01
4.0000E-00	1.2437E-01	4.1249E-01	2.0359E-01
5.0000E-00	1.2627E-01	4.3749E-01	2.0379E-01
6.0000E-00	1.2817E-01	4.6249E-01	2.0399E-01
7.0000E-00	1.3007E-01	4.8749E-01	2.0419E-01
8.0000E-00	1.3197E-01	5.1249E-01	2.0439E-01
9.0000E-00	1.3387E-01	5.3749E-01	2.0459E-01





U. S. DEPARTMENT OF COMMERCE  
Luther H. Hodges, *Secretary*

NATIONAL BUREAU OF STANDARDS  
A. V. Astin, *Director*



## THE NATIONAL BUREAU OF STANDARDS

The scope of activities of the National Bureau of Standards at its major laboratories in Washington, D.C., and Boulder, Colorado, is suggested in the following listing of the divisions and sections engaged in technical work. In general, each section carries out specialized research, development, and engineering in the field indicated by its title. A brief description of the activities, and of the resultant publications, appears on the inside of the front cover.

### WASHINGTON, D.C.

**Electricity.** Resistance and Reactance. Electrochemistry. Electrical Instruments. Magnetic Measurements. Dielectrics. High Voltage.

**Metrology.** Photometry and Colorimetry. Refractometry. Photographic Research. Length. Engineering Metrology. Mass and Scale. Volumetry and Densimetry.

**Heat.** Temperature Physics. Heat Measurements. Cryogenic Physics. Equation of State. Statistical Physics.

**Radiation Physics.** X-ray. Radioactivity. Radiation Theory. High Energy Radiation. Radiological Equipment. Nucleonic Instrumentation. Neutron Physics.

**Analytical and Inorganic Chemistry.** Pure Substances. Spectrochemistry. Solution Chemistry. Standard Reference Materials. Applied Analytical Research.

**Mechanics.** Sound. Pressure and Vacuum. Fluid Mechanics. Engineering Mechanics. Rheology. Combustion Controls.

**Organic and Fibrous Materials.** Rubber. Textiles. Paper. Leather. Testing and Specifications. Polymer Structure. Plastics. Dental Research.

**Metallurgy.** Thermal Metallurgy. Chemical Metallurgy. Mechanical Metallurgy. Corrosion. Metal Physics. Electrolysis and Metal Deposition.

**Mineral Products.** Engineering Ceramics. Glass. Refractories. Enameled Metals. Crystal Growth. Physical Properties. Constitution and Microstructure.

**Building Research.** Structural Engineering. Fire Research. Mechanical Systems. Organic Building Materials. Codes and Safety Standards. Heat Transfer. Inorganic Building Materials.

**Applied Mathematics.** Numerical Analysis. Computation. Statistical Engineering. Mathematical Physics. Operations Research.

**Data Processing Systems.** Components and Techniques. Computer Technology. Measurements Automation. Engineering Applications. Systems Analysis.

**Atomic Physics.** Spectroscopy. Infrared Spectroscopy. Solid State Physics. Electron Physics. Atomic Physics.

**Instrumentation.** Engineering Electronics. Electron Devices. Electronic Instrumentation. Mechanical Instruments. Basic Instrumentation.

**Physical Chemistry.** Thermochemistry. Surface Chemistry. Organic Chemistry. Molecular Spectroscopy. Molecular Kinetics. Mass Spectrometry.

**Office of Weights and Measures.**

### BOULDER, COLO.

**Cryogenic Engineering.** Cryogenic Equipment. Cryogenic Processes. Properties of Materials. Cryogenic Technical Services.

**Ionosphere Research and Propagation.** Low Frequency and Very Low Frequency Research. Ionosphere Research. Prediction Services. Sun-Earth Relationships. Field Engineering. Radio Warning Services. Vertical Soundings Research.

**Radio Propagation Engineering.** Data Reduction Instrumentation. Radio Noise. Tropospheric Measurements. Tropospheric Analysis. Propagation-Terrain Effects. Radio-Meteorology. Lower Atmosphere Physics.

**Radio Standards.** High Frequency Electrical Standards. Radio Broadcast Service. Radio and Microwave Materials. Atomic Frequency and Time Interval Standards. Electronic Calibration Center. Millimeter-Wave Research. Microwave Circuit Standards.

**Radio Systems.** Applied Electromagnetic Theory. High Frequency and Very High Frequency Research. Modulation Research. Antenna Research. Navigation Systems.

**Upper Atmosphere and Space Physics.** Upper Atmosphere and Plasma Physics. Ionosphere and Exosphere Scatter. Airglow and Aurora. Ionospheric Radio Astronomy.

