JAERI-M
84-116

NEANDC(J)101/U
INDC(JPN)87/L

EVALUATION OF NEUTRON DATA FOR ^{248}Cm AND ^{249}Cm

June 1984

Yasuyuki KIKUCHI and Tsuneo NAKAGAWA

日 本 原 子 力 研 究 所
Japan Atomic Energy Research Institute

JAERI-M レポートは，日本原子力研究所が不定期に公刊している研究報告書です。
入手の問合わせは，日本原子力研究所技術情報部情報資料課（〒319－11 茨城県那珂郡東海村）あて，お申しこしください。なお，このほかに財団法人原子力弘済会資料センター（〒319—11 茨城県那珂郡東海村日本原子力研究所内）で複写による実費頒布をおこなっております。

JAERI-M reports are issued irregularly.
Inquiries about availability of the reports should be addressed to Information Section, Division of Technical Information, Japan Atomic Energy Research Institute, Tokai-mura, Naka-gun, Ibaraki-ken 319—11, Japan.

編集兼発行　日本原子力研究所
印　　刷　日立高速印刷株式会社

Evaluation of Neutron Nuclear Data for ^{248}Cm and ^{249}Cm

Yasuyuki KIKUCHI and Tsuneo NAKAGAWA

Department of Physics

Tokai Research Establishment, JAERI

(Received May 31, 1984)

Neutron nuclear data of ^{248}Cm and ^{249}Cm have been evaluated. Evaluated quantities are the total, elastic and inelastic scattering, fission, capture, (n,2n), (n,3n) and (n,4n) reaction cross sections, the resolved and unresolved resonance parameters, the angular and energy distributions of the emitted neutrons, and the average number of neutrons emitted per fission. The fission cross section of ^{248}Cm was evaluated mainly on the basis of measured data and that of ^{249}Cm was estimated from the systematic trends. The other cross sections were calculated with the optical and statistical models because of scarce measured data.

Keywords: Curium-248, Curium-249, Evaluation, Resonance Parameters, Fission, Optical Model, Statistical Model, Systematics

---

This work was performed under contracts between Power Reactor and Nuclear Fuel Development Corporation and Japan Atomic Energy Research Institute.

^{248}Cmと^{249}Cmの中性子核データの評価

日本原子力研究所東海研究所物理部
菊池　康之・中川　庸雄

（1984年5月31日受理）

^{248}Cmと^{249}Cmの中性子核データの評価を行った。評価した物理量は，全断面積，弾性散乱と非弾性散乱断面積，核分裂断面積，中性子捕獲断面積，（n，2n），（n，3n），（n，4n）反応断面積，分離および非分離共鳴パラメータ，放出中性子の角分布およびエネルギー分布データ，そして核分裂あたり放出される平均の中性子数である。^{248}Cmの核分裂断面積は，実験データを基にして評価し，また^{249}Cmの核分裂断面積は系統性から推定した。その他の断面積は，測定データがないため，光学模型と統計模型を使って計算した。

本報告書は，日本原子力研究所が動力炉・核燃料開発事業団の委託により行った研究の成果である。

Contents

目　　次

1. Introduction

Neutron nuclear data of Am and Cm isotopes are required to analyze the down-stream problems of fuel cycle. JENDL-2 contains the data of $^{241-243}$Am and $^{242-245}$Cm. In JENDL-3, we will supply the data of higher Cm and Bk isotopes in order to analyze the complete production and decay chain up to ^{252}Cf.

According to this program, the data of ^{246}Cm and ^{247}Cm were already evaluated. In the fiscal year of 1983, the data of ^{248}Cm and ^{249}Cm have been evaluated under contracts with Power Reactor and Nuclear Fuel Development Corporation. The evaluated quantities are the total, elastic and inelastic scattering, fission, capture, (n,2n), (n,3n) and (n,4n) reaction cross sections, the resolved and unresolved resonance parameters, the angular and energy distributions of the emitted neutrons, and the average number of neutrons per fission.

The method and results of the evaluation are described in Chapters 2 and 3 for ^{248}Cm and ^{249}Cm, respectively. As ^{249}Cm is a radioactive nuclide with a short half-life (1.07 hr), the experimental data are very scarce. Hence the evaluation was made mainly on the basis of the systematic trends among neighboring nuclides. The present results are compared with the available experimental data and with the ENDF/B-V and ENDL-82 data.

2. Curium-248

2.1 Thermal Cross Sections

The measured thermal capture and fission cross sections[1-7] are compared in Table 1. Two measured values of the fission cross section agree well with each other. The average value of 0.37 barns was adopted in the present work. On the other hand, the measured data of the

capture cross section are discrepant. Abandoning the extremely large value by Gavrilov[7] and the oldest value by Chetham-Strode[1], we adopted the value of 2.57 barns.

2.2 Resonance Parameters

2.2.1 Resolved Resonance Parameters

The resonance parameters reported by experimenters have been collected and stored in REPSTOR system[8]. They are shown in Table 2 together with the presently adopted parameters. Benjamin et al.[5] performed the transmission measurement with ORELA in the energy region from 0.5 eV to 3 keV, and deduced the neutron widths of 47 resonances from 7.247 eV to 2984 eV and the radiative widths of three low lying resonances. The parameters of resonances below 100 eV were also measured by Belanova et al.[9] with the transmission technique. On the other hand, Moore and Keyworth[10] measured the fission cross section above 20 eV by using a nuclear explosion as a neutron source, and obtained the fission widths for three resonances at 26.8, 76.1 and 98.8 eV. Recently Stopa et al.[11] gave the fission area for the 7.247 eV resonance.

In the present evaluation, the resonance energies, neutron and radiative widths by Benjamin et al.[5] were adopted. The average radiative width of 26 meV recommended by Benjamin et al. was also taken for all resonances whose radiative width was unknown. The fission widths were taken from the measurement by Moore and Keyworth[10] for three resonances mentioned above, and the average value of 1.3 meV was adopted for the others. Finally, in order to reproduce the 2200-m/s cross sections of 2.57 barns for the capture and of 0.37 barns for the fission cross sections, the parameters of the first resonance at 7.247

eV were slightly adjusted. As to the fission cross section, however, the calculated value is much smaller than the measured one even after the adjustment. Hence the background cross section was applied for the fission cross section by assuming the 1/v form.

The effective scattering radius of 9.1 fm was deduced from the potential scattering cross section of 10.4 barns assumed by Benjamin et al. The multi-level Breit-Wigner formula was adopted. The upper bound of the resolved resonance region was determined to be 1.5 keV, because some resonances seem to be missed above 1.5 keV in the measurement by Benjamin et al.

2.2.2 Unresolved Resonance Parameters

The fission cross sections of Moore and Keyworth[10] and Stopa et al.[11] are the only available experimental data in the unresolved resonance region between 1.5 keV and 30 keV. In the present work, the fission cross section in this energy range was evaluated mainly on the basis of the measured data of Stopa et al.[11]

The fission widths were searched for so as to reproduce the evaluated fission cross section, by assuming the neutron strength functions and the effective scattering radius obtained with the optical model calculation which will be described later. The radiation width of 26 meV and the observable level spacing of 40 eV were taken from the resolved resonances.

The unresolved resonance parameters thus obtained are given in Table 3 as well as the calculated cross sections.

2.2.3 Resonance Integrals

The measured resonance integral data are tabulated in Table 4 with

the values calculated from the presently evaluated resonance parameters and the smooth cross sections. The calculated capture integral of 257 barns agrees with the measured data within their uncertainty. On the other hand, the calculated fission integral of 17.5 barns is a little larger than the measured ones. For such a nuclide with subthreshold fission as ^{248}Cm, considerable amount of contribution to the fission integral comes from MeV region where the assumed 1/E spectrum cannot represent the experimental spectrum (fission spectrum). Hence the comparison between the measured and calculated fission integrals has little meaning.

2.3 Cross Sections above Resonance Region

2.3.1 Fission Cross Section

Three measured data are available for the fission cross section in this energy range:

Moore and Keyworth[10]	(1971):	20 eV	∿ 2.8 MeV
Fomushkin et al.[12]	(1980):	0.3 MeV	∿ 5.5 MeV
Stopa et al.[11]	(1982):	0.1 eV	∿ 80 keV.

The present evaluation was made mainly on the basis of the data of Stopa et al. and Fomushkin et al. up to 5.5 MeV, and the evaluated curve was drawn by assuming the (n,n'f) and (n,2nf) cross section above 6 MeV. The evaluated fission cross section is shown in Fig. 1 with the measured data as well as the other evaluated data.

2.3.2 Other Cross Sections

No measured data have so far been reported for the other cross sections. Hence the evaluation was made by the theoretical calculation

based on the optical, statistical and evaporation models.

We adopted the same optical potential parameters as used in the evaluation of ^{241}Am, ^{242m}Am, ^{242g}Am, ^{243}Am, ^{242}Cm and ^{243}Cm for JENDL-2 and of ^{246}Cm and ^{247}Cm for JENDL-3. These potential parameters were obtained by Igarasi and Nakagawa[13] so as to reproduce the total cross section of ^{241}Am measured by Phillips and Howe[14]. The parameter set is given in Table 5. The level density parameters were taken from the recommendation by Gilbert and Cameron[15] and are given in Table 6.

The (n,2n), (n,3n) and (n,4n) reaction cross sections were calculated with Pearlstein's method[16] based on the evaporation model. The neutron emission cross section approximated to the difference between the compound nucleus formation cross section and the fission cross section, because the charged particle emission and the compound elastic scattering cross sections are negligibly small.

Taking account of the (n,2n), (n,3n), (n,4n) and fission cross sections as the competing processes, the capture, elastic and inelastic scattering cross sections were calculated with the statistical model code CASTHY[17]. The γ-ray strength function was calculated to be 6.5×10^{-4} from the radiation width and the mean level spacing in the resolved resonance region. Eight discrete levels were taken into account up to 1094 keV and levels above 1126 keV were assumed to be overlapping. The level scheme of the discrete levels was taken from Table of Isotope, 7th edition[18] and is shown in Table 7.

The Q-values of (n,2n), (n,3n) and (n,4n) reactions were obtained from the compilation of Wapstra and Bos[19] and are given in Table 8. The calculated cross sections are shown in Figs. 2-4 with the other evaluated data.

2.4 Other Quantities

2.4.1 Average Number of Neutrons Emitted per Fission

There is no measurement on the $\bar{\nu}$-value for the neutron-induced fission of ^{248}Cm. Hence the semi-empirical formula by Howerton[20] was adopted;

$$\bar{\nu}(Z,A_t,E_n) = 2.33 + 0.06\ [2 - (-1)^{A_t+1-Z} - (-1)^Z]$$
$$+ 0.15\ (Z-92) + 0.02(A_t-235)$$
$$+ [0.130 + 0.006\ (A_t-235)] \times [E_n - E_T(Z,A_t)],$$

$$E_T(Z,A_t) = 18.6 - 0.36\ Z^2/(A_t+1) + 0.2[2 - (-1)^{A_t+1-Z} - (-1)^Z] - B_n,$$

where E_T represents the fission threshold energy, E_n is the incident neutron energy, A_t the mass number of target nucleus, Z the atomic number and B_n the neutron separation energy from compound nucleus. Applying A_t = 248, B_n = 4.7127 MeV, we obtained

$$E_T = 0.97 \text{ MeV}$$
$$\bar{\nu} = 3.11 + 0.208\ E_n.$$

As no measurement has been reported on the number of delayed neutrons, we estimated $\bar{\nu}_d$ from the systematics proposed by Tuttle[21]:

$$\bar{\nu}_d = \exp[13.81 + 0.1754(A_c-3Z)(A_c/Z)],$$

where A_c is the mass number of the compound nucleus. We also assumed that the (n,n'f) process was dominant after its channel opened (E_n > 6 ∿ 8 MeV). Under these assumptions, the presently evaluated value is

$$\bar{\nu}_d = 0.0196 \quad \text{for} \quad E_n \leq 6 \text{ MeV},$$
$$0.0134 \quad \text{for} \quad E_n \geq 8 \text{ MeV}.$$

Both values are linearly connected between 6 and 8 MeV.

As to the decay constants and fraction of delayed neutrons, the values for ^{242}Pu were assumed because of analogous values of (A_c-3Z) (A_c/Z), and the evaluated data by Tuttle[22] were adopted.

2.4.2 Angular Distributions of Emitted Neutrons

The angular distributions for the elastic scattering and the inelastic scattering to discrete levels were calculated with the optical model. The isotropic scattering in the laboratory system was assumed for the inelastic scattering to continuum levels, (n,2n), (n,3n), (n,4n) and fission reactions.

2.4.3 Energy Distributions of Emitted Neutrons

The simple evaporation spectrum was assumed for the inelastically scattered neutrons which leave the residual nucleus in continuum excited states (MT = 91). The nuclear temperature (θ) was determined as

$$\theta = T_n \qquad E_n < E_x$$

$$\theta = \frac{1 + \sqrt{1 - 4a(E_n-\Delta)}}{2a} \qquad E_n > E_x$$

where E_n is the incident neutron energy, and a and Δ are the level density parameter and the pairing energy of the residual nucleus. T_n is the nuclear temperature in the constant temperature model and E_x is the joining energy between the constant temperature and Fermi gas models.

As to the (n,2n), (n,3n) and (n,4n) reactions, we assumed the successive evaporation model. For the (n,2n) process, the first neutron evaporates leaving the residual nucleus in an excited state higher than

the neutron separation energy, and then the second neutron evaporates from the excited state. In the calculation of the temperature for the second neutron, we assumed that the second neutron evaporated from an excited state corresponding the average energy of the first neutron. In the ENDF/B format, the temperature of each neutron is stored independently in each subsection.

2.4.4 Fission Spectrum

The Maxwellian spectrum was adopted in the present work. As no measured data exist for ^{248}Cm, the temperature was determined from the systematics of the average neutron energy on A and Z obtained by Smith et al.[23]. The obtained temperature is 1.38 MeV, by taking a reference ^{252}Cf average fission neutron energy of 2.13 MeV as recommended by Grundl and Eisenhauer[24].

2.5 Discussion

The presently evaluated cross sections are shown in Fig. 5. The present evaluation is much based on the theoretical calculation, since the experimental data are scarce except for the fission and thermal cross sections.

The present resonance parameters fail to reproduce the thermal fission cross section, and the background correction was applied. The resonance parameters of the low-lying levels should be measured more carefully.

3. Curium-249

3.1 Thermal Cross Sections

The capture cross section measured by Diamond et al.[25] in a

Maxwellian Spectrum is the only available experimental datum for this nuclide. We took this value in the present work. The fission cross section was estimated from the ratio calculated from the unresolved resonance parameters. The elastic scattering cross section was calculated with the optical model. The presently adopted 2200m/s cross sections are

Total	: 13.22 barns,
Elastic scattering	: 10.8 barns,
Capture	: 1.6 barns,
Fission	: 0.82 barns.

The 1/v shape was assumed for the fission and capture cross sections up to 4.15 eV which corresponds to a half of the average level spacing of s-wave resonances ($D_{obs}/2$). This is based on the following argument. The statistical model calculation gives expectation value of the cross section averaged over resonances. Therefore, when no cross section data and no resonance parameters are available at all, it will be the only way of estimating the data to apply the statistical model down to the thermal energy. Now suppose such a case where only thermal capture cross section is known as ^{243}Cm, for which the thermal cross section value is much smaller than that calculated by the statistical model. Therefore, we may assume that no resonance exists near the thermal energy and the cross section will behave as 1/v below the first resonance. This implies that the 1/v cross section must be connected with the statistical model calculation at an appropriate energy. As we do not know the relation between the thermal energy and the first resonance energy, we must estimate the connecting energy statistically so that the connection should be made at the energy point where the

probability that the first resonance level appears below this energy is one half. Assuming the random relation between the thermal and the first resonance energy, we took $D_{obs}/2$ approximately as the connecting energy.

3.2 Resonance Parameters

3.2.1 Unresolved Resonance Parameters

No resolved resonance parameters have so far been measured. The unresolved resonance parameters are given in the energy range between 4.15 eV and 30 keV.

The neutron strength functions and the effective scattering radius were calculated from the optical model, which will be described later. The average level spacing (D_{obs}) of 8.3 eV was deduced from the level density parameters given in Table 6. The radiation width of 40 meV was estimated from the systematic trends of Cm isotopes.

The fission widths were estimated from the channel theory of fission[26,27]. The energies of the transition states were expected to be analogous to those of ^{239}Pu which has the same spin-parity ($1/2^+$). Considering the lower fission cross section and the lower neutron separation energy than those of ^{239}Pu, we assumed the higher fission barrier for ^{249}Cm than for ^{239}Pu. Finally we assumed the following:

1) The 0^+ state has one fully open channel (ground state).
2) The 1^+ state has only one partially open channel (mass asymmetry vibration + bending).
3) The 2^+ state has one open channel (ground state) and one partially open channel (gamma vibration)
4) The 3^+ state has one partially open channel (gamma vibration).
5) The 0^- state has no open channel.

6) The 1^- state has one open channel (mass asymmetry vibration) and one partially open channel(bending).

7) The 2^- state has one partially open channel (bending).

The contributions of the partially open channel were searched for so as to reproduce the evaluated fission cross section at 30 keV.

The unresolved resonance parameters thus evaluated are shown in Table 9 with the calculated cross sections. At the lowest energy of 4.15 eV, the capture to fission ratio is 1.96, and this ratio was used to estimate the thermal fission cross section.

3.2.2 Resonance Integrals

The resonance integrals calculated from the present evaluated data are

Capture : 215 barns

Fission : 139 barns.

3.3 Cross Sections above Resonance Region

3.3.1 Fission Cross Section

As no measured data exist for ^{249}Cm, the fission cross section was predicted from the semi-empirical formula by Behrens and Howerton[28]. According to them, the fission cross section ratio $\sigma_R(Z,A)$ of target nucleus (A,Z,N) to ^{235}U in the 3- to 5-MeV energy range is expressed as

$$\sigma_R(Z,A) = \{A - B(N)\}/m(N),$$

where

$$B(N) = \sum_{i=0}^{3} \beta_i N^i$$

and

$$m(N) = \sum_{i=0}^{3} \alpha_i N^i.$$

By fitting to the data of 43 isotopes, they give

$$\alpha_0 = -1.21315882 \times 10^4,$$
$$\alpha_1 = 2.51795703 \times 10^2,$$
$$\alpha_2 = -1.74231696 \times 10^0,$$
$$\alpha_3 = 4.02000000 \times 10^{-3},$$
$$\beta_0 = 1.96175369 \times 10^4,$$
$$\beta_1 = -4.06932552 \times 10^2,$$
$$\beta_2 = 2.83841428 \times 10^0,$$
and $$\beta_3 = -6.57812500 \times 10^{-3}.$$

By using this formula, we obtained

$$\sigma_f(^{249}\mathrm{Cm}) = 0.95 \times \sigma_f(^{247}\mathrm{Cm}).$$

We applied this relation to the energy range from 30 keV to 5 MeV. Above 5 MeV the cross section was modified by taking account of the differences of the threshold energies for (n,n'f), (n,2nf) and (n,3nf) processes.

3.3.2 Other Cross Sections

The evaluation of all the other cross sections was made with the optical, statistical and evaporation models.

The same optical potential parameters and the same calculation procedure were used as in the case of ^{246}Cm. The γ-ray strength function of 4.8×10^{-3} was determined from the average radiation width and the mean level spacing in the unresolved resonance region. The level scheme and the Q-values of (n,2n), (n,3n) and (n,4n) reactions are shown in Tables 10 and 11, respectively.

3.4 Other Quantities

3.4.1 Average Number of Neutrons Emitted per Fission

The $\bar{\nu}$-value and its energy dependence were estimated from the semi-empirical formula by Howerton[20]. Applying A_t=249, B_n=5.8337, we have

$$\bar{\nu} = 3.32 + 0.214\ E_n.$$

The average number of delayed neutrons was estimated with the same method as used for ^{248}Cm. The result is

$$\bar{\nu}_d = 0.0288 \quad \text{for } E_n \leqq 6 \text{ MeV},$$
$$= 0.0196 \quad \text{for } E_n \geqq 8 \text{ MeV}.$$

As to the decay constants and the fraction of delayed neutrons, the values for ^{238}U were adopted, taking account of analogous $(A_c-3Z)(A_c/Z)$ values.

3.4.2 Angular and Energy Distributions of Emitted Neutrons

The same procedure as used for ^{248}Cm was adopted.

3.4.3 Fission Spectrum

The same procedure as used for ^{248}Cm was adopted. The obtained temperature is 1.37 MeV.

3.5 Discussion

The presently evaluated cross sections are shown in Fig. 6.

As no measured data exist except for the thermal capture cross section, the present evaluation was made by considering the systematic trends among neighboring nuclides. The systematic trends are considerably clear for Cm isotopes. Hence we believe that the present evaluated data are reliable enough to analyze the down-stream problems considering its short half-life.

4. Concluding Remarks

Evaluation of neutron nuclear data was performed on ^{248}Cm and ^{249}Cm. The evaluated data were stored in the ENDF/B-V format and will be contained in JENDL-3.

As to ^{248}Cm, the thermal and resonance cross sections were evaluated on the basis of measured data. In the higher energy region, however, the evaluation was made on the basis of the theoretical calculation except for the fission cross section, because no experimental data are available for the other cross sections. Hence further experimental works are much required particularly on the capture cross section above keV region and the total cross section in MeV region. The measured capture cross section at one energy point of some tens of keV must improve the situation very much.

As to ^{249}Cm, the present evaluation might be sufficient, considering its short half-life.

Acknowledgment

The authors wish to thank S. Igarasi and K. Shibata for their helpful discussion. They also thank K. Teruyama for her assistance in computation. Careful typewriting by T. Maejima is much appreciated. This work was made under contracts between Power Reactor and Nuclear Fuel Development Corporation and Japan Atomic Energy Research Institute.

References

1) Chetham-Strode A., Druschel R.E., Halperin J. and Silva R.J.: "Chemistry Division Annual Progress Report for Period Ending May 20, 1965", p.1, ORNL-3852 (1965)

2) Thompson M.C., Hyder M.L. and Reuland R.J.: J. Inorg. Nucl. Chem., 33, 1553 (1971)

3) Benjamin R.W., MacMurdo K.W. and Spencer J.D.: Nucl. Sci. Eng., 47, 203 (1972)

4) Drushel R.E., Baybarz R.D. and Halperin J.: "Chemistry Division Annual Progress Report for Period Enging May 20, 1973", p.23, ORNL-4891 (1973)

5) Benjamin R.W., Ahlfeld C.E., Harvey J.A. and Hill N.W.: Nucl. Sci. Eng., 55, 440 (1974)

6) Zhuravlev K.D., Kroshkin N.I. and Chetverikov A.P.: Sov. At. Energy, 39, 907 (1975)

7) Gavrilov V.D. and Goncharov V.A.: Sov. At. Energy, 44, 274 (1978)

8) Nakagawa T.: "Proc. 1978 Seminar on Nuclear Data, Dec. 20-21, 1978, Tokai", p.51, JAERI-M 8163 (1979) [in Japanese]

9) Belanova T.S., Zamyatnin Yu.S., Kolesov A.G., Kocherygin N.G., Nikol'skii S.N., Safonov V.A., Kalebin S.M., Artamonov V.S. and Ivanov R.N.: Sov. At. Energy, 39, 1020 (1975)

10) Moore M.S. and Keyworth G.A.: Phys. Rev., C3, 1656 (1971)

11) Stopa C.R.S., Maguire H.T., Jr., Harris D.R., Block R.C., Slovacek R.E., Dabbs J.W.T., Dougan R.J., Hoff R.W. and Lougheed R.W.: Paper Presented at ANS Topical Meeting on Advances in Reactor Physics and Core Thermal Hydraulics, Sept. 22-24, 1982, Kiamesha Lake, New York.

12) Fomushkin E.F., Vinogradov Yu.I., Gavrilov V.V., Novoselov G.F., Surin V.M. and Zherebtsov V.A.: Proc. 5th All Union Conf. Neutron Physics, Kiev, 15-19 Sept. 1980, Vol.3, p.25 (1980)

13) Igarasi S. and Nakagawa T.: "Evaluation of Neutron Nuclear Data for ^{242}Cm", JAERI-M 8342 (1979) [in Japanese]

14) Phillips T.W. and Howe R.E.: Nucl. Sci. Eng., 69, 375 (1979)

15) Gilbert A. and Cameron A.G.W.: Can. J. Phys., 43, 1446 (1965)

16) Pearlstein S.: Nucl. Sci. Eng., 23, 238 (1965)

17) Igarasi S.: J. Nucl. Sci. Technol., 12, 67 (1975)

18) Lederer C.M. and Shirley V.S.: "Table of Isotopes", 7th Edition (1978)

19) Wapstra A.H. and Bos K.: Atomic Data and Nuclear Data Tables, 19, No.3 (1977)

20) Howerton R.J.: Nucl. Sci. Eng., 62, 438 (1977)

21) Tuttle R.J.: Proc. Consultant's Meeting on Delayed Neutron Properties, Vienna, 26-30 March 1979, p.29, INDC(NDS)-107/G+Special (1979)

22) Tuttle R.J.: Nucl. Sci. Eng., 56, 37 (1975)

23) Smith A., Guenther P., Winkler G. and Mcknight R.: "Prompt-Fission-Neutron Spectra of ^{233}U, ^{235}U, ^{239}Pu and ^{240}Pu Relative to That of ^{252}Cf", ANL/NDM-50 (1979).

24) Grundl J.A. and Eisenhauer C.M.: "Nuclear Cross Sections and Technology". Proc. Conf. Washington D.C., March 3-7, 1975, p.250, NBS Special Publication 425 (1975).

25) Diamond H., Stevens C.M., Metta D.N., Lerner J.L. and Kelly F.R.: "Curium-250 Production in a High Flux Reactor", ANL-7330 (1967)

26) Bohr A.: Proc. 1st Geneva Conf., 1955, Vol.2, p.151 (1956), U.N., New York

27) Kikuchi Y. and An S.: J. Nucl. Sci. Technol., 7, 157 (1970)

28) Behrens J.W. and Howerton R.J.: Nucl. Sci. Eng., 65, 464 (1978)

Table 1 Thermal cross sections of ^{248}Cm

(barns)

	Capture	Fission
Experiments		
65 Chetham-Strode[1]	5.5	
71 Thompson[2]	3 ± 1	
72 Benjamin[3]		0.34 ± 0.07
73 Druschel[4]	2.63	
74 Benjamin[5]	2.51 ± 0.26	
75 Zhuravlev[6]		0.39 ± 0.07
78 Gavrilov[7]	10.7 ± 1.5	
Average	4.86	0.37 ± 0.03
Presently adopted	2.57	0.37

Table 2 Resonance Parameters of ^{248}Cm

ENERGY (EV)	TOTAL WIDTH (MILLI-EV)	NEUTRON WIDTH (MILLI-EV)	R. N-WIDTH(0) (MILLI-EV)	GAMMA WIDTH (MILLI-EV)	MISCELLANEOUS *	REFERENCE **
7.247 ± 0.005			0.65 ± 0.02	23.3 ± 1.0		72BENJAMIN
7.26 ± 0.02	36 ± 3	1.90 ± 0.04				75BELANOVA
7.25					GFS = 2.2 ± 0.3	82STOPA
7.247	26.4865	1.8865	0.70077	23.3	GF = 1.3	PRESENT
26.84		25 ± 3		(37)	GF = 0.08 ± 0.01	71MOORE
26.90 ± 0.02			3.71 ± 0.17	32.0 ± 3.0		72BENJAMIN
26.88 ± 0.08	37 ± 3	21.7 ± 0.7				75BELANOVA
26.90	51.28	19.2	3.71	32.0	GF = 0.08	PRESENT
35.01 ± 0.03			1.95 ± 0.08	30.2 ± 2.7		72BENJAMIN
35.00 ± 0.14	38 ± 5	9.5 ± 2				75BELANOVA
35.01	43.0	11.5	1.95	30.2	GF = 1.3	PRESENT
76.08		LARGE		(37)	GF = 3.3 ± 0.4	71MOORE
76.10 ± 0.05			10.9 ± 0.5	(26)		72BENJAMIN
75.6 ± 0.3		102.5 ±13.6				75BELANOVA
76.10	124.4	95.1	10.9	26	GF = 3.3	PRESENT
84.8 ± 0.3						75BELANOVA
98.79		LARGE		(37)	GF = 0.47 ± 0.04	71MOORE
98.95 ± 0.07			14.8 ± 0.6	(26)		72BENJAMIN
98.6 ± 0.3		169 ±18				75BELANOVA
98.95	173.47	147.0	14.8	26	GF = 0.47	PRESENT
140.0					GFS = 3.76 ± 0.25	71MOORE
140.3 ± 0.1			0.127 ± 0.018	(26)		72BENJAMIN
140.3	28.8	1.50	0.127	26	GF = 1.3	PRESENT
186.0					GFS = 4.52 ± 0.32	71MOORE
186.4 ± 0.1			0.306 ± 0.036	(26)		72BENJAMIN
186.4	31.48	4.18	0.306	26	GF = 1.3	PRESENT
232.5					GFS = 1.46 ± 0.70	71MOORE
237.0					GFS = 5.60 ± 0.70	71MOORE
237.9 ± 0.2			1.05 ± 0.10	(26)		72BENJAMIN
237.9	43.5	16.2	1.05	26	GF = 1.3	PRESENT
258.7 ± 0.2			3.84 ± 0.32	(26)		72BENJAMIN
258.7	89.1	61.8	3.84	26	GF = 1.3	PRESENT
321.8 ± 0.2			1.45 ± 0.15	(26)		72BENJAMIN
321.8	53.3	26.0	1.45	26	GF = 1.3	PRESENT
380.6 ± 0.3			4.7 ± 0.5	(26)		72BENJAMIN
380.6	119.3	92.0	4.7	26	GF = 1.3	PRESENT
415.2					GFS = 1.78 ± 0.51	71MOORE
415.7 ± 0.3			2.41 ± 0.23	(26)		72BENJAMIN
415.7	76.4	49.1	2.41	26	GF = 1.3	PRESENT
457.7 ± 0.3			3.48 ± 0.30	(26)		72BENJAMIN
457.7	101.8	74.5	3.48	26	GF = 1.3	PRESENT
484.9 ± 0.3			0.43 ± 0.12	(26)		72BENJAMIN
484.9	36.8	9.5	0.43	26	GF = 1.3	PRESENT
541.8 ± 0.4			16.3 ± 0.9	(26)		72BENJAMIN
541.8	406.3	379.0	16.3	26	GF = 1.3	PRESENT
605.3 ± 0.4			3.0 ± 0.4	(26)		72BENJAMIN
605.3	101.3	74.0	3.0	26	GF = 1.3	PRESENT
647.0 ± 0.5			4.2 ± 0.5	(26)		72BENJAMIN
647.0	134.3	107.0	4.2	26	GF = 1.3	PRESENT
688.6 ± 0.5			1.4 ± 0.3	(26)		72BENJAMIN
688.6	64.3	37.0	1.4	26	GF = 1.3	PRESENT
694.3 ± 0.5			7.8 ± 0.8	(26)		72BENJAMIN
694.3	227.3	200.0	7.8	26	GF = 1.3	PRESENT
721.5 ± 0.5			3.3 ± 0.5	(26)		72BENJAMIN
721.5	116.3	89.0	3.3	26	GF = 1.3	PRESENT
769.4 ± 0.5			2.2 ± 0.4	(26)		72BENJAMIN
769.4	88.3	61.0	2.2	26	GF = 1.3	PRESENT
865.9 ± 0.6			16.4 ± 1.4	(26)		72BENJAMIN
865.9	510.3	483.0	16.4	26	GF = 1.3	PRESENT
887.1 ± 0.7			3.3 ± 0.7	(26)		72BENJAMIN
887.1	125.3	98.0	3.3	26	GF = 1.3	PRESENT
958.6 ± 0.7			3.4 ± 0.7	(26)		72BENJAMIN
958.6	132.3	105.0	3.4	26	GF = 1.3	PRESENT
994.2 ± 0.7			3.8 ± 0.7	(26)		72BENJAMIN
994.2	147.3	120.0	3.8	26	GF = 1.3	PRESENT
1042.0 ± 0.7			5.8 ± 1.0	(26)		72BENJAMIN
1042.0	214.3	187.0	5.8	26	GF = 1.3	PRESENT
1103.3 ± 0.8			6.5 ± 1.0	(26)		72BENJAMIN
1103.3	243.3	216.0	6.5	26	GF = 1.3	PRESENT
1191.6 ± 0.9			9.4 ± 1.3	(26)		72BENJAMIN

ENERGY (EV)	TOTAL WIDTH (MILLI-EV)	NEUTRON WIDTH (MILLI-EV)	R. N-WIDTH(0) (MILLI-EV)	GAMMA WIDTH (MILLI-EV)	MISCELLANEOUS	REFERENCE
1193.6	352.3	325.0	9.4	26	GF = 1.3	PRESENT
1209.7 ± 0.9			1.0 ± 0.7	(26)		72BENJAMIN
1209.7	62.3	35.0	1.0	26	GF = 1.3	PRESENT
1262.0 ± 0.9			7.5 ± 1.3	(26)		72BENJAMIN
1262.0	293.3	266.0	7.5	26	GF = 1.3	PRESENT
1278.6 ± 0.9			4.9 ± 1.1	(26)		72BENJAMIN
1278.6	202.3	175.0	4.9	26	GF = 1.3	PRESENT
1288.1 ± 0.9			1.5 ± 0.8	(26)		72BENJAMIN
1288.1	81.3	54.0	1.5	26	GF = 1.3	PRESENT
1389 ± 1			10.7 ± 1.5	(26)		72BENJAMIN
1389	426.3	399.0	10.7	26	GF = 1.3	PRESENT
1505 ± 1			17.3 ± 2.0	(26)		72BENJAMIN
1505	698.3	671.0	17.3	26	GF = 1.3	PRESENT
1646 ± 1			3.2 ± 1.1	(26)		72BENJAMIN
1646	157.3	130.0	3.2	26	GF = 1.3	PRESENT
1812 ± 1			12.6 ± 2.0	(26)		72BENJAMIN
1812	563.3	536.0	12.6	26	GF = 1.3	PRESENT
1910 ± 1			2.7 ± 1.4	(26)		72BENJAMIN
1910	145.3	118.0	2.7	26	GF = 1.3	PRESENT
2040 ± 2			4.3 ± 1.7	(26)		72BENJAMIN
2040	221.3	194.0	4.3	26	GF = 1.3	PRESENT
2071 ± 2			16.9 ± 2.5	(26)		72BENJAMIN
2071	796.3	769.0	16.9	26	GF = 1.3	PRESENT
2138 ± 2			10.0 ± 2.2	(26)		72BENJAMIN
2138	489.3	462.0	10.0	26	GF = 1.3	PRESENT
2156 ± 2			3.3 ± 1.6	(26)		72BENJAMIN
2156	180.3	153.0	3.3	26	GF = 1.3	PRESENT
2215 ± 2			13.7 ± 2.3	(26)		72BENJAMIN
2215	672.3	645.0	13.7	26	GF = 1.3	PRESENT
2234 ± 2			1.8 ± 1.5	(26)		72BENJAMIN
2234	112.3	85.0	1.8	26	GF = 1.3	PRESENT
2291 ± 2			6.8 ± 2.2	(26)		72BENJAMIN
2291	352.3	325.0	6.8	26	GF = 1.3	PRESENT
2369 ± 2			10.0 ± 2.6	(26)		72BENJAMIN
2369	514.3	487.0	10.0	26	GF = 1.3	PRESENT
2391 ± 2			6.5 ± 2.4	(26)		72BENJAMIN
2391	345.3	318.0	6.5	26	GF = 1.3	PRESENT
2984 ± 2			28.0 ± 4.4	(26)		72BENJAMIN
2984	1557.3	1530.0	28.0	26	GF = 1.3	PRESENT

* GF: Γ_f GFS: $\pi\sigma_0\Gamma_f/2$

** 72BENJAMIN : Ref. 5
75BELANOVA : Ref. 9
71MOORE : Ref.10
82STOPA : Ref.11

Table 3 Energy dependence of the unresolved resonance parameters and the calculated cross sections for ^{248}Cm

The energy dependent fission widths and D_{obs} are given with the calculated total, capture and fission cross sections. The energy independent parameters are listed below:

$S_0 = 1.2 \times 10^{-4}$ $S_1 = 3.32 \times 10^{-4}$ $S_2 = 0.844 \times 10^{-4}$

$R = 8.88$ fm $\Gamma_\gamma = 26$ meV

E_n (keV)	Γ_f (meV)	D_{obs} (eV)	σ_t (barns)	σ_c (barns)	σ_f (barns)
1.5	1.15	39.9	23.1	1.59	0.069
2	1.25	39.8	21.4	1.37	0.063
3	1.41	39.7	19.5	1.13	0.059
4	1.48	39.7	18.3	0.995	0.054
5	1.64	39.6	17.6	0.903	0.054
6	1.86	39.5	17.0	0.832	0.056
8	2.12	39.3	16.3	0.729	0.056
10	2.28	39.2	15.7	0.654	0.054
15	2.72	38.7	15.0	0.528	0.052
20	2.96	38.3	14.6	0.449	0.049
30	3.35	37.5	14.1	0.353	0.043

Table 4 Resonance integrals of ^{248}Cm

(barns)

	Capture	Fission
Experiments		
65 Chetham-Strode[1]	350	
71 Thompson[2]	275 ± 75	
72 Benjamin[3]		13.2 ± 0.8
73 Druschel[4]	267	
74 Benjamin[5]	259 ± 12	
75 Zhuravlev[6]		13.1 ± 1.5
78 Gavrilov[7]	250 ± 24	
Average	280	13.2
Present*	257	17.5

* Calculated from the resonance parameters.

Table 5 Optical potential parameters

V	$= 43.4 - 0.107\ E_n$	(MeV)
W_s	$= 6.95 - 0.339\ E_n + 0.0531\ E_n^2$	(MeV)
V_{so}	$= 7.0$	(MeV)
r_o	$= r_{so} = 1.282$	(fm)
r_s	$= 1.29$	(fm)
a	$= a_{so} = 0.60$	(fm)
b	$= 0.5$	(fm)

Derivative Wood-Saxon form for the surface imaginary term and no volume term.

Table 6 Level density parameters of Cm-isotopes

Isotope		245	246	247	248	249	250
a	(MeV^{-1})	26.03	25.98	26.20	26.46	27.85	28.79
$\sigma_M^2/\sqrt{U}$	($MeV^{-\frac{1}{2}}$)	17.74	17.77	17.89	18.03	18.55	18.91
Δ	(MeV)	0.72	1.11	0.72	1.623	0.72	1.585
E_x	(MeV)	3.83	4.22	3.83	4.73	3.82	4.69
T_n	(MeV)	0.415	0.415	0.413	0.411	0.398	0.390

Table 7 Level Scheme of ^{248}Cm

No	Energy (keV)	I^{π}	No	Energy (keV)	I^{π}
GS	0	0^+	5	1048	2^+
1	43.40	2^+	6	1050	1^-
2	143.6	4^+	7	1084	0^+
3	297	6^+	8	1094	3^-
4	510	8^+			

Levels above 1126 keV are assumed to be overlapping.

Table 8 Q-values and threshold energies of (n,xn) reaction cross sections for ^{248}Cm

Reaction	Q-value (MeV)	Threshold energy (MeV)
n,2n	- 6.2127	6.2380
n,3n	-11.3704	11.4166
n,4n	-17.8274	17.8999

Table 9 Unresolved resonance parameters and calculated cross sections for ^{249}Cm

$S_0 = 1.08 \times 10^{-4}$ $S_1 = 3.95 \times 10^{-4}$ $S_2 = 1.04 \times 10^{-4}$

$R = 8.80$ fm $\Gamma_\gamma = 40$ meV $D_{obs} = 8.3$ eV

$\Gamma_f^{(0+)} = 4070$ meV $\Gamma_f^{(1+)} = 7.7$ meV

$\Gamma_f^{(2+)} = 1022$ meV $\Gamma_f^{(3+)} = 146$ meV

$\Gamma_f^{(0-)} = 0$ meV $\Gamma_f^{(1-)} = 2000$ meV

$\Gamma_f^{(2-)} = 4070$ meV

E_n (eV)	σ_t (barns)	σ_c (barns)	σ_f (barns)
4.15	227.2	128.5	65.9
10	149.9	77.7	41.5
100	54.2	18.6	11.9
1000	24.2	3.76	3.50
10000	15.4	0.837	1.91
30000	14.1	0.436	1.95

Table 10 Level scheme of ^{249}Cm

No	Energy (keV)	I^{π}	No	Energy (keV)	I^{π}
GS	0	$1/2^+$	4	110	$9/2^+$
1	26.2	$3/2^+$	5	110.1	$7/2^+$
2	42.4	$5/2^+$	6	146	$9/2^+$
3	52.2	$7/2^+$	7	208	$3/2^+$

Levels above 220 keV are assumed to be overlapping.

Table 11 Q-values and threshold energies of (n,xn) reaction cross sections for ^{249}Cm

Reaction	Q-value (MeV)	Threshold energy (MeV)
n,2n	- 4.7127	4.7318
n,3n	-10.9254	10.9696
n,4n	-16.0831	16.1482

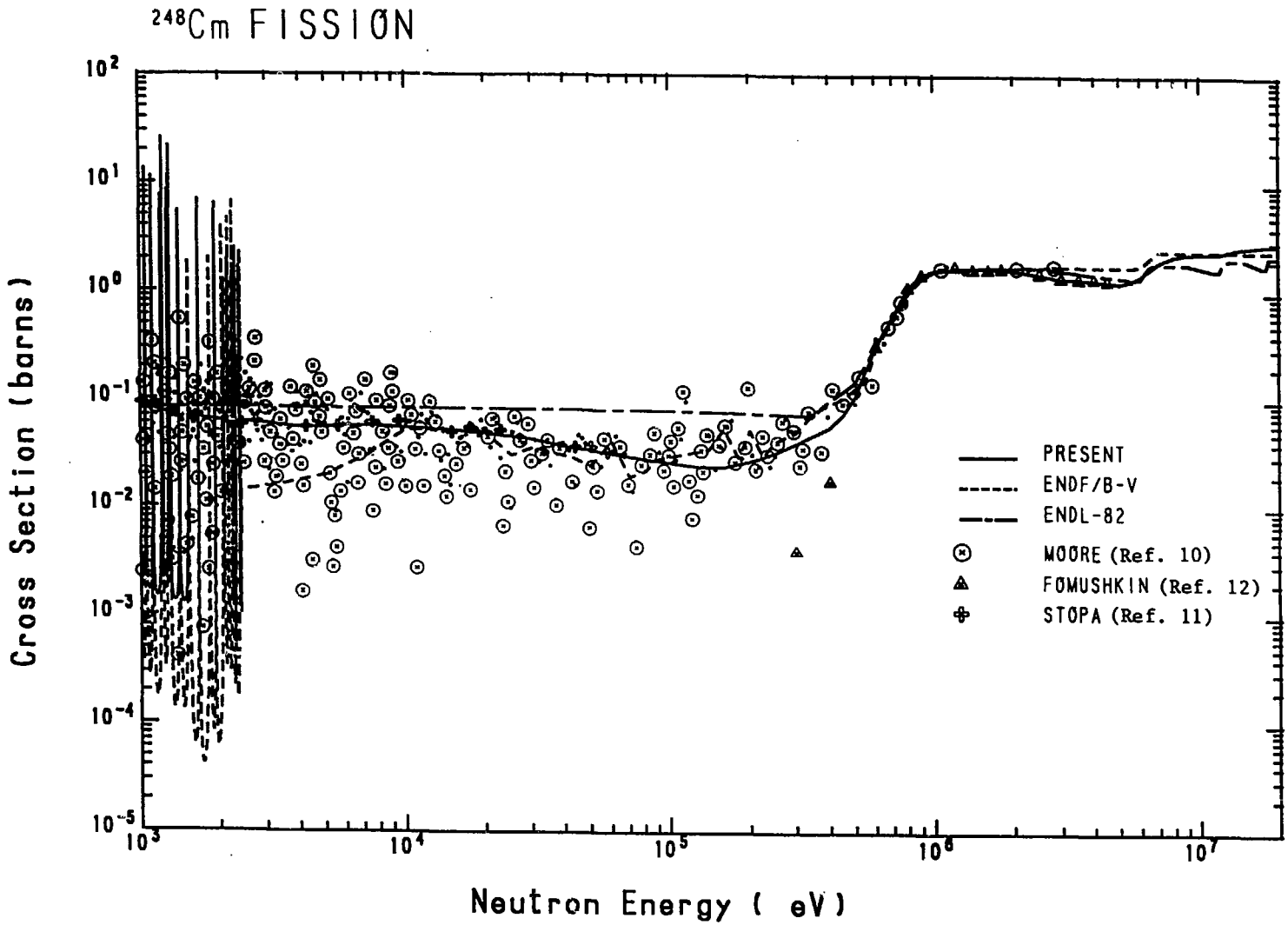

Fig. 1 Fission cross sections of ^{248}Cm

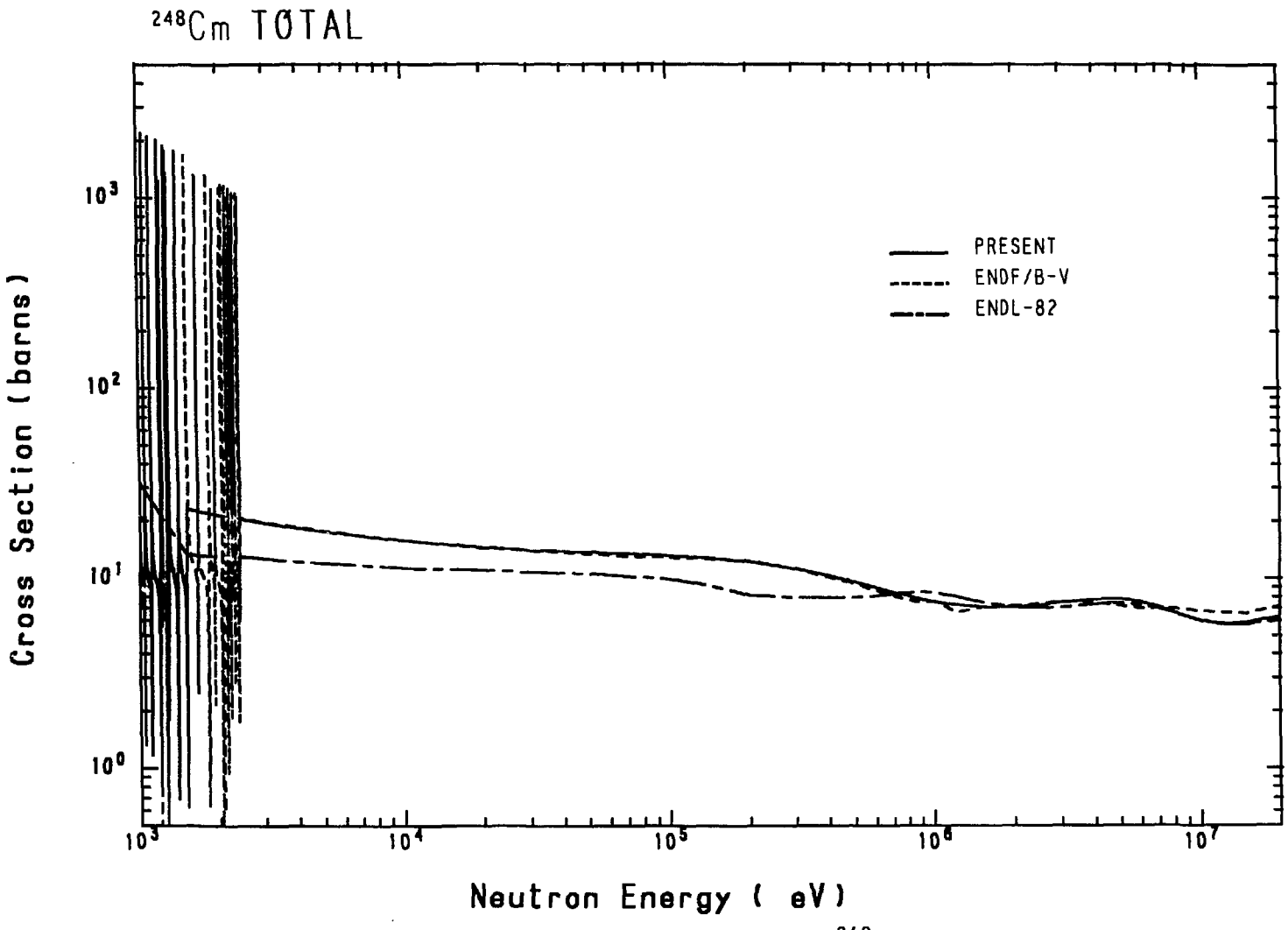

Fig. 2 Total cross sections of ^{248}Cm

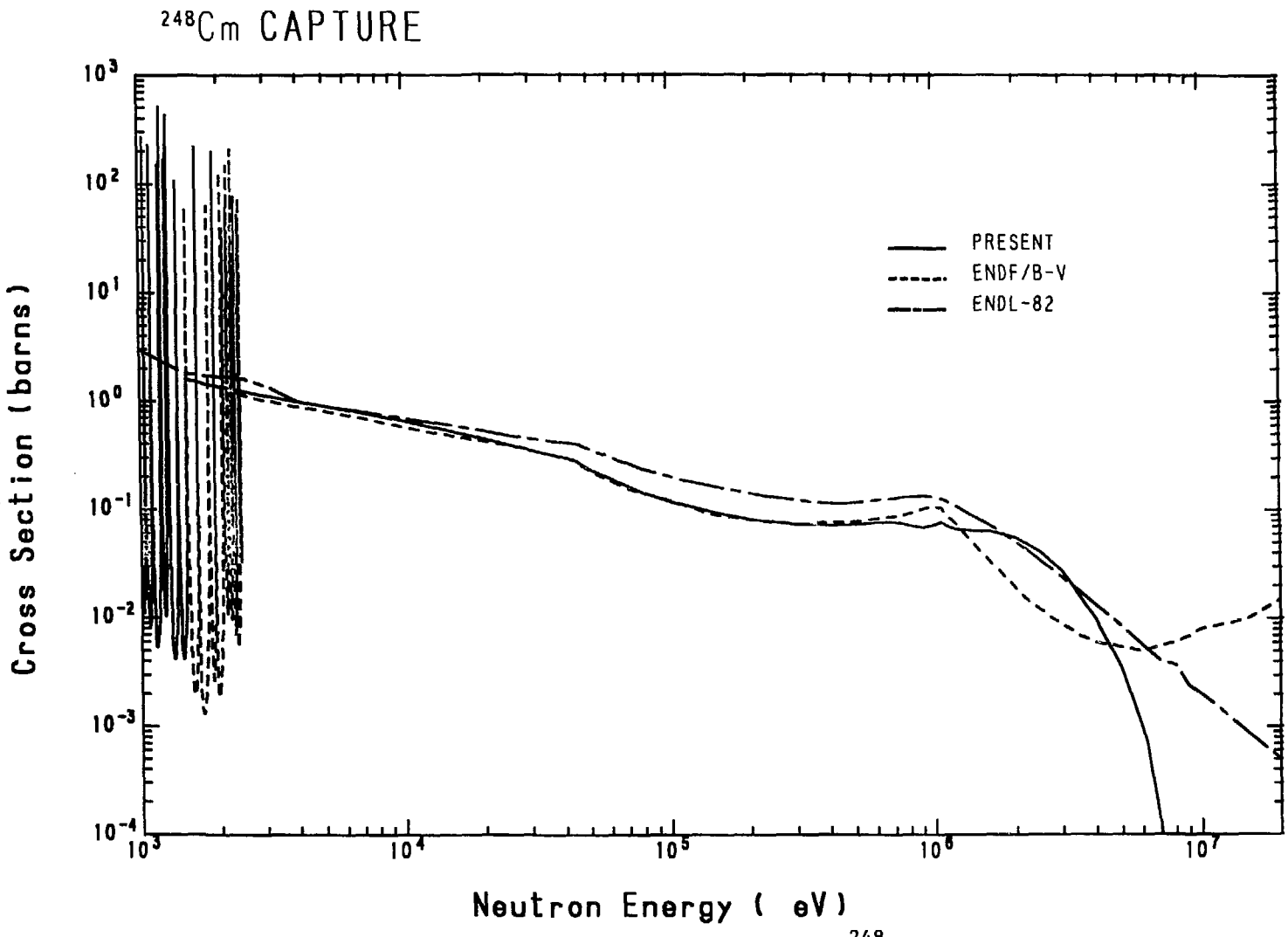

Fig. 3 Capture cross sections of ^{248}Cm

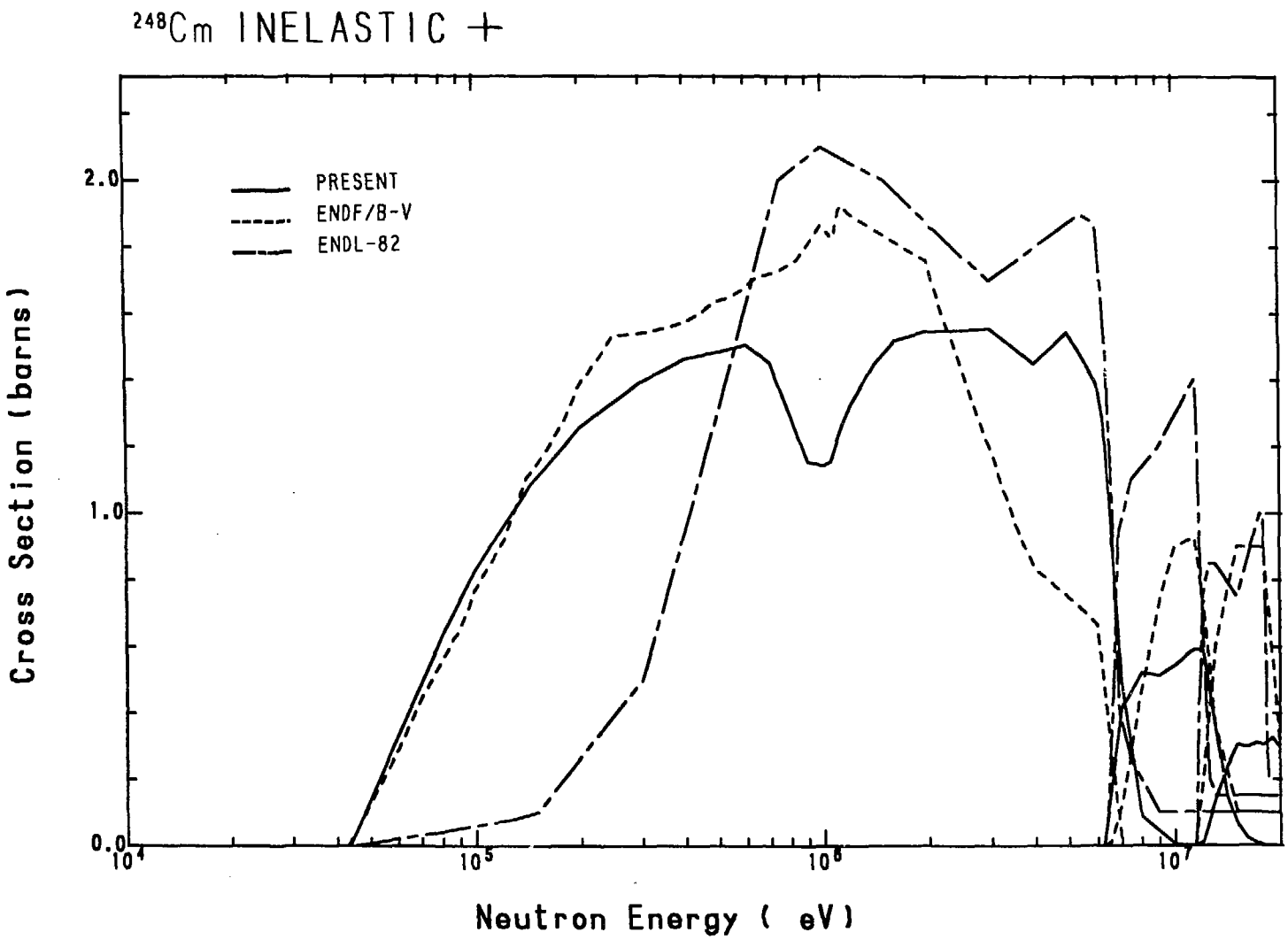

Fig. 4 Inelastic scattering, (n,2n) and (n,3n) reaction cross sections of ^{248}Cm

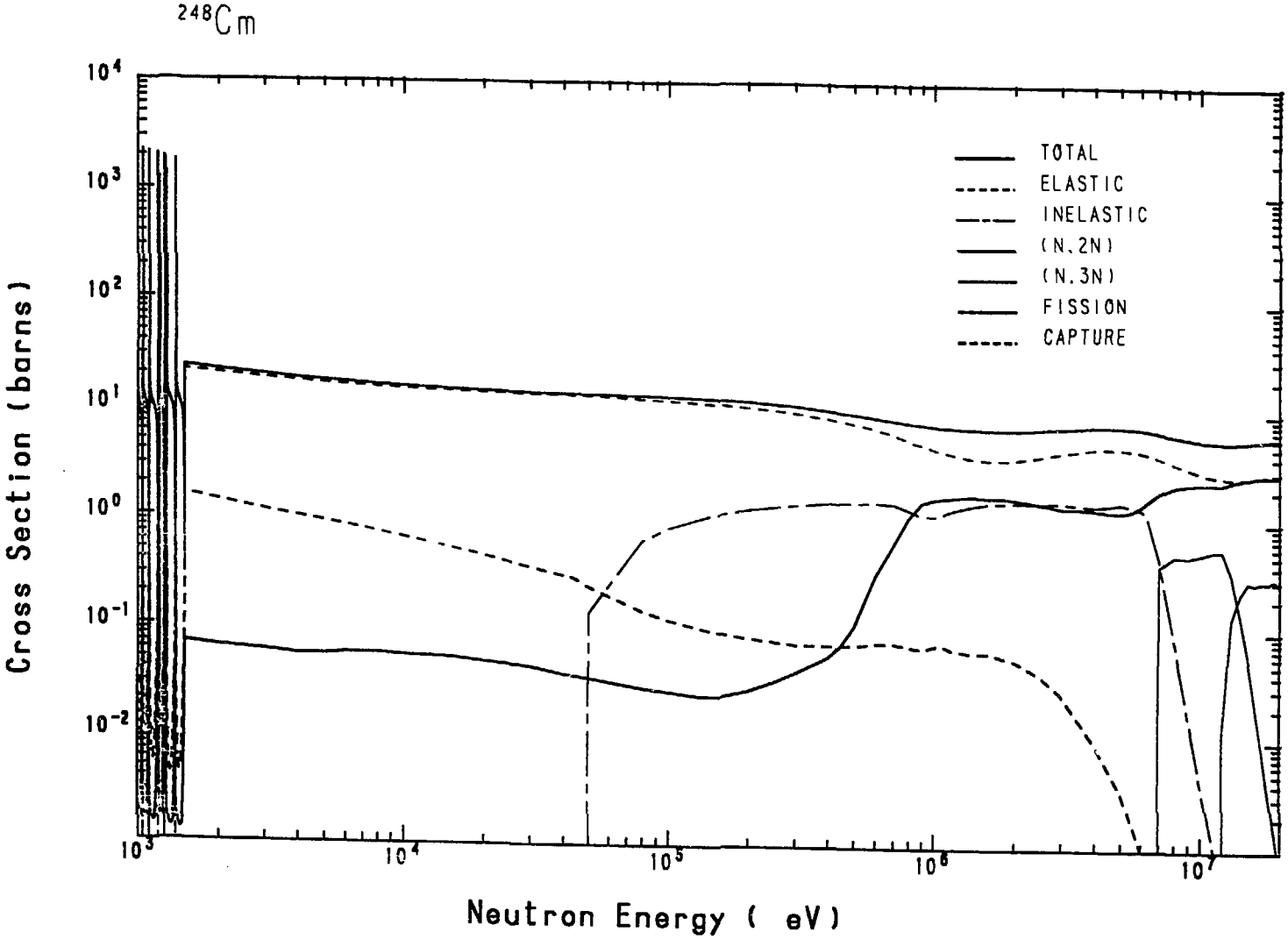

Fig. 5 Evaluated cross sections of ^{248}Cm

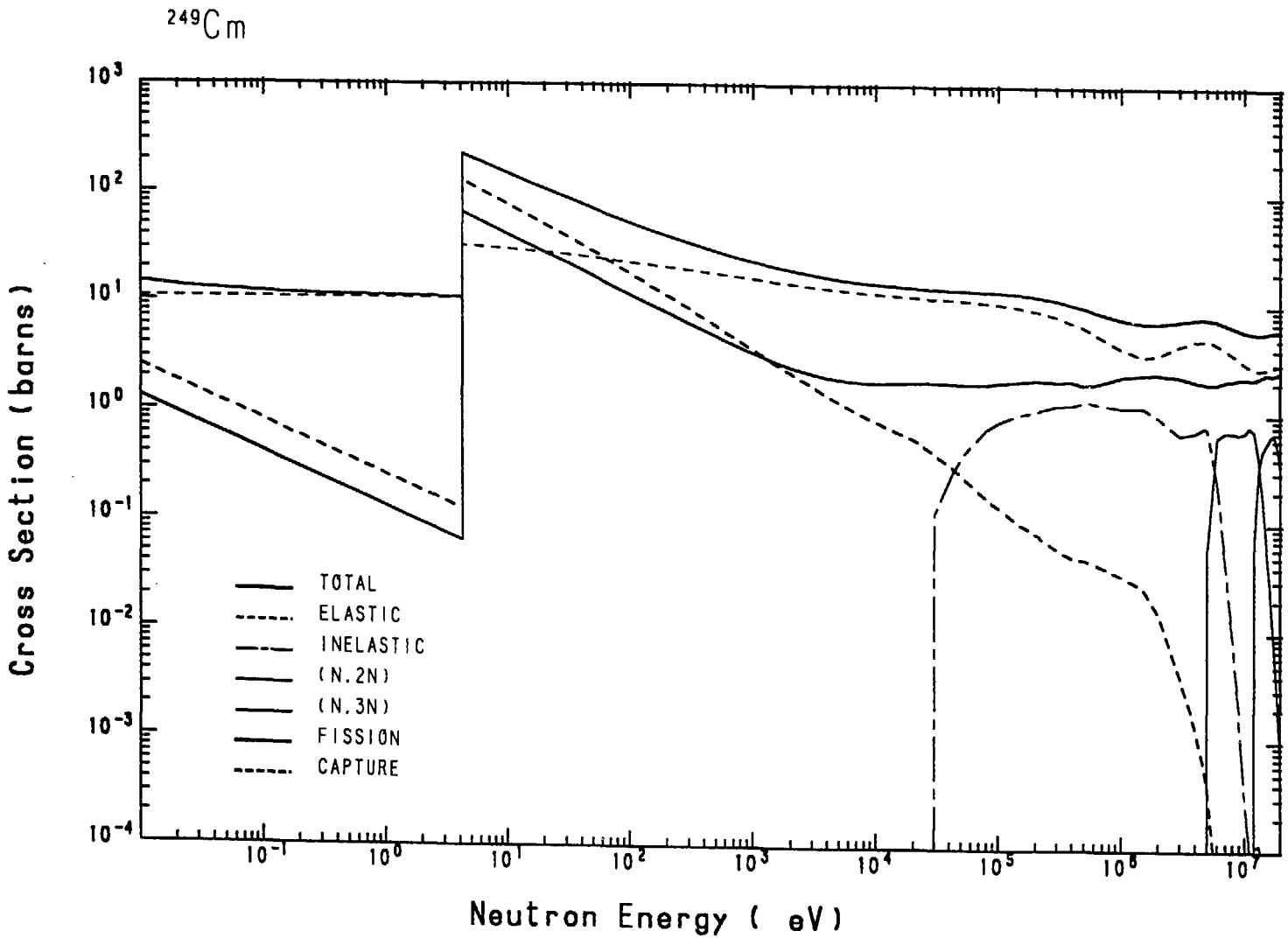

Fig. 6 Evaluated cross sections of ^{249}Cm

Appendix

List of present results in the ENDF/B format

```
 CM-248                                                                  0          0
 9.62480+ 4 2.45941+ 2          1          1          0          09648 1451     1
 0.0    + 0 0.0    + 0          0          0          0          09648 1451     2
 0.0    + 0 0.0    + 0          0          0        105         419648 1451     3
 96-CM-248 JAERI       EVAL-MAR84 Y.KIKUCHI AND T.NAKAGAWA        9648 1451     4
 JAERI-M84-116         DIST-                                      9648 1451     5
HISTORY                                                           9648 1451     6
84-03 NEW EVALUATION FOR JENDL-3 WAS MADE BY Y.KIKUCHI AND        9648 1451     7
      T.NAKAGAWA (JAERI).  DETAILS ARE GIVEN IN REF. /1/.         9648 1451     8
                                                                  9648 1451     9
MF=1  GENERAL INFORMATION                                         9648 1451    10
  MT=451   COMMENTS AND DICTIONARY                                9648 1451    11
  MT=452   NUMBER OF NEUTRONS PER FISSION                         9648 1451    12
             SEMI-EMPIRICAL FORMULA BY HOWERTON /2/.              9648 1451    13
  MT=455   DELAYED NEUTRON DATA                                   9648 1451    14
             SEMI-EMPIRICAL FORMULA BY TUTTLE /3/.                9648 1451    15
                                                                  9648 1451    16
MF=2,MT=151  RESONANCE PARAMETERS                                 9648 1451    17
  RESOLVED RESONANCES FOR MLBW FORMULA : 1.0E-5 EV TO 1.5 KEV     9648 1451    18
    RESONANCE ENERGIES, NEUTRON AND REDIATIVE WIDTHS WERE TAKEN   9648 1451    19
    FROM THE EXPERIMENTAL DATA OF BENJAMIN+ /4/.  FOR RESONANCES  9648 1451    20
    WHOSE RADIATIVE WIDTH WAS UNKNOWN, THE AVERAGE VALUE OF 0.026 9648 1451    21
    EV /4/ WAS ADOPTED.  FISSION WIDTHS AND THE AVERAGE FISSION   9648 1451    22
    WIDTH OF 0.0013 EV WERE ADOPTED FROM MOORE AND KEYWORTH /5/.  9648 1451    23
    THE AVARAGE FISSION WIDTH WAS USED FOR ALL RESONANCES OF WHICH9648 1451    24
    FISSION WIDTH WAS NOT MEASURED.  R=9.1 FM WAS ASSUMED TO RE-  9648 1451    25
    PRODUCE THE POTENTAL SCATTERING CROSS SECTION OF 10.4 BARNS   9648 1451    26
    ASSUMED BY BENJAMIN+ /4/.  THE NEUTRON WIDTH OF THE FIRST     9648 1451    27
    RESONANCE WAS SLIGHTLY ADJUSTED TO REPRODUCE THE CAPTURE CROSS9648 1451    28
    SECTION OF 2.57 BARNS AT 0.0253 EV.  BACKGROUND CROSS SECTIONS9648 1451    29
    WERE GIVEN ONLY FOR THE FISSION AND TOTAL CROSS SECTIONS BY   9648 1451    30
    ASSUMING THE FORM OF 1/V.  THE THERMAL CROSS SECTIONS TO BE   9648 1451    31
    REPRODUCED WERE ESTIMATED FROM AVAILABLE EXPERIMENTAL DATA.   9648 1451    32
                                                                  9648 1451    33
  UNRESOLVED RESONANCES : 1.5 KEV - 30 KEV                        9648 1451    34
    OBTAIED FROM OPTICAL MODEL CALCULATION:                       9648 1451    35
        S1=3.32E-4  ,S2=0.844E-4  ,R=8.88 FM.                     9648 1451    36
    ESTIMATED FROM RESOLVED RESONANCES:                           9648 1451    37
        DOBS=40.0 EV, GAM-G=26 MILLI-EV ,SO=1.2E-4                9648 1451    38
    GAM-F OBTAINED BY FITTING THE DATA OF STOPA+ /6/.             9648 1451    39
                                                                  9648 1451    40
  CALCULATED 2200 M/S CROSS SECTIONS AND RESONANCE INTEGRALS      9648 1451    41
                  2200 M/S VALUE          RES. INT.               9648 1451    42
      TOTAL          9.475  B                -                    9648 1451    43
      ELASTIC        6.514  B                -                    9648 1451    44
      FISSION        0.370  B               17.5  B               9648 1451    45
      CAPTURE        2.570  B              257.   B               9648 1451    46
                                                                  9648 1451    47
MF=3  NEUTRON CROSS SECTIONS                                      9648 1451    48
  MT=1,2,4,51-58,91,102,251   SIG-T,SIG-EL,SIG-IN,SIG-C,MU-BAR    9648 1451    49
       CALCULATED WITH OPTICAL AND STATISTICAL MODELS.            9648 1451    50
       OPTICAL POTENTIAL PARAMETERS WERE OBTAINED BY FITTING THE  9648 1451    51
       TOTAL CROSS SECTION OF PHILLIPS AND HOWE /7/ FOR AM-241:   9648 1451    52
          V = 43.4 - 0.107*EN                     (MEV)           9648 1451    53
          WS= 6.95 - 0.339*EN + 0.0531*EN**2      (MEV)           9648 1451    54
          WV= 0              , VSO = 7.0          (MEV)           9648 1451    55
          R = RSO = 1.282    , RS = 1.29          (FM)            9648 1451    56
          A = ASO = 0.60     , B  = 0.5           (FM)            9648 1451    57
       STATISTICAL MODEL CALCULATION WITH CASTHY CODE /8/.        9648 1451    58
          COMPETING PROCESSES : FISSION,(N,2N),(N,3N),(N,4N).     9648 1451    59
          LEVEL FLUCTUATION CONSIDERED.                           9648 1451    60
       THE LEVEL SCHEME TAKEN FROM REF. /9/.                      9648 1451    61
                NO.        ENERGY(KEV)   SPIN-PARITY              9648 1451    62
               G.S.            0            0 +                   9648 1451    63
                1             43.40         2 +                   9648 1451    64
                2            143.6          4 +                   9648 1451    65
                3            297            6 +                   9648 1451    66
                4            510            8 +                   9648 1451    67
                5           1048            2 +                   9648 1451    68
                6           1050            1 -                   9648 1451    69
                7           1084            0 +                   9648 1451    70
                8           1094            3 -                   9648 1451    71
```

```
                CONTINUUM LEVELS ASSUMED ABOVE 1126 KEV.          9648 1451   72
        THE LEVEL DENSITY PARAMETERS : GILBERT AND CAMERON /10/.  9648 1451   73
        GAMMA-RAY STRENGTH FUNCTION OF 6.5E-4 DEDUCED FROM        9648 1451   74
        RESONANCE PARAMETERS.                                     9648 1451   75
                                                                  9648 1451   76
  MT=16,17,37       (N,2N),(N,3N),(N,4N)                          9648 1451   77
        CALCULATED WITH EVAPORATION MODEL.                        9648 1451   78
                                                                  9648 1451   79
  MT=18             FISSION                                       9648 1451   80
        EVALUATED ON THE BASIS OF THE MEASURED DATA BY STOPA+ /6/.9648 1451   81
        AND FOMUSHKIN+ /11/.                                      9648 1451   82
                                                                  9648 1451   83
MF=4  ANGULAR DISTRIBUTIONS OF SECONDARY NEUTRONS                 9648 1451   84
  MT=2,51-58          CALCULATED WITH OPTICAL MODEL.              9648 1451   85
  MT=16,17,18,37,91   ISOTROPIC IN THE LABORATORY SYSTEM.         9648 1451   86
                                                                  9648 1451   87
MF=5  ENERGY DISTRIBUTIONS OF SECONDARY NEUTRONS                  9648 1451   88
  MT=16,17,37,91      EVAPORATION SPECTRUM.                       9648 1451   89
  MT=18               MAXWELLIAN FISSION SPECTRUM.                9648 1451   90
                      TEMPERATURE ESTIMATED FROM SYSTEMATICS OF   9648 1451   91
                      SMITH+/12/.                                 9648 1451   92
                                                                  9648 1451   93
REFERENCES                                                        9648 1451   94
 1) KIKUCHI Y. AND NAKAGAWA T.: JAERI-M84-116 (1984).             9648 1451   95
 2) HOWERTON R.J.: NUCL.SCI.ENG.,62,438(1977).                    9648 1451   96
 3) TUTTLE R.J.: INDG(NDS)-107/G+SPECIAL,P.29 (1979).             9648 1451   97
 4) BENJAMIN R.W. ET AL.: NUCL.SCI.ENG.,55,440(1974).             9648 1451   98
 5) MOORE M.S. AND KEYWORTH G.A.: PHYS.REV.,C3,1656(1971)         9648 1451   99
 6) STOPA C.R.S. ET AL.: ANS TOPICAL MEETING,KIAMESHA LAKE,SEPT   9648 1451  100
    1982.                                                         9648 1451  101
 7) PHILLIPS T.W. AND HOWE F.R.:NUCL.SCI.ENG.,69,375(1979).       9648 1451  102
 8) IGARASI S. : J.NUCL.SCI.TECHNOL.,12,67 (1975).                9648 1451  103
 9) LEDERER C.M. AND SHIRLEY V.S. : TABLE OF ISOTOPES , 7TH ED.   9648 1451  104
10) GILBERT A. AND CAMERON A.G.W. : CAN.J.PHYS.,43,1446 (1965).   9648 1451  105
11) FOMSHKIN E.F. ET AL.: SOV.J.NUCL. PHYS.,31,19(1980).          9648 1451  106
12) SMITH A.B. ET AL.: ANL/NDM-50 (1979).                         9648 1451  107
                                                                  9648 1451  108
                                1       451       149             9648 1451  109
                                1       452         3             9648 1451  110
                                1       455         7             9648 1451  111
                                2       151       122             9648 1451  112
                                3         1        51             9648 1451  113
                                3         2        51             9648 1451  114
                                3         4        16             9648 1451  115
                                3        16         9             9648 1451  116
                                3        17         7             9648 1451  117
                                3        18        21             9648 1451  118
                                3        37         4             9648 1451  119
                                3        51        16             9648 1451  120
                                3        52        15             9648 1451  121
                                3        53        14             9648 1451  122
                                3        54        13             9648 1451  123
                                3        55        11             9648 1451  124
                                3        56        11             9648 1451  125
                                3        57        11             9648 1451  126
                                3        58        10             9648 1451  127
                                3        91        10             9648 1451  128
                                3       102        18             9648 1451  129
                                3       251        17             9648 1451  130
                                4         2       216             9648 1451  131
                                4        16        10             9648 1451  132
                                4        17        10             9648 1451  133
                                4        18        10             9648 1451  134
                                4        37        10             9648 1451  135
                                4        51        15             9648 1451  136
                                4        52        15             9648 1451  137
                                4        53        15             9648 1451  138
                                4        54        15             9648 1451  139
                                4        55        15             9648 1451  140
                                4        56        15             9648 1451  141
                                4        57        15             9648 1451  142
```

```
                                        4          58          15           9648 1451  143
                                        4          91          10           9648 1451  144
                                        5          16          17           9648 1451  145
                                        5          17          22           9648 1451  146
                                        5          18           7           9648 1451  147
                                        5          37          25           9648 1451  148
                                        5          91          10           9648 1451  149
                                                                            9648 1  0  150
 9.62480+ 4 2.45941+ 2                  0           1           0          09648 1452  151
 0.0    + 0 0.0    + 0                  0           0           2          09648 1452  152
 3.11000+ 0 2.08000- 7                                                       9648 1452  153
                                                                            9648 1  0  154
 9.62480+ 4 2.45941+ 2                  0           2           0          09648 1455  155
 0.0    + 0 0.0    + 0                  0           0           6          09648 1455  156
 1.28000- 2 3.14000- 2 1.28000- 1 3.25000- 1 1.35000+ 0 3.70000+ 09648 1455  157
 0.0    + 0 0.0    + 0                  0           0           1          49648 1455  158
          4           2                  0           0           0          09648 1455  159
 1.00000- 5 1.96000- 2 6.00000+ 6 1.96000- 2 8.00000+ 6 1.34000- 29648 1455  160
 2.00000+ 7 1.34000- 2                                                       9648 1455  161
                                                                            9648 1  0  162
                                                                            9648 0  0  163
 9.62480+ 4 2.45941+ 2                  0           0           1          09648 2151  164
 9.62480+ 4 1.00000+ 0                  0           0           2          09648 2151  165
 1.00000- 5 1.50000+ 3                  1           2           0          09648 2151  166
 0.0    + 0 9.10000- 1                  0           0           1          09648 2151  167
 2.45941+ 2 0.0    + 0                  0           0         282         479648 2151  168
 7.24700+ 0 5.00000- 1 2.64865- 2 1.88650- 3 2.33000- 2 1.30000- 39648 2151  169
 2.69000+ 1 5.00000- 1 5.12800- 2 1.92000- 2 3.20000- 2 8.00000- 59648 2151  170
 3.50100+ 1 5.00000- 1 4.30000- 2 1.15000- 2 3.02000- 2 1.30000- 39648 2151  171
 7.61000+ 1 5.00000- 1 1.24400- 1 9.50999- 2 2.60000- 2 3.30000- 39648 2151  172
 9.89500+ 1 5.00000- 1 1.73470- 1 1.47000- 1 2.60000- 2 4.70000- 49648 2151  173
 1.40300+ 2 5.00000- 1 2.88000- 2 1.50000- 3 2.60000- 2 1.30000- 39648 2151  174
 1.86400+ 2 5.00000- 1 3.14800- 2 4.17999- 3 2.60000- 2 1.30000- 39648 2151  175
 2.37900+ 2 5.00000- 1 4.35000- 2 1.62000- 2 2.60000- 2 1.30000- 39648 2151  176
 2.58700+ 2 5.00000- 1 8.91000- 2 6.18000- 2 2.60000- 2 1.30000- 39648 2151  177
 3.21800+ 2 5.00000- 1 5.33000- 2 2.60000- 2 2.60000- 2 1.30000- 39648 2151  178
 3.80600+ 2 5.00000- 1 1.19300- 1 9.19999- 2 2.60000- 2 1.30000- 39648 2151  179
 4.15700+ 2 5.00000- 1 7.64000- 2 4.91000- 2 2.60000- 2 1.30000- 39648 2151  180
 4.57700+ 2 5.00000- 1 1.01800- 1 7.45000- 2 2.60000- 2 1.30000- 39648 2151  181
 4.84900+ 2 5.00000- 1 3.68000- 2 9.50000- 3 2.60000- 2 1.30000- 39648 2151  182
 5.41800+ 2 5.00000- 1 4.06300- 1 3.79000- 1 2.60000- 2 1.30000- 39648 2151  183
 6.05300+ 2 5.00000- 1 1.01300- 1 7.39999- 2 2.60000- 2 1.30000- 39648 2151  184
 6.47000+ 2 5.00000- 1 1.34300- 1 1.07000- 1 2.60000- 2 1.30000- 39648 2151  185
 6.88600+ 2 5.00000- 1 6.43000- 2 3.70000- 2 2.60000- 2 1.30000- 39648 2151  186
 6.94300+ 2 5.00000- 1 2.27300- 1 2.00000- 1 2.60000- 2 1.30000- 39648 2151  187
 7.21500+ 2 5.00000- 1 1.16300- 1 8.89999- 2 2.60000- 2 1.30000- 39648 2151  188
 7.69400+ 2 5.00000- 1 8.83000- 2 6.10000- 2 2.60000- 2 1.30000- 39648 2151  189
 8.65900+ 2 5.00000- 1 5.10300- 1 4.83000- 1 2.60000- 2 1.30000- 39648 2151  190
 8.87100+ 2 5.00000- 1 1.25300- 1 9.79999- 2 2.60000- 2 1.30000- 39648 2151  191
 9.58600+ 2 5.00000- 1 1.32300- 1 1.05000- 1 2.60000- 2 1.30000- 39648 2151  192
 9.94200+ 2 5.00000- 1 1.47300- 1 1.20000- 1 2.60000- 2 1.30000- 39648 2151  193
 1.04200+ 3 5.00000- 1 2.14300- 1 1.87000- 1 2.60000- 2 1.30000- 39648 2151  194
 1.10330+ 3 5.00000- 1 2.43300- 1 2.16000- 1 2.60000- 2 1.30000- 39648 2151  195
 1.19360+ 3 5.00000- 1 3.52300- 1 3.25000- 1 2.60000- 2 1.30000- 39648 2151  196
 1.20970+ 3 5.00000- 1 6.23000- 2 3.50000- 2 2.60000- 2 1.30000- 39648 2151  197
 1.26200+ 3 5.00000- 1 2.93300- 1 2.66000- 1 2.60000- 2 1.30000- 39648 2151  198
 1.27660+ 3 5.00000- 1 2.02300- 1 1.75000- 1 2.60000- 2 1.30000- 39648 2151  199
 1.28810+ 3 5.00000- 1 8.13000- 2 5.40000- 2 2.60000- 2 1.30000- 39648 2151  200
 1.38900+ 3 5.00000- 1 4.26300- 1 3.99000- 1 2.60000- 2 1.30000- 39648 2151  201
 1.50500+ 3 5.00000- 1 6.98300- 1 6.71000- 1 2.60000- 2 1.30000- 39648 2151  202
 1.64600+ 3 5.00000- 1 1.57300- 1 1.30000- 1 2.60000- 2 1.30000- 39648 2151  203
 1.81200+ 3 5.00000- 1 5.63300- 1 5.36000- 1 2.60000- 2 1.30000- 39648 2151  204
 1.91000+ 3 5.00000- 1 1.45300- 1 1.18000- 1 2.60000- 2 1.30000- 39648 2151  205
 2.04000+ 3 5.00000- 1 2.21300- 1 1.94000- 1 2.60000- 2 1.30000- 39648 2151  206
 2.07100+ 3 5.00000- 1 7.96300- 1 7.69000- 1 2.60000- 2 1.30000- 39648 2151  207
 2.13800+ 3 5.00000- 1 4.89300- 1 4.62000- 1 2.60000- 2 1.30000- 39648 2151  208
 2.15600+ 3 5.00000- 1 1.80300- 1 1.53000- 1 2.60000- 2 1.30000- 39648 2151  209
 2.21500+ 3 5.00000- 1 6.72300- 1 6.45000- 1 2.60000- 2 1.30000- 39648 2151  210
 2.23400+ 3 5.00000- 1 1.12300- 1 8.50000- 2 2.60000- 2 1.30000- 39648 2151  211
 2.29100+ 3 5.00000- 1 3.52300- 1 3.25000- 1 2.60000- 2 1.30000- 39648 2151  212
 2.36900+ 3 5.00000- 1 5.14300- 1 4.87000- 1 2.60000- 2 1.30000- 39648 2151  213
 2.39100+ 3 5.00000- 1 3.45300- 1 3.18000- 1 2.60000- 2 1.30000- 39648 2151  214
```

```
2.98400+ 3 5.00000- 1 1.55730+ 0 1.53000+ 0 2.60000- 2 1.30000- 39648 2151  215
1.50000+ 3 3.00000+ 4           2           2           0           09648 2151  216
0.0    + 0 8.87900- 1           0           0           3           09648 2151  217
2.45941+ 2 0.0    + 0           0           0           1           09648 2151  218
5.00000- 1 0.0    + 0           2           0          72          119648 2151  219
0.0    + 0 0.0    + 0 0.0    + 0 1.00000+ 0 0.0    + 0 1.00000+ 09648 2151  220
1.50000+ 3 3.98720+ 1 0.0    + 0 4.78470- 3 2.60000- 2 1.15280- 39648 2151  221
2.00000+ 3 3.98290+ 1 0.0    + 0 4.77950- 3 2.60000- 2 1.24650- 39648 2151  222
3.00000+ 3 3.97440+ 1 0.0    + 0 4.76930- 3 2.60000- 2 1.41220- 39648 2151  223
4.00000+ 3 3.96590+ 1 0.0    + 0 4.75910- 3 2.60000- 2 1.48380- 39648 2151  224
5.00000+ 3 3.95740+ 1 0.0    + 0 4.74890- 3 2.60000- 2 1.63640- 39648 2151  225
6.00000+ 3 3.94900+ 1 0.0    + 0 4.73880- 3 2.60000- 2 1.85520- 39648 2151  226
8.00000+ 3 3.93210+ 1 0.0    + 0 4.71850- 3 2.60000- 2 2.12270- 39648 2151  227
1.00000+ 4 3.91540+ 1 0.0    + 0 4.69850- 3 2.60000- 2 2.27560- 39648 2151  228
1.50000+ 4 3.87380+ 1 0.0    + 0 4.64850- 3 2.60000- 2 2.72160- 39648 2151  229
2.00000+ 4 3.83260+ 1 0.0    + 0 4.59910- 3 2.60000- 2 2.96240- 39648 2151  230
3.00000+ 4 3.75160+ 1 0.0    + 0 4.50200- 3 2.60000- 2 3.35150- 39648 2151  231
2.45941+ 2 0.0    + 0           1           0           2           09648 2151  232
5.00000- 1 0.0    + 0           2           0          72          119648 2151  233
0.0    + 0 0.0    + 0 0.0    + 0 1.00000+ 0 0.0    + 0 1.00000+ 09648 2151  234
1.50000+ 3 3.98720+ 1 0.0    + 0 1.32310- 2 2.60000- 2 1.15280- 39648 2151  235
2.00000+ 3 3.98290+ 1 0.0    + 0 1.32160- 2 2.60000- 2 1.24650- 39648 2151  236
3.00000+ 3 3.97440+ 1 0.0    + 0 1.31880- 2 2.60000- 2 1.41220- 39648 2151  237
4.00000+ 3 3.96590+ 1 0.0    + 0 1.31600- 2 2.60000- 2 1.48380- 39648 2151  238
5.00000+ 3 3.95740+ 1 0.0    + 0 1.31320- 2 2.60000- 2 1.63640- 39648 2151  239
6.00000+ 3 3.94900+ 1 0.0    + 0 1.31040- 2 2.60000- 2 1.85520- 39648 2151  240
8.00000+ 3 3.93210+ 1 0.0    + 0 1.30480- 2 2.60000- 2 2.12270- 39648 2151  241
1.00000+ 4 3.91540+ 1 0.0    + 0 1.29920- 2 2.60000- 2 2.27560- 39648 2151  242
1.50000+ 4 3.87380+ 1 0.0    + 0 1.28540- 2 2.60000- 2 2.72160- 39648 2151  243
2.00000+ 4 3.83260+ 1 0.0    + 0 1.27170- 2 2.60000- 2 2.96240- 39648 2151  244
3.00000+ 4 3.75160+ 1 0.0    + 0 1.24490- 2 2.60000- 2 3.35150- 39648 2151  245
1.50000+ 0 0.0    + 0           2           0          72          119648 2151  246
0.0    + 0 0.0    + 0 0.0    + 0 1.00000+ 0 0.0    + 0 1.00000+ 09648 2151  247
1.50000+ 3 1.99360+ 1 0.0    + 0 6.61530- 3 2.60000- 2 1.15280- 39648 2151  248
2.00000+ 3 1.99150+ 1 0.0    + 0 6.60810- 3 2.60000- 2 1.24650- 39648 2151  249
3.00000+ 3 1.98720+ 1 0.0    + 0 6.59400- 3 2.60000- 2 1.41220- 39648 2151  250
4.00000+ 3 1.98300+ 1 0.0    + 0 6.57990- 3 2.60000- 2 1.48380- 39648 2151  251
5.00000+ 3 1.97870+ 1 0.0    + 0 6.56590- 3 2.60000- 2 1.63640- 39648 2151  252
6.00000+ 3 1.97450+ 1 0.0    + 0 6.55180- 3 2.60000- 2 1.85520- 39648 2151  253
8.00000+ 3 1.96610+ 1 0.0    + 0 6.52390- 3 2.60000- 2 2.12270- 39648 2151  254
1.00000+ 4 1.95770+ 1 0.0    + 0 6.49610- 3 2.60000- 2 2.27560- 39648 2151  255
1.50000+ 4 1.93690+ 1 0.0    + 0 6.42700- 3 2.60000- 2 2.72160- 39648 2151  256
2.00000+ 4 1.91630+ 1 0.0    + 0 6.35870- 3 2.60000- 2 2.96240- 39648 2151  257
3.00000+ 4 1.87580+ 1 0.0    + 0 6.22440- 3 2.60000- 2 3.35150- 39648 2151  258
2.45941+ 2 0.0    + 0           2           0           2           09648 2151  259
1.50000+ 0 0.0    + 0           2           0          72          119648 2151  260
0.0    + 0 0.0    + 0 0.0    + 0 1.00000+ 0 0.0    + 0 1.00000+ 09648 2151  261
1.50000+ 3 1.99360+ 1 0.0    + 0 1.68260- 3 2.60000- 2 1.15280- 39648 2151  262
2.00000+ 3 1.99150+ 1 0.0    + 0 1.68080- 3 2.60000- 2 1.24650- 39648 2151  263
3.00000+ 3 1.98720+ 1 0.0    + 0 1.67720- 3 2.60000- 2 1.41220- 39648 2151  264
4.00000+ 3 1.98300+ 1 0.0    + 0 1.67360- 3 2.60000- 2 1.48380- 39648 2151  265
5.00000+ 3 1.97870+ 1 0.0    + 0 1.67000- 3 2.60000- 2 1.63640- 39648 2151  266
6.00000+ 3 1.97450+ 1 0.0    + 0 1.66650- 3 2.60000- 2 1.85520- 39648 2151  267
8.00000+ 3 1.96610+ 1 0.0    + 0 1.65940- 3 2.60000- 2 2.12270- 39648 2151  268
1.00000+ 4 1.95770+ 1 0.0    + 0 1.65230- 3 2.60000- 2 2.27560- 39648 2151  269
1.50000+ 4 1.93690+ 1 0.0    + 0 1.63470- 3 2.60000- 2 2.72160- 39648 2151  270
2.00000+ 4 1.91630+ 1 0.0    + 0 1.61730- 3 2.60000- 2 2.96240- 39648 2151  271
3.00000+ 4 1.87580+ 1 0.0    + 0 1.58320- 3 2.60000- 2 3.35150- 39648 2151  272
2.50000+ 0 0.0    + 0           2           0          72          119648 2151  273
0.0    + 0 0.0    + 0 0.0    + 0 1.00000+ 0 0.0    + 0 1.00000+ 09648 2151  274
1.50000+ 3 1.32910+ 1 0.0    + 0 1.12170- 3 2.60000- 2 1.15280- 39648 2151  275
2.00000+ 3 1.32760+ 1 0.0    + 0 1.12050- 3 2.60000- 2 1.24650- 39648 2151  276
3.00000+ 3 1.32480+ 1 0.0    + 0 1.11810- 3 2.60000- 2 1.41220- 39648 2151  277
4.00000+ 3 1.32200+ 1 0.0    + 0 1.11570- 3 2.60000- 2 1.48380- 39648 2151  278
5.00000+ 3 1.31910+ 1 0.0    + 0 1.11340- 3 2.60000- 2 1.63640- 39648 2151  279
6.00000+ 3 1.31630+ 1 0.0    + 0 1.11100- 3 2.60000- 2 1.85520- 39648 2151  280
8.00000+ 3 1.31070+ 1 0.0    + 0 1.10620- 3 2.60000- 2 2.12270- 39648 2151  281
1.00000+ 4 1.30510+ 1 0.0    + 0 1.10150- 3 2.60000- 2 2.27560- 39648 2151  282
1.50000+ 4 1.29130+ 1 0.0    + 0 1.08980- 3 2.60000- 2 2.72160- 39648 2151  283
2.00000+ 4 1.27750+ 1 0.0    + 0 1.07820- 3 2.60000- 2 2.96240- 39648 2151  284
3.00000+ 4 1.25050+ 1 0.0    + 0 1.05550- 3 2.60000- 2 3.35150- 39648 2151  285
                                                                  9648 2  0  286
```

```
                                                                                  9648 0  0  287
 9.62480+ 4 2.45941+ 2          0          99          0                        09648 3  1  288
 0.0    + 0 0.0    + 0          0           0          3                      1439648 3  1  289
          3          5          5           2        143                        59648 3  1  290
 1.00000- 5 1.29346+ 1 2.53000- 2 2.57153- 1 1.50000+ 3 1.05610-                39648 3  1  291
 1.50000+ 3 0.0    + 0 3.00000+ 4 0.0    + 0 3.00000+ 4 1.40609+ 19648 3  1  292
 4.00000+ 4 1.38778+ 1 4.35765+ 4 1.38238+ 1 5.00000+ 4 1.37400+ 19648 3  1  293
 5.62342+ 4 1.36592+ 1 6.00000+ 4 1.36149+ 1 6.32456+ 4 1.35789+ 19648 3  1  294
 7.11312+ 4 1.34991+ 1 8.00000+ 4 1.34197+ 1 1.00000+ 5 1.32226+ 19648 3  1  295
 1.30000+ 5 1.29043+ 1 1.44184+ 5 1.27808+ 1 1.60000+ 5 1.25965+ 19648 3  1  296
 2.00000+ 5 1.22103+ 1 2.50000+ 5 1.16574+ 1 2.98208+ 5 1.12383+ 19648 3  1  297
 3.00000+ 5 1.12192+ 1 3.50000+ 5 1.07391+ 1 4.00000+ 5 1.03398+ 19648 3  1  298
 4.50000+ 5 9.93588+ 0 5.00000+ 5 9.58796+ 0 5.12074+ 5 9.51087+ 09648 3  1  299
 5.54296+ 5 9.24075+ 0 6.00000+ 5 8.97830+ 0 6.48074+ 5 8.72928+ 09648 3  1  300
 7.00000+ 5 8.48717+ 0 7.48331+ 5 8.29277+ 0 8.00000+ 5 8.10282+ 09648 3  1  301
 9.00000+ 5 7.80756+ 0 1.00000+ 6 7.58402+ 0 1.05226+ 6 7.49036+ 09648 3  1  302
 1.05427+ 6 7.48704+ 0 1.08841+ 6 7.43350+ 0 1.09845+ 6 7.41876+ 09648 3  1  303
 1.13058+ 6 7.37447+ 0 1.20000+ 6 7.29239+ 0 1.40000+ 6 7.13776+ 09648 3  1  304
 1.60000+ 6 7.06772+ 0 1.80000+ 6 7.07394+ 0 2.00000+ 6 7.07951+ 09648 3  1  305
 2.25000+ 6 7.16735+ 0 2.50000+ 6 7.24684+ 0 2.75000+ 6 7.36137+ 09648 3  1  306
 3.00000+ 6 7.46750+ 0 3.50000+ 6 7.62426+ 0 4.00000+ 6 7.76270+ 09648 3  1  307
 4.50000+ 6 7.76656+ 0 5.00000+ 6 7.77002+ 0 5.50000+ 6 7.63621+ 09648 3  1  308
 6.00000+ 6 7.51606+ 0 6.23800+ 6 7.41801+ 0 6.42035+ 6 7.32647+ 09648 3  1  309
 6.60803+ 6 7.23606+ 0 6.80119+ 6 7.14676+ 0 6.89988+ 6 7.10253+ 09648 3  1  310
 7.00000+ 6 7.05857+ 0 7.23762+ 6 6.94064+ 0 7.35944+ 6 6.88242+ 09648 3  1  311
 7.48331+ 6 6.82469+ 0 7.60926+ 6 6.76744+ 0 7.73734+ 6 6.71067+ 09648 3  1  312
 7.80218+ 6 6.68246+ 0 7.86757+ 6 6.65437+ 0 7.93351+ 6 6.62640+ 09648 3  1  313
 8.00000+ 6 6.59855+ 0 8.45897+ 6 6.44558+ 0 8.69824+ 6 6.37043+ 09648 3  1  314
 8.94427+ 6 6.29615+ 0 9.00000+ 6 6.27973+ 0 9.19727+ 6 6.22274+ 09648 3  1  315
 9.32644+ 6 6.18636+ 0 9.45742+ 6 6.15019+ 0 9.59024+ 6 6.11423+ 09648 3  1  316
 9.65735+ 6 6.09633+ 0 9.72493+ 6 6.07848+ 0 9.79298+ 6 6.06068+ 09648 3  1  317
 9.86151+ 6 6.04294+ 0 9.89595+ 6 6.03409+ 0 9.93051+ 6 6.02525+ 09648 3  1  318
 9.96519+ 6 6.01642+ 0 1.00000+ 7 6.00761+ 0 1.03367+ 7 5.96145+ 09648 3  1  319
 1.05093+ 7 5.93850+ 0 1.06848+ 7 5.91563+ 0 1.08632+ 7 5.89286+ 09648 3  1  320
 1.10000+ 7 5.87571+ 0 1.10446+ 7 5.87017+ 0 1.11365+ 7 5.85885+ 09648 3  1  321
 1.12291+ 7 5.84756+ 0 1.13225+ 7 5.83629+ 0 1.14166+ 7 5.82505+ 09648 3  1  322
 1.17934+ 7 5.81137+ 0 1.19864+ 7 5.80455+ 0 1.20000+ 7 5.80407+ 09648 3  1  323
 1.21826+ 7 5.79773+ 0 1.23820+ 7 5.79092+ 0 1.25847+ 7 5.78412+ 09648 3  1  324
 1.26873+ 7 5.78072+ 0 1.27907+ 7 5.77732+ 0 1.28949+ 7 5.77393+ 09648 3  1  325
 1.29473+ 7 5.77224+ 0 1.30000+ 7 5.77054+ 0 1.32431+ 7 5.78435+ 09648 3  1  326
 1.34907+ 7 5.79818+ 0 1.37430+ 7 5.81205+ 0 1.38709+ 7 5.81900+ 09648 3  1  327
 1.40000+ 7 5.82596+ 0 1.42436+ 7 5.83893+ 0 1.44914+ 7 5.85194+ 09648 3  1  328
 1.47435+ 7 5.86497+ 0 1.48712+ 7 5.87150+ 0 1.50000+ 7 5.87803+ 09648 3  1  329
 1.52440+ 7 5.89989+ 0 1.54919+ 7 5.92182+ 0 1.57439+ 7 5.94384+ 09648 3  1  330
 1.58714+ 7 5.95488+ 0 1.60000+ 7 5.96595+ 0 1.62443+ 7 5.98678+ 09648 3  1  331
 1.64924+ 7 6.00769+ 0 1.67443+ 7 6.02868+ 0 1.68717+ 7 6.03920+ 09648 3  1  332
 1.70000+ 7 6.04973+ 0 1.72204+ 7 6.06747+ 0 1.74437+ 7 6.08526+ 09648 3  1  333
 1.76699+ 7 6.10311+ 0 1.78990+ 7 6.12101+ 0 1.78999+ 7 6.12107+ 09648 3  1  334
 1.80000+ 7 6.12774+ 0 1.82258+ 7 6.14269+ 0 1.84545+ 7 6.15768+ 09648 3  1  335
 1.86860+ 7 6.17270+ 0 1.89204+ 7 6.18776+ 0 1.90000+ 7 6.19284+ 09648 3  1  336
 1.92452+ 7 6.20838+ 0 1.94936+ 7 6.22396+ 0 1.97452+ 7 6.23958+ 09648 3  1  337
 1.98722+ 7 6.24740+ 0 2.00000+ 7 6.25523+ 0                                9648 3  1  338
                                                                            9648 3  0  339
 9.62480+ 4 2.45941+ 2          0          0          0                     09648 3  2  340
 0.0    + 0 0.0    + 0          0          0          2                   1429648 3  2  341
          4          2        142          5          0                     09648 3  2  342
 1.00000- 5 0.0    + 0 2.53000- 2 0.0    + 0 1.50000+ 3 0.0    + 09648 3  2  343
 3.00000+ 4 0.0    + 0 3.00000+ 4 1.36644+ 1 4.00000+ 4 1.35396+ 19648 3  2  344
 4.35765+ 4 1.35007+ 1 5.00000+ 4 1.33349+ 1 5.62342+ 4 1.31585+ 19648 3  2  345
 6.00000+ 4 1.30619+ 1 6.32456+ 4 1.29790+ 1 7.11312+ 4 1.27970+ 19648 3  2  346
 8.00000+ 4 1.26128+ 1 1.00000+ 5 1.22476+ 1 1.30000+ 5 1.17690+ 19648 3  2  347
 1.44184+ 5 1.15741+ 1 1.60000+ 5 1.13423+ 1 2.00000+ 5 1.08447+ 19648 3  2  348
 2.50000+ 5 1.02169+ 1 2.98208+ 5 9.73374+ 0 3.00000+ 5 9.71297+ 09648 3  2  349
 3.50000+ 5 9.18712+ 0 4.00000+ 5 8.74675+ 0 4.50000+ 5 8.31426+ 09648 3  2  350
 5.00000+ 5 7.92156+ 0 5.12074+ 5 7.82566+ 0 5.54296+ 5 7.46917+ 09648 3  2  351
 6.00000+ 5 7.07522+ 0 6.48074+ 5 6.72835+ 0 7.00000+ 5 6.33974+ 09648 3  2  352
 7.48331+ 5 6.02254+ 0 8.00000+ 5 5.63620+ 0 9.00000+ 5 5.08585+ 09648 3  2  353
 1.00000+ 6 4.74773+ 0 1.05226+ 6 4.61352+ 0 1.05427+ 6 4.60671+ 09648 3  2  354
 1.08841+ 6 4.49476+ 0 1.09845+ 6 4.46162+ 0 1.13058+ 6 4.36305+ 09648 3  2  355
 1.20000+ 6 4.19034+ 0 1.40000+ 6 3.89523+ 0 1.60000+ 6 3.77505+ 09648 3  2  356
 1.80000+ 6 3.77079+ 0 2.00000+ 6 3.81693+ 0 2.25000+ 6 3.98101+ 09648 3  2  357
 2.50000+ 6 4.13607+ 0 2.75000+ 6 4.32434+ 0 3.00000+ 6 4.50389+ 09648 3  2  358
```

```
 3.50000+ 6 4.72868+ 0 4.00000+ 6 4.95369+ 0 4.50000+ 6 4.96160+ 09648 3  2  359
 5.00000+ 6 4.94273+ 0 5.50000+ 6 4.84143+ 0 6.00000+ 6 4.63275+ 09648 3  2  360
 6.23800+ 6 4.53836+ 0 6.42035+ 6 4.45948+ 0 6.60803+ 6 4.37416+ 09648 3  2  361
 6.80119+ 6 4.28209+ 0 6.89988+ 6 4.23341+ 0 7.00000+ 6 4.18292+ 09648 3  2  362
 7.23762+ 6 4.06961+ 0 7.35944+ 6 4.01241+ 0 7.48331+ 6 3.95482+ 09648 3  2  363
 7.60926+ 6 3.89682+ 0 7.73734+ 6 3.83839+ 0 7.80218+ 6 3.80901+ 09648 3  2  364
 7.86757+ 6 3.77952+ 0 7.93351+ 6 3.74990+ 0 8.00000+ 6 3.72018+ 09648 3  2  365
 8.45897+ 6 3.54063+ 0 8.69824+ 6 3.45185+ 0 8.94427+ 6 3.36371+ 09648 3  2  366
 9.00000+ 6 3.34440+ 0 9.19727+ 6 3.28307+ 0 9.32644+ 6 3.24397+ 09648 3  2  367
 9.45742+ 6 3.20502+ 0 9.59024+ 6 3.16622+ 0 9.65735+ 6 3.14687+ 09648 3  2  368
 9.72493+ 6 3.12756+ 0 9.79298+ 6 3.10829+ 0 9.86151+ 6 3.08905+ 09648 3  2  369
 9.89595+ 6 3.07945+ 0 9.93051+ 6 3.06985+ 0 9.96519+ 6 3.06027+ 09648 3  2  370
 1.00000+ 7 3.05069+ 0 1.03367+ 7 2.99257+ 0 1.05093+ 7 2.96348+ 09648 3  2  371
 1.06848+ 7 2.93436+ 0 1.08632+ 7 2.90522+ 0 1.10000+ 7 2.88320+ 09648 3  2  372
 1.10446+ 7 2.87671+ 0 1.11365+ 7 2.86344+ 0 1.12291+ 7 2.85019+ 09648 3  2  373
 1.13225+ 7 2.83694+ 0 1.14166+ 7 2.82370+ 0 1.17934+ 7 2.80301+ 09648 3  2  374
 1.19864+ 7 2.79258+ 0 1.20000+ 7 2.79185+ 0 1.21826+ 7 2.78133+ 09648 3  2  375
 1.23820+ 7 2.77010+ 0 1.25847+ 7 2.75895+ 0 1.26873+ 7 2.75340+ 09648 3  2  376
 1.27907+ 7 2.74788+ 0 1.28949+ 7 2.74238+ 0 1.29473+ 7 2.73964+ 09648 3  2  377
 1.30000+ 7 2.73690+ 0 1.32431+ 7 2.74316+ 0 1.34907+ 7 2.74948+ 09648 3  2  378
 1.37430+ 7 2.75588+ 0 1.38709+ 7 2.75911+ 0 1.40000+ 7 2.76236+ 09648 3  2  379
 1.42436+ 7 2.76678+ 0 1.44914+ 7 2.77124+ 0 1.47435+ 7 2.77574+ 09648 3  2  380
 1.48712+ 7 2.77801+ 0 1.50000+ 7 2.78028+ 0 1.52440+ 7 2.79403+ 09648 3  2  381
 1.54919+ 7 2.80790+ 0 1.57439+ 7 2.82191+ 0 1.58714+ 7 2.82896+ 09648 3  2  382
 1.60000+ 7 2.83605+ 0 1.62443+ 7 2.85020+ 0 1.64924+ 7 2.86442+ 09648 3  2  383
 1.67443+ 7 2.87871+ 0 1.68717+ 7 2.88588+ 0 1.70000+ 7 2.89306+ 09648 3  2  384
 1.72204+ 7 2.90579+ 0 1.74437+ 7 2.91857+ 0 1.76699+ 7 2.93142+ 09648 3  2  385
 1.78990+ 7 2.94433+ 0 1.78999+ 7 2.94437+ 0 1.80000+ 7 2.94870+ 09648 3  2  386
 1.82258+ 7 2.95938+ 0 1.84545+ 7 2.97005+ 0 1.86860+ 7 2.98069+ 09648 3  2  387
 1.89204+ 7 2.99132+ 0 1.90000+ 7 2.99489+ 0 1.92452+ 7 3.00642+ 09648 3  2  388
 1.94936+ 7 3.01800+ 0 1.97452+ 7 3.02962+ 0 1.98722+ 7 3.03544+ 09648 3  2  389
 2.00000+ 7 3.04128+ 0                                           9648 3  2  390
                                                                 9648 3  0  391
 9.62480+ 4 2.45941+ 2          0          99          0         09648 3  4  392
 0.0     + 0-4.34000+ 4          0           0          1        389648 3  4  393
        38          3          0           0          0         09648 3  4  394
 4.35765+ 4 0.0     + 0 5.00000+ 4 1.35734- 1 8.00000+ 4 6.37071- 19648 3  4  395
 1.00000+ 5 8.30073- 1 1.44184+ 5 1.08651+ 0 2.00000+ 5 1.25651+ 09648 3  4  396
 2.98208+ 5 1.39183+ 0 4.00000+ 5 1.46455+ 0 5.12074+ 5 1.48677+ 09648 3  4  397
 6.00000+ 5 1.50625+ 0 7.00000+ 5 1.45296+ 0 8.00000+ 5 1.29465+ 09648 3  4  398
 9.00000+ 5 1.15344+ 0 1.00000+ 6 1.14367+ 0 1.05226+ 6 1.15583+ 09648 3  4  399
 1.05427+ 6 1.15889+ 0 1.08841+ 6 1.20397+ 0 1.09845+ 6 1.21862+ 09648 3  4  400
 1.13058+ 6 1.26156+ 0 1.20000+ 6 1.32595+ 0 1.40000+ 6 1.44842+ 09648 3  4  401
 1.60000+ 6 1.51919+ 0 2.00000+ 6 1.54729+ 0 2.50000+ 6 1.54997+ 09648 3  4  402
 3.00000+ 6 1.55614+ 0 4.00000+ 6 1.44927+ 0 5.00000+ 6 1.54383+ 09648 3  4  403
 6.00000+ 6 1.39233+ 0 6.23800+ 6 1.28017+ 0 7.00000+ 6 4.91966- 19648 3  4  404
 8.00000+ 6 8.72551- 2 1.00000+ 7 4.16107- 3 1.14166+ 7 7.38830- 49648 3  4  405
 1.30000+ 7 1.18465- 4 1.50000+ 7 1.01281- 4 1.70000+ 7 1.15477- 49648 3  4  406
 1.78990+ 7 9.94976- 5 2.00000+ 7 1.41161- 4                     9648 3  4  407
                                                                 9648 3  0  408
 9.62480+ 4 2.45941+ 2          0          99          0         09648 3 16  409
 0.0     + 0-6.21270+ 6          0           0          1        169648 3 16  410
        16          2          0           0          0         09648 3 16  411
 6.23800+ 6 0.0     + 0 7.00000+ 6 4.13560- 1 8.00000+ 6 5.21110- 19648 3 16  412
 9.00000+ 6 5.12170- 1 1.00000+ 7 5.42760- 1 1.10000+ 7 5.80820- 19648 3 16  413
 1.14166+ 7 5.90610- 1 1.20000+ 7 5.89560- 1 1.30000+ 7 3.54430- 19648 3 16  414
 1.40000+ 7 1.47910- 1 1.50000+ 7 6.43780- 2 1.60000+ 7 2.33110- 29648 3 16  415
 1.70000+ 7 9.18820- 3 1.80000+ 7 3.49170- 3 1.90000+ 7 1.43270- 39648 3 16  416
 2.00000+ 7 5.46490- 4                                           9648 3 16  417
                                                                 9648 3  0  418
 9.62480+ 4 2.45941+ 2          0          99          0         09648 3 17  419
 0.0     + 0-1.13704+ 7          0           0          1        109648 3 17  420
        10          2          0           0          0         09648 3 17  421
 1.14166+ 7 0.0     + 0 1.20000+ 7 1.21580- 2 1.30000+ 7 1.39090- 19648 3 17  422
 1.40000+ 7 2.35580- 1 1.50000+ 7 3.03270- 1 1.60000+ 7 2.96480- 19648 3 17  423
 1.70000+ 7 3.07370- 1 1.80000+ 7 3.05270- 1 1.90000+ 7 3.24440- 19648 3 17  424
 2.00000+ 7 2.96720- 1                                           9648 3 17  425
                                                                 9648 3  0  426
 9.62480+ 4 2.45941+ 2          0          99          0         09648 3 18  427
 0.0     + 0 0.0     + 0          0           0          3        549648 3 18  428
         3          5          5           2         54         59648 3 18  429
 1.00000- 5 1.29346+ 1 2.53000- 2 2.57153- 1 1.50000+ 3 1.05610- 39648 3 18  430
```

```
 1.50000+ 3 0.0     + 0 3.00000+ 4 0.0     + 0 3.00000+ 4 4.33000- 29648 3 18  431
 4.00000+ 4 3.71000- 2 5.00000+ 4 3.43000- 2 6.00000+ 4 3.18000- 29648 3 18  432
 8.00000+ 4 2.83000- 2 1.00000+ 5 2.62000- 2 1.30000+ 5 2.43000- 29648 3 18  433
 1.60000+ 5 2.43000- 2 2.00000+ 5 2.73000- 2 2.50000+ 5 3.30000- 29648 3 18  434
 3.00000+ 5 4.01000- 2 3.50000+ 5 4.86000- 2 4.00000+ 5 5.67000- 29648 3 18  435
 4.50000+ 5 7.42000- 2 5.00000+ 5 1.09000- 1 6.00000+ 5 3.21000- 19648 3 18  436
 7.00000+ 5 6.18000- 1 8.00000+ 5 1.10000+ 0 9.00000+ 5 1.50000+ 09648 3 18  437
 1.00000+ 6 1.62000+ 0 1.20000+ 6 1.71000+ 0 1.40000+ 6 1.73000+ 09648 3 18  438
 1.60000+ 6 1.71000+ 0 1.80000+ 6 1.71000+ 0 2.00000+ 6 1.66000+ 09648 3 18  439
 2.25000+ 6 1.59000+ 0 2.50000+ 6 1.52000+ 0 2.75000+ 6 1.45000+ 09648 3 18  440
 3.00000+ 6 1.38000+ 0 3.50000+ 6 1.38000+ 0 4.00000+ 6 1.35000+ 09648 3 18  441
 4.50000+ 6 1.30000+ 0 5.00000+ 6 1.28000+ 0 5.50000+ 6 1.33000+ 09648 3 18  442
 6.00000+ 6 1.49000+ 0 7.00000+ 6 1.97000+ 0 8.00000+ 6 2.27000+ 09648 3 18  443
 9.00000+ 6 2.38000+ 0 1.00000+ 7 2.41000+ 0 1.10000+ 7 2.41000+ 09648 3 18  444
 1.20000+ 7 2.41000+ 0 1.30000+ 7 2.54000+ 0 1.40000+ 7 2.68000+ 09648 3 18  445
 1.50000+ 7 2.73000+ 0 1.60000+ 7 2.81000+ 0 1.70000+ 7 2.84000+ 09648 3 18  446
 1.80000+ 7 2.87000+ 0 1.90000+ 7 2.87000+ 0 2.00000+ 7 2.89000+ 09648 3 18  447
                                                                   9648 3  0  448
 9.62480+ 4 2.45941+ 2          0          99          0          09648 3 37  449
 0.0     + 0-1.78274+ 7          0           0          1          39648 3 37  450
          3          2          0           0          0          09648 3 37  451
 1.78999+ 7 0.0     + 0 1.90000+ 7 1.95290- 3 2.00000+ 7 2.65470- 29648 3 37  452
                                                                   9648 3  0  453
 9.62480+ 4 2.45941+ 2          0           1          0          09648 3 51  454
 0.0     + 0-4.34000+ 4          0           0          1         389648 3 51  455
         38          3          0           0          0          09648 3 51  456
 4.35765+ 4 0.0     + 0 5.00000+ 4 1.35734- 1 8.00000+ 4 6.37071- 19648 3 51  457
 1.00000+ 5 8.30073- 1 1.44184+ 5 1.08651+ 0 2.00000+ 5 1.24467+ 09648 3 51  458
 2.98208+ 5 1.34171+ 0 4.00000+ 5 1.35161+ 0 5.12074+ 5 1.29081+ 09648 3 51  459
 6.00000+ 5 1.24001+ 0 7.00000+ 5 1.12530+ 0 8.00000+ 5 9.45845- 19648 3 51  460
 9.00000+ 5 7.[illegible]8702- 1 1.00000+ 6 7.54830- 1 1.05226+ 6 7.45647- 19648 3 51  461
 1.05427+ 6 7.42957- 1 1.08841+ 6 7.07656- 1 1.09845+ 6 6.96904- 19648 3 51  462
 1.13058+ 6 6.58980- 1 1.20000+ 6 5.94096- 1 1.40000+ 6 4.72673- 19648 3 51  463
 1.60000+ 6 3.75344- 1 2.00000+ 6 2.03211- 1 2.50000+ 6 7.75873- 29648 3 51  464
 3.00000+ 6 2.63953- 2 4.00000+ 6 2.56331- 3 5.00000+ 6 2.76686- 49648 3 51  465
 6.00000+ 6 2.70044- 5 6.23800+ 6 1.49813- 5 7.00000+ 6 1.21987- 69648 3 51  466
 8.00000+ 6 3.21182- 8 1.00000+ 7 4.70958-11 1.14166+ 7 8.98803-139648 3 51  467
 1.30000+ 7 1.41072-14 1.50000+ 7 7.82314-16 1.70000+ 7 6.95432-179648 3 51  468
 1.78990+ 7 2.00068-17 2.00000+ 7 2.42028-18                       9648 3 51  469
                                                                   9648 3  0  470
 9.62480+ 4 2.45941+ 2          0           2          0          09648 3 52  471
 0.0     + 0-1.43600+ 5          0           0          1         349648 3 52  472
         34          3          0           0          0          09648 3 52  473
 1.44184+ 5 0.0     + 0 2.00000+ 5 1.18428- 2 2.98208+ 5 5.01254- 29648 3 52  474
 4.00000+ 5 1.12867- 1 5.12074+ 5 1.95137- 1 6.00000+ 5 2.63234- 19648 3 52  475
 7.00000+ 5 3.20225- 1 8.00000+ 5 3.35599- 1 9.00000+ 5 3.34810- 19648 3 52  476
 1.00000+ 6 3.59206- 1 1.05226+ 6 3.74534- 1 1.05427+ 6 3.74160- 19648 3 52  477
 1.08841+ 6 3.72075- 1 1.09845+ 6 3.71308- 1 1.13058+ 6 3.62229- 19648 3 52  478
 1.20000+ 6 3.48538- 1 1.40000+ 6 3.10948- 1 1.60000+ 6 2.61245- 19648 3 52  479
 2.00000+ 6 1.49291- 1 2.50000+ 6 6.00189- 2 3.00000+ 6 2.18630- 29648 3 52  480
 4.00000+ 6 2.46311- 3 5.00000+ 6 2.99480- 4 6.00000+ 6 3.18507- 59648 3 52  481
 6.23800+ 6 1.79310- 5 7.00000+ 6 1.51529- 6 8.00000+ 6 4.13873- 89648 3 52  482
 1.00000+ 7 6.41053-11 1.14166+ 7 1.25336-12 1.30000+ 7 2.00970-149648 3 52  483
 1.50000+ 7 1.14221-15 1.70000+ 7 1.03554-16 1.78990+ 7 3.00117-179648 3 52  484
 2.00000+ 7 3.68446-18                                             9648 3 52  485
                                                                   9648 3  0  486
 9.62480+ 4 2.45941+ 2          0           3          0          09648 3 53  487
 0.0     + 0-2.97000+ 5          0           0          1         329648 3 53  488
         32          3          0           0          0          09648 3 53  489
 2.98208+ 5 0.0     + 0 4.00000+ 5 6.49572- 5 5.12074+ 5 8.26627- 49648 3 53  490
 6.00000+ 5 3.00456- 3 7.00000+ 5 7.43776- 3 8.00000+ 5 1.32019- 29648 3 53  491
 9.00000+ 5 1.99080- 2 1.00000+ 6 2.95808- 2 1.05226+ 6 3.55618- 29648 3 53  492
 1.05427+ 6 3.57775- 2 1.08841+ 6 3.91901- 2 1.09845+ 6 4.01463- 29648 3 53  493
 1.13058+ 6 4.22070- 2 1.20000+ 6 4.74592- 2 1.40000+ 6 5.78380- 29648 3 53  494
 1.60000+ 6 5.88511- 2 2.00000+ 6 4.14492- 2 2.50000+ 6 1.95086- 29648 3 53  495
 3.00000+ 6 8.26972- 3 4.00000+ 6 1.23663- 3 5.00000+ 6 1.90080- 49648 3 53  496
 6.00000+ 6 2.39367- 5 6.23800+ 6 1.38478- 5 7.00000+ 6 1.24961- 69648 3 53  497
 8.00000+ 6 3.63117- 8 1.00000+ 7 6.17287-11 1.14166+ 7 1.26161-129648 3 53  498
 1.30000+ 7 2.09737-14 1.50000+ 7 1.23900-15 1.70000+ 7 1.15839-169648 3 53  499
 1.78990+ 7 3.39573-17 2.00000+ 7 4.26452-18                       9648 3 53  500
                                                                   9648 3  0  501
 9.62480+ 4 2.45941+ 2          0           4          0          09648 3 54  502
```

```
 0.0     + 0-5.10000+ 5           0           0           1          309648 3 54   503
          30           3           0           0           0           09648 3 54   504
 5.12074+ 5 0.0     + 0 6.00000+ 5 7.39534- 8 7.00000+ 5 1.37500- 69648 3 54   505
 8.00000+ 5 6.91612- 6 9.00000+ 5 2.10914- 5 1.00000+ 6 5.77305- 59648 3 54   506
 1.05226+ 6 8.90511- 5 1.05427+ 6 9.04607- 5 1.08841+ 6 1.30128- 49648 3 54   507
 1.09845+ 6 1.39969- 4 1.13058+ 6 1.74050- 4 1.20000+ 6 2.63943- 49648 3 54   508
 1.40000+ 6 6.45570- 4 1.60000+ 6 1.07768- 3 2.00000+ 6 1.66778- 39648 3 54   509
 2.50000+ 6 1.62770- 3 3.00000+ 6 1.16514- 3 4.00000+ 6 3.32518- 49648 3 54   510
 5.00000+ 6 7.64460- 5 6.00000+ 6 1.23311- 5 6.23800+ 6 7.40821- 69648 3 54   511
 7.00000+ 6 7.28669- 7 8.00000+ 6 2.28521- 8 1.00000+ 7 4.39312-119648 3 54   512
 1.14166+ 7 9.59961-13 1.30000+ 7 1.69447-14 1.50000+ 7 1.07079-159648 3 54   513
 1.70000+ 7 1.05722-16 1.78990+ 7 3.16089-17 2.00000+ 7 4.12473-189648 3 54   514
                                                                       9648 3  0   515
 9.62480+ 4 2.45941+ 2           0           5           0           09648 3 55   516
 0.0     + 0-1.04800+ 6           0           0           1          249648 3 55   517
          24           3           0           0           0           09648 3 55   518
 1.05226+ 6 0.0     + 0 1.05427+ 6 5.90373- 3 1.08841+ 6 4.38431- 29648 3 55   519
 1.09845+ 6 5.46304- 2 1.13058+ 6 8.54030- 2 1.20000+ 6 1.34420- 19648 3 55   520
 1.40000+ 6 1.86996- 1 1.60000+ 6 1.81706- 1 2.00000+ 6 1.25671- 19648 3 55   521
 2.50000+ 6 5.97737- 2 3.00000+ 6 2.28756- 2 4.00000+ 6 2.35773- 39648 3 55   522
 5.00000+ 6 2.51031- 4 6.00000+ 6 2.40893- 5 6.23800+ 6 1.33871- 59648 3 55   523
 7.00000+ 6 1.10313- 6 8.00000+ 6 2.94451- 8 1.00000+ 7 4.39835-119648 3 55   524
 1.14166+ 7 8.45541-13 1.30000+ 7 1.33935-14 1.50000+ 7 7.47193-169648 3 55   525
 1.70000+ 7 6.68643-17 1.78990+ 7 1.92939-17 2.00000+ 7 2.34841-189648 3 55   526
                                                                       9648 3  0   527
 9.62480+ 4 2.45941+ 2           0           6           0           09648 3 56   528
 0.0     + 0-1.05000+ 6           0           0           1          239648 3 56   529
          23           3           0           0           0           09648 3 56   530
 1.05427+ 6 0.0     + 0 1.08841+ 6 4.10712- 2 1.09845+ 6 4.90704- 29648 3 56   531
 1.13058+ 6 6.99283- 2 1.20000+ 6 9.53538- 2 1.40000+ 6 1.13715- 19648 3 56   532
 1.60000+ 6 1.07003- 1 2.00000+ 6 7.28015- 2 2.50000+ 6 3.49255- 29648 3 56   533
 3.00000+ 6 1.36616- 2 4.00000+ 6 1.41704- 3 5.00000+ 6 1.56018- 49648 3 56   534
 6.00000+ 6 1.51866- 5 6.23800+ 6 8.41623- 6 7.00000+ 6 6.84441- 79648 3 56   535
 8.00000+ 6 1.80683- 8 1.00000+ 7 2.73501-11 1.14166+ 7 5.32710-139648 3 56   536
 1.30000+ 7 8.50681-15 1.50000+ 7 4.77601-16 1.70000+ 7 4.28411-179648 3 56   537
 1.78990+ 7 1.23619-17 2.00000+ 7 1.50163-18                           9648 3 56   538
                                                                       9648 3  0   539
 9.62480+ 4 2.45941+ 2           0           7           0           09648 3 57   540
 0.0     + 0-1.08400+ 6           0           0           1          229648 3 57   541
          22           3           0           0           0           09648 3 57   542
 1.08841+ 6 0.0     + 0 1.09845+ 6 6.41927- 3 1.13058+ 6 1.85403- 29648 3 57   543
 1.20000+ 6 3.89336- 2 1.40000+ 6 5.88454- 2 1.60000+ 6 5.63360- 29648 3 57   544
 2.00000+ 6 3.83476- 2 2.50000+ 6 1.80466- 2 3.00000+ 6 6.75975- 39648 3 57   545
 4.00000+ 6 6.59771- 4 5.00000+ 6 6.75395- 5 6.00000+ 6 6.32358- 69648 3 57   546
 6.23800+ 6 3.49797- 6 7.00000+ 6 2.82073- 7 8.00000+ 6 7.27698- 99648 3 57   547
 1.00000+ 7 1.06271-11 1.14166+ 7 2.04687-13 1.30000+ 7 3.19371-159648 3 57   548
 1.50000+ 7 1.73823-16 1.70000+ 7 1.53329-17 1.78990+ 7 4.39994-189648 3 57   549
 2.00000+ 7 5.29397-19                                                 9648 3 57   550
                                                                       9648 3  0   551
 9.62480+ 4 2.45941+ 2           0           8           0           09648 3 58   552
 0.0     + 0-1.09400+ 6           0           0           1          219648 3 58   553
          21           3           0           0           0           09648 3 58   554
 1.09845+ 6 0.0     + 0 1.13058+ 6 2.40944- 2 1.20000+ 6 5.44842- 29648 3 58   555
 1.40000+ 6 8.86759- 2 1.60000+ 6 9.39171- 2 2.00000+ 6 7.36724- 29648 3 58   556
 2.50000+ 6 4.01481- 2 3.00000+ 6 1.73559- 2 4.00000+ 6 2.09243- 39648 3 58   557
 5.00000+ 6 2.56350- 4 6.00000+ 6 2.66492- 5 6.23800+ 6 1.49155- 59648 3 58   558
 7.00000+ 6 1.24020- 6 8.00000+ 6 3.33278- 8 1.00000+ 7 5.21965-119648 3 58   559
 1.14166+ 7 1.03184-12 1.30000+ 7 1.65921-14 1.50000+ 7 9.41660-169648 3 58   560
 1.70000+ 7 8.54151-17 1.78990+ 7 2.47570-17 2.00000+ 7 3.03702-189648 3 58   561
                                                                       9648 3  0   562
 9.62480+ 4 2.45941+ 2           0          98           0           09648 3 91   563
 0.0     + 0-1.12600+ 6           0           0           1          209648 3 91   564
          20           3           0           0           0           09648 3 91   565
 1.13058+ 6 0.0     + 0 1.20000+ 6 1.24055- 2 1.40000+ 6 1.58086- 19648 3 91   566
 1.60000+ 6 3.83713- 1 2.00000+ 6 8.41175- 1 2.50000+ 6 1.23833+ 09648 3 91   567
 3.00000+ 6 1.43779+ 0 4.00000+ 6 1.43614+ 0 5.00000+ 6 1.54226+ 09648 3 91   568
 6.00000+ 6 1.39216+ 0 6.23800+ 6 1.28008+ 0 7.00000+ 6 4.91958- 19648 3 91   569
 8.00000+ 6 8.72549- 2 1.00000+ 7 4.16107- 3 1.14166+ 7 7.38830- 49648 3 91   570
 1.30000+ 7 1.18465- 4 1.50000+ 7 1.01281- 4 1.70000+ 7 1.15477- 49648 3 91   571
 1.78990+ 7 9.94976- 5 2.00000+ 7 1.41161- 4                           9648 3 91   572
                                                                       9648 3  0   573
 9.62480+ 4 2.45941+ 2           0          99           0           09648 3102   574
```

```
 0.0     + 0 7.20000+ 5           0           0           2          439648 3102  575
           4           2          43           5           0           09648 3102  576
 1.00000- 5 0.0     + 0 2.53000- 2 0.0     + 0 1.50000+ 3 0.0     + 09648 3102  577
 3.00000+ 4 0.0     + 0 3.00000+ 4 3.53215- 1 4.35765+ 4 2.87134- 19648 3102  578
 5.00000+ 4 2.35034- 1 8.00000+ 4 1.41483- 1 1.00000+ 5 1.18716- 19648 3102  579
 1.44184+ 5 9.58952- 2 2.00000+ 5 8.18336- 2 2.98208+ 5 7.28865- 29648 3102  580
 4.00000+ 5 7.17954- 2 5.12074+ 5 7.28916- 2 6.00000+ 5 7.58307- 29648 3102  581
 7.00000+ 5 7.64697- 2 8.00000+ 5 7.19694- 2 9.00000+ 5 6.82747- 29648 3102  582
 1.00000+ 6 7.26161- 2 1.05226+ 6 7.63519- 2 1.05427+ 6 7.58555- 29648 3102  583
 1.08841+ 6 7.35504- 2 1.09845+ 6 7.27716- 2 1.13058+ 6 6.98140- 29648 3102  584
 1.20000+ 6 6.61016- 2 1.40000+ 6 6.41065- 2 1.60000+ 6 6.34768- 29648 3102  585
 2.00000+ 6 5.52900- 2 2.50000+ 6 4.08018- 2 3.00000+ 6 2.74718- 29648 3102  586
 4.00000+ 6 9.74260- 3 5.00000+ 6 3.45591- 3 6.00000+ 6 9.75160- 49648 3102  587
 6.23800+ 6 6.89536- 4 7.00000+ 6 1.22935- 4 8.00000+ 6 9.50310- 69648 3102  588
 1.00000+ 7 1.39463- 7 1.14166+ 7 1.40213- 8 1.30000+ 7 1.41062- 99648 3102  589
 1.50000+ 7 7.92928-10 1.70000+ 7 6.73629-10 1.78990+ 7 5.25620-109648 3102  590
 2.00000+ 7 6.21759-10                                                9648 3102  591
                                                                      9648 3  0  592
 9.62480+ 4 2.45941+ 2           0           0           0           09648 3251  593
 0.0     + 0 0.0     + 0           0           0           1          429648 3251  594
          42           3           0           0           0           09648 3251  595
 1.00000- 5 2.71067- 3 1.00000+ 3 3.11988- 3 1.00000+ 4 9.88300- 39648 3251  596
 3.00000+ 4 2.92228- 2 4.35765+ 4 4.33629- 2 5.00000+ 4 5.05070- 29648 3251  597
 8.00000+ 4 8.50323- 2 1.00000+ 5 1.07646- 1 1.44184+ 5 1.54422- 19648 3251  598
 2.00000+ 5 2.05587- 1 2.98208+ 5 2.75114- 1 4.00000+ 5 3.25046- 19648 3251  599
 5.12074+ 5 3.65158- 1 6.00000+ 5 3.87397- 1 7.00000+ 5 4.10632- 19648 3251  600
 8.00000+ 5 4.35268- 1 9.00000+ 5 4.54183- 1 1.00000+ 6 4.60243- 19648 3251  601
 1.05226+ 6 4.61465- 1 1.05427+ 6 4.61711- 1 1.08841+ 6 4.66001- 19648 3251  602
 1.09845+ 6 4.67470- 1 1.13058+ 6 4.71971- 1 1.20000+ 6 4.80297- 19648 3251  603
 1.40000+ 6 5.00908- 1 1.60000+ 6 5.26244- 1 2.00000+ 6 5.89295- 19648 3251  604
 2.50000+ 6 6.57363- 1 3.00000+ 6 7 03563- 1 4.00000+ 6 7.61267- 19648 3251  605
 5.00000+ 6 7.96532- 1 6.00000+ 6 8.15437- 1 6.23800+ 6 8.17965- 19648 3251  606
 7.00000+ 6 8.22002- 1 8.00000+ 6 8.21120- 1 1.00000+ 7 8.21107- 19648 3251  607
 1.14166+ 7 8.36835- 1 1.30000+ 7 8.63271- 1 1.50000+ 7 8.96523- 19648 3251  608
 1.70000+ 7 9.21936- 1 1.78990+ 7 9.30194- 1 2.00000+ 7 9.43357- 19648 3251  609
                                                                      9648 3  0  610
                                                                      9648 0  0  611
 9.62480+ 4 2.45941+ 2           1           1           0           09648 4  2  612
 0.0     + 0 2.45941+ 2           0           2         441          209648 4  2  613
 1.00000+ 0 2.71067- 3 3.30650- 6-1.02381-18 0.0     + 0 0.0     + 09648 4  2  614
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  615
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  616
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 9.99990- 1 4.87919- 39648 4  2  617
 1.13365- 5 1.28041- 8 7.80868-12-7.78174-15 0.0     + 0 0.0     + 09648 4  2  618
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  619
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  620
 0.0     + 0-2.71064- 3 9.99974- 1 6.97022- 3 2.36176- 5 4.65601- 89648 4  2  621
 5.73267-11 2.50196-14 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  622
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  623
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 9.91932- 6-4.87909- 39648 4  2  624
 9.99949- 1 9.03535- 3 4.00781- 5 1.09684- 7 2.00917-10 2.59982-139648 4  2  625
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  626
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  627
 0.0     + 0-3.84115- 8 2.26725- 5-6.97001- 3 9.99916- 1 1.10887- 29648 4  2  628
 6.06945- 5 2.10592- 7 5.02169-10 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  629
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  630
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 1.51843-10-1.02430- 79648 4  2  631
 3.93614- 5-9.03501- 3 9.99875- 1 1.31355- 2 8.54567- 5 3.58282- 79648 4  2  632
-3.62634- 8-7.64203-10 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  633
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  634
 0.0     + 0-6.06170-13 4.54342-10-2.03693- 7 6.01147- 5-1.10882- 29648 4  2  635
 9.99825- 1 1.51785- 2 1.14316- 4 5.59179- 7-4.88509- 8-1.41508- 99648 4  2  636
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  637
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 2.43310-15-1.98945-129648 4  2  638
 1.00342- 9-3.50973- 7 8.49681- 5-1.31348- 2 9.99767- 1 1.72188- 29648 4  2  639
 1.47342- 4 8.23316- 7-3.48864- 8-1.27565- 9 0.0     + 0 0.0     + 09648 4  2  640
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  641
 0.0     + 0-9.79877-18 8.62846-15-4.78705-12 1.90275- 9-5.52774- 79648 4  2  642
 1.13936- 4-1.51775- 2 9.99701- 1 1.92572- 2 1.84532- 4 1.15969- 69648 4  2  643
-2.97247- 8-7.29993-10 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 09648 4  2  644
 0.0     + 0 0.0     + 0 0.0     + 0 0.0     + 0 3.95490-20-2.15845-179648 4  2  645
 2.23268-14-9.82994-12 3.27223- 9-8.17532- 7 1.47024- 4-1.72175- 29648 4  2  646
```

```
 9.99627- 1 2.12942- 2 2.25844- 4 1.57624- 6-5.02289- 8-7.93584-109648 4  2  647
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  648
 0.0    + 0 0.0    + 0 6.32408-20-6.29739-17 4.90849-14-1.82066-119648 4  2  649
 5.24860- 9-1.15366- 6 1.84235- 4-1.92557- 2 9.99544- 1 2.33301- 29648 4  2  650
 2.71259- 4 2.08032- 6-8.47487- 8-3.90397- 9 0.0    + 0 0.0    + 09648 4  2  651
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  652
 1.98846-19-1.38844-16 9.69422-14-3.12999-11 7.98562- 9-1.56958- 69648 4  2  653
 2.25571- 4-2.12923- 2 9.99453- 1 2.53650- 2 3.20788- 4 2.67798- 69648 4  2  654
-1.48422- 8-1.17478- 9 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  655
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 4.53673-19-3.99557-169648 4  2  656
 1.77065-13-5.08221-11 1.16541- 8-2.07367- 6 2.71033- 4-2.33278- 29648 4  2  657
 9.99354- 1 2.73991- 2 3.74559- 4 3.38662- 6-2.30632- 8-3.69202- 99648 4  2  658
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  659
 0.0    + 0 0.0    + 0 1.16867-18-8.61856-16 3.04451-13-7.88500-119648 4  2  660
 1.64418- 8-2.67433- 6 3.20621- 4-2.53624- 2 9.99247- 1 2.94324- 29648 4  2  661
 4.32373- 4 4.20315- 6 4.17298- 8 4.39311-10 0.0    + 0 0.0    + 09648 4  2  662
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  663
 2.40801-18-1.63978-15 4.98711-13-1.17859-10 2.25536- 8-3.37996- 69648 4  2  664
 3.74334- 4-2.73960- 2 9.99131- 1 3.14651- 2 4.94390- 4 5.14817- 69648 4  2  665
-1.12210- 8-2.31226- 9 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  666
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 4.45087-18-2.89214-159648 4  2  667
 7.84908-13-1.70759-10 3.02115- 8-4.19894- 6 4.32172- 4-2.94289- 29648 4  2  668
 9.99007- 1 3.34972- 2 5.60406- 4 6.21625- 6 1.48082- 8-1.55249- 99648 4  2  669
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  670
 0.0    + 0-1.47862-20 7.68060-18-4.83464-15 1.19448-12-2.40929-109648 4  2  671
 3.96543- 8-5.13966- 6 4.94134- 4-3.14611- 2 9.98875- 1 3.5 286- 29648 4  2  672
 6.30628- 4 7.42649- 6 2.37097- 8 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  673
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0-2.55170-209648 4  2  674
 1.26115-17-7.75381-15 1.76623-12-3.32247-10 5.11382- 8-6.21050- 69648 4  2  675
 5.60220- 4-3.34926- 2 9.98735- 1 3.75594- 2 7.04954- 4 8.78224- 69648 4  2  676
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  677
 0.0    + 0 0.0    + 0 0.0    + 0-4.18509-20 1.99194-17-1.20231-149648 4  2  678
 2.54737-12-4.49135-10 6.49361- 8-7.41985- 6 6.30428- 4-3.55234- 29648 4  2  679
 9.98586- 1 3.95895- 2 7.83422- 4 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  680
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  681
 0.0    + 0-6.59798-20 3.04773-17-1.81209-14 3.59466-12-5.96582-109648 4  2  682
 8.13380- 8-8.77608- 6 7.04757- 4-3.75536- 2 9.98429- 1 4.16191- 29648 4  2  683
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09648 4  2  684
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0-1.00723-199648 4  2  685
 4.53942-17-2.66516-14 4.97561-12-7.80185-10 1.00651- 7-1.02876- 59648 4  2  686
 7.83207- 4-3.95831- 2 9.98264- 1                                 9648 4  2  687
 0.0    + 0 0.0    + 0          0          0          1          429648 4  2  688
        42          2          0          0          0          09648 4  2  689
 0.0    + 0 1.00000- 5          0          0          2          09648 4  2  690
 0.0    + 0 0.0    + 0                                            9648 4  2  691
 0.0    + 0 1.00000+ 3          0          0          2          09648 4  2  692
 4.09872- 4 2.45878- 4                                            9648 4  2  693
 0.0    + 0 1.00000+ 4          0          0          4          09648 4  2  694
 7.19601- 3 8.71133- 3 3.15673- 7 1.82491- 8                      9648 4  2  695
 0.0    + 0 3.00000+ 4          0          0          4          09648 4  2  696
 2.65700- 2 2.12794- 2 8.74936- 6 1.34914- 6                      9648 4  2  697
 0.0    + 0 4.35765+ 4          0          0          6          09648 4  2  698
 4.07263- 2 2.71730- 2 2.71960- 5 5.62774- 6-2.64158-10 4.04133- 99648 4  2  699
 0.0    + 0 5.00000+ 4          0          0          6          09648 4  2  700
 4.78745- 2 2.86639- 2 4.13522- 5 5.02984- 6-5.13715-10 7.71418- 99648 4  2  701
 0.0    + 0 8.00000+ 4          0          0          6          09648 4  2  702
 8.24160- 2 3.44830- 2 1.72572- 4 2.25598- 5-4.73928- 9 7.20417- 89648 4  2  703
 0.0    + 0 1.00000+ 5          0          0          6          09648 4  2  704
 1.05042- 1 3.89123- 2 3.36451- 4 4.64923- 5-1.28472- 8 2.19404- 79648 4  2  705
 0.0    + 0 1.44184+ 5          0          0          6          09648 4  2  706
 1.51847- 1 4.96283- 2 9.85463- 4 1.48650- 4-5.39242- 8 1.37983- 69648 4  2  707
 0.0    + 0 2.00000+ 5          0          0          6          09648 4  2  708
 2.03052- 1 6.41272- 2 2.50703- 3 4.09420- 4-7.36284- 8 3.11847- 69648 4  2  709
 0.0    + 0 2.98208+ 5          0          0          8          09648 4  2  710
 2.72649- 1 8.98914- 2 7.51191- 3 1.46671- 3 5.17915- 6 1.66927- 59648 4  2  711
 1.99782- 8 6.44437-10                                            9648 4  2  712
 0.0    + 0 4.00000+ 5          0          0          8          09648 4  2  713
 3.22650- 1 1.14991- 1 1.62329- 2 3.89078- 3 3.84576- 5 6.75849- 59648 4  2  714
 1.65236- 7 4.42149- 9                                            9648 4  2  715
 0.0    + 0 5.12074+ 5          0          0          8          09648 4  2  716
 3.62830- 1 1.40055- 1 3.04653- 2 9.05169- 3 2.00745- 4 2.23874- 49648 4  2  717
 9.90513- 7 2.09790- 8                                            9648 4  2  718
```

```
0.0     + 0 6.00000+ 5           0           0           10          09648 4  2  719
3.85119- 1 1.58336- 1 4.48962- 2 1.56042- 2 5.79871- 4 4.88825- 49648 4  2  720
4.13346- 6 4.36900- 7 4.24626- 9 4.87416-10                          9648 4  2  721
0.0     + 0 7.00000+ 5           0           0           10          09648 4  2  722
4.08410- 1 1.79035- 1 6.51767- 2 2.65321- 2 1.54641- 3 1.00541- 39648 4  2  723
1.26671- 5 1.46367- 6 1.73095- 8 1.82611- 9                          9648 4  2  724
0.0     + 0 8.00000+ 5           0           0           10          09648 4  2  725
4.33106- 1 2.01178- 1 8.98340- 2 4.19879- 2 3.56025- 3 1.83309- 39648 4  2  726
3.35824- 5 4.19091- 6 5.90071- 8 5.72929- 9                          9648 4  2  727
0.0     + 0 9.00000+ 5           0           0           10          09648 4  2  728
4.52084- 1 2.24201- 1 1.16538- 1 6.17994- 2 7.15519- 3 3.10938- 39648 4  2  729
7.78284- 5 1.04423- 5 1.71825- 7 1.59822- 8                          9648 4  2  730
0.0     + 0 1.00000+ 6           0           0           10          09648 4  2  731
4.58202- 1 2.45957- 1 1.41070- 1 8.42754- 2 1.26154- 2 4.99344- 39648 4  2  732
1.58326- 4 2.28226- 5 4.32115- 7 4.08420- 8                          9648 4  2  733
0.0     + 0 1.05226+ 6           0           0           10          09648 4  2  734
4.59454- 1 2.57047- 1 1.52999- 1 9.68286- 2 1.63039- 2 6.24005- 39648 4  2  735
2.20492- 4 3.29508- 5 6.68969- 7 6.43119- 8                          9648 4  2  736
0.0     + 0 1.05427+ 6           0           0           10          09648 4  2  737
4.59701- 1 2.57494- 1 1.53515- 1 9.73438- 2 1.64651- 2 6.29411- 39648 4  2  738
2.23311- 4 3.34175- 5 6.80242- 7 6.54403- 8                          9648 4  2  739
0.0     + 0 1.08841+ 6           0           0           10          09648 4  2  740
4.64014- 1 2.65751- 1 1.62261- 1 1.06491- 1 1.93700- 2 7.25208- 39648 4  2  741
2.75821- 4 4.22303- 5 8.98852- 7 8.75141- 8                          9648 4  2  742
0.0     + 0 1.09845+ 6           0           0           10          09648 4  2  743
4.65490- 1 2.68333- 1 1.64880- 1 1.09282- 1 2.02917- 2 7.55346- 39648 4  2  744
2.93109- 4 4.51759- 5 9.74121- 7 9.51894- 8                          9648 4  2  745
0.0     + 0 1.13058+ 6           0           0           10          09648 4  2  746
4.70012- 1 2.76210- 1 1.73100- 1 1.18200- 1 2.34147- 2 8.54175- 39648 4  2  747
3.54033- 4 5.56583- 5 1.25205- 6 1.23829- 7                          9648 4  2  748
0.0     + 0 1.20000+ 6           0           0           10          09648 4  2  749
4.78382- 1 2.92714- 1 1.89690- 1 1.37702- 1 3.10062- 2 1.09748- 29648 4  2  750
5.17204- 4 8.47413- 5 2.08537- 6 2.11369- 7                          9648 4  2  751
0.0     + 0 1.40000+ 6           0           0           12          09648 4  2  752
4.99111- 1 3.35947- 1 2.29036- 1 1.91945- 1 5.84211- 2 1.98843- 29648 4  2  753
1.29590- 3 2.28517- 4 1.05519- 5 8.22318- 7 3.25361- 8 1.13730- 99648 4  2  754
0.0     + 0 1.60000+ 6           0           0           12          09648 4  2  755
5.24547- 1 3.73061- 1 2.59647- 1 2.38931- 1 9.12314- 2 3.11701- 29648 4  2  756
2.64420- 3 5.23545- 4 2.85797- 5 2.57489- 6 1.22816- 7 4.92899- 99648 4  2  757
0.0     + 0 2.00000+ 6           0           0           12          09648 4  2  758
5.87755- 1 4.30927- 1 3.09001- 1 3.02768- 1 1.56975- 1 5.73119- 29648 4  2  759
7.47439- 3 1.83714- 3 1.34851- 4 1.64217- 5 9.85695- 7 5.48487- 89648 4  2  760
0.0     + 0 2.50000+ 6           0           0           12          09648 4  2  761
6.55965- 1 4.83159- 1 3.62300- 1 3.38417- 1 2.16475- 1 8.85493- 29648 4  2  762
1.76634- 2 5.44706- 3 5.50285- 4 9.41605- 5 6.29276- 6 5.69632- 79648 4  2  763
0.0     + 0 3.00000+ 6           0           0           14          09648 4  2  764
7.02286- 1 5.28027- 1 4.10492- 1 3.55478- 1 2.52392- 1 1.15224- 19648 4  2  765
3.16197- 2 1.15873- 2 1.57521- 3 3.64476- 4 2.39471- 5 4.13005- 69648 4  2  766
2.35061- 7 2.80889- 9                                                9648 4  2  767
0.0     + 0 4.00000+ 6           0           0           16          09648 4  2  768
7.60210- 1 6.09079- 1 4.88344- 1 3.90299- 1 2.95487- 1 1.62059- 19648 4  2  769
6.39011- 2 2.96294- 2 7.42279- 3 2.28156- 3 2.11340- 4 6.54929- 59648 4  2  770
6.12105- 6 8.35361- 7 3.23429- 8 1.60090- 9                          9648 4  2  771
0.0     + 0 5.00000+ 6           0           0           16          09648 4  2  772
7.95640- 1 6.69855- 1 5.48857- 1 4.40553- 1 3.32109- 1 2.11110- 19648 4  2  773
1.00083- 1 5.55679- 2 2.35730- 2 8.61997- 3 1.77648- 3 5.14914- 49648 4  2  774
5.74902- 5 1.03977- 5 5.20299- 7 3.02134- 8                          9648 4  2  775
0.0     + 0 6.00000+ 6           0           0           18          09648 4  2  776
8.14638- 1 7.04197- 1 5.94365- 1 4.88757- 1 3.70789- 1 2.59659- 19648 4  2  777
1.41063- 1 8.47978- 2 4.90292- 2 2.29856- 2 7.83891- 3 2.05024- 39648 4  2  778
3.10516- 4 6.22340- 5 1.10633- 5 9.70647- 7 1.22956- 7 7.81301- 99648 4  2  779
0.0     + 0 6.23800+ 6           0           0           18          09648 4  2  780
8.17177- 1 7.08319- 1 6.01366- 1 4.97209- 1 3.79035- 1 2.69317- 19648 4  2  781
1.50530- 1 9.11601- 2 5.54182- 2 2.76127- 2 1.00977- 2 2.64529- 39648 4  2  782
4.35172- 4 9.19248- 5 1.71516- 5 1.63398- 6 2.14521- 7 1.40457- 89648 4  2  783
0.0     + 0 7.00000+ 6           0           0           18          09648 4  2  784
8.21227- 1 7.13119- 1 6.14527- 1 5.16657- 1 4.02182- 1 2.95544- 19648 4  2  785
1.80114- 1 1.11351- 1 7.66350- 2 4.54761- 2 1.96191- 2 5.53907- 39648 4  2  786
1.18420- 3 2.94863- 4 6.22671- 5 7.42927- 6 1.06973- 6 7.70305- 89648 4  2  787
0.0     + 0 8.00000+ 6           0           0           20          09648 4  2  788
8.20326- 1 7.06411- 1 6.16538- 1 5.29715- 1 4.26704- 1 3.24182- 19648 4  2  789
2.19713- 1 1.42212- 1 1.07730- 1 7.61124- 2 3.89217- 2 1.32765- 29648 4  2  790
```

```
 3.82010- 3 1.13225- 3 2.50891- 4 4.44585- 5 8.75265- 6 9.15591- 79648 4  2  791
 1.05612- 7 6.34485- 9                                                 9648 4  2  792
 0.0    + 0 1.00000+ 7          0          0          20            09648 4  2  793
 8.20261- 1 6.86957- 1 6.02324- 1 5.33265- 1 4.56002- 1 3.74912- 19648 4  2  794
 2.95033- 1 2.22455- 1 1.77994- 1 1.50874- 1 1.03949- 1 5.27273- 29648 4  2  795
 2.24232- 2 7.95686- 3 2.14457- 3 4.98657- 4 1.21539- 4 1.98454- 59648 4  2  796
 3.18307- 6 5.44843- 7                                                 9648 4  2  797
 0.0    + 0 1.14166+ 7          0          0          20            09648 4  2  798
 8.36014- 1 6.95906- 1 6.02292- 1 5.31632- 1 4.66517- 1 4.01421- 19648 4  2  799
 3.35011- 1 2.75537- 1 2.27130- 1 1.97971- 1 1.56751- 1 9.77768- 29648 4  2  800
 4.89959- 2 1.96774- 2 6.38977- 3 1.80355- 3 4.93610- 4 9.96616- 59648 4  2  801
 2.00504- 5 3.89050- 6                                                 9648 4  2  802
 0.0    + 0 1.30000+ 7          0          0          20            09648 4  2  803
 8.62535- 1 7.27456- 1 6.24268- 1 5.47738- 1 4.85892- 1 4.28209- 19648 4  2  804
 3.72809- 1 3.22169- 1 2.76295- 1 2.40580- 1 2.03412- 1 1.46760- 19648 4  2  805
 8.56834- 2 4.08388- 2 1.63552- 2 5.69523- 3 1.80397- 3 4.58005- 49648 4  2  806
 1.18408- 4 2.49136- 5                                                 9648 4  2  807
 0.0    + 0 1.50000+ 7          0          0          20            09648 4  2  808
 8.95932- 1 7.80834- 1 6.79029- 1 5.98259- 1 5.30465- 1 4.72729- 19648 4  2  809
 4.20434- 1 3.72177- 1 3.27535- 1 2.85717- 1 2.45173- 1 1.95086- 19648 4  2  810
 1.33387- 1 7.74487- 2 3.86835- 2 1.68048- 2 6.39458- 3 2.04724- 39648 4  2  811
 6.04790- 4 1.49218- 4                                                 9648 4  2  812
 0.0    + 0 1.70000+ 7          0          0          20            09648 4  2  813
 9.21473- 1 8.28033- 1 7.36311- 1 6.55786- 1 5.83608- 1 5.22437- 19648 4  2  814
 4.66404- 1 4.16118- 1 3.68332- 1 3.23066- 1 2.77618- 1 2.29654- 19648 4  2  815
 1.73485- 1 1.15987- 1 6.84054- 2 3.55579- 2 1.61641- 2 6.30930- 39648 4  2  816
 2.17166- 3 6.44220- 4                                                 9648 4  2  817
 0.0    + 0 1.78990+ 7          0          0          20            09648 4  2  818
 9.29775- 1 8.44303- 1 7.57782- 1 6.78802- 1 6.06418- 1 5.43713- 19648 4  2  819
 4.85957- 1 4.34095- 1 3.84632- 1 3.37847- 1 2.90836- 1 2.42589- 19648 4  2  820
 1.88538- 1 1.32055- 1 8.26715- 2 4.60858- 2 2.25955- 2 9.56715- 39648 4  2  821
 3.53760- 3 1.13021- 3                                                 9648 4  2  822
 0.0    + 0 2.00000+ 7          0          0          20            09648 4  2  823
 9.43010- 1 8.71359- 1 7.96096- 1 7.22709- 1 6.52640- 1 5.88056- 19648 4  2  824
 5.27946- 1 4.72477- 1 4.19881- 1 3.69655- 1 3.20228- 1 2.70619- 19648 4  2  825
 2.19415- 1 1.66233- 1 1.15960- 1 7.40376- 2 4.25406- 2 2.14730- 29648 4  2  826
 9.43162- 3 3.59561- 3                                                 9648 4  2  827
                                                                       9648 4  0  828
 9.62480+ 4 2.45941+ 2          0          2          0            09648 4 16  829
 0.0    + 0 2.45941+ 2          0          1          0            09648 4 16  830
 0.0    + 0 0.0    + 0          0          0          1            29648 4 16  831
          2          2          0          0          0            09648 4 16  832
 0.0    + 0 6.23800+ 6          0          0          1            29648 4 16  833
          2          2          0          0          0            09648 4 16  834
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                         9648 4 16  835
 0.0    + 0 2.00000+ 7          0          0          1            29648 4 16  836
          2          2          0          0          0            09648 4 16  837
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                         9648 4 16  838
                                                                     9648 4  0  839
 9.62480+ 4 2.45941+ 2          0          2          0            09648 4 17  840
 0.0    + 0 2.45941+ 2          0          1          0            09648 4 17  841
 0.0    + 0 0.0    + 0          0          0          1            29648 4 17  842
          2          2          0          0          0            09648 4 17  843
 0.0    + 0 1.14166+ 7          0          0          1            29648 4 17  844
          2          2          0          0          0            09648 4 17  845
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                         9648 4 17  846
 0.0    + 0 2.00000+ 7          0          0          1            29648 4 17  847
          2          2          0          0          0            09648 4 17  848
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                         9648 4 17  849
                                                                     9648 4  0  850
 9.62480+ 4 2.45941+ 2          0          2          0            09648 4 18  851
 0.0    + 0 2.45941+ 2          0          1          0            09648 4 18  852
 0.0    + 0 0.0    + 0          0          0          1            29648 4 18  853
          2          2          0          0          0            09648 4 18  854
 0.0    + 0 1.00000- 5          0          0          1            29648 4 18  855
          2          2          0          0          0            09648 4 18  856
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                         9648 4 18  857
 0.0    + 0 2.00000+ 7          0          0          1            29648 4 18  858
          2          2          0          0          0            09648 4 18  859
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                         9648 4 18  860
                                                                     9648 4  0  861
 9.62480+ 4 2.45941+ 2          0          2          0            09648 4 37  862
```

```
 0.0     + 0 2.45941+ 2           0           1           0           09648 4 37  863
 0.0     + 0 0.0     + 0           0           0           1           29648 4 37  864
           2           2           0           0           0           09648 4 37  865
 0.0     + 0 1.78999+ 7           0           0           1           29648 4 37  866
           2           2           0           0           0           09648 4 37  867
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                            9648 4 37  868
 0.0     + 0 2.00000+ 7           0           0           1           29648 4 37  869
           2           2           0           0           0           09648 4 37  870
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                            9648 4 37  871
                                                                        9648 4  0  872

 9.62480+ 4 2.45941+ 2           0           1           0           09648 4 51  873
 0.0     + 0 2.45941+ 2           0           2           0           09648 4 51  874
 0.0     + 0 0.0     + 0           0           0           1           39648 4 51  875
           3           2           0           0           0           09648 4 51  876
 0.0     + 0 4.35765+ 4           0           0           2           09648 4 51  877
 0.0     + 0 0.0     + 0                                               9648 4 51  878
 0.0     + 0 8.00000+ 6           0           0          18           09648 4 51  879
 0.0     + 0 1.18595- 1 0.0     + 0 1.77674- 2 0.0     + 0-3.01738- 39648 4 51  880
 0.0     + 0-3.96277- 3 0.0     + 0-1.53322- 3 0.0     + 0-7.42757- 59648 4 51  881
 0.0     + 0 4.72355- 6 0.0     + 0 1.56048- 8 0.0     + 0 2.51342- 89648 4 51  882
 0.0     + 0 2.00000+ 7           0           0          20           09648 4 51  883
 0.0     + 0 1.61683- 1 0.0     + 0 4.96521- 2 0.0     + 0 1.40087- 29648 4 51  884
 0.0     + 0 1.33376- 3 0.0     + 0-2.29345- 3 0.0     + 0-2.29981- 39648 4 51  885
 0.0     + 0-1.27682- 3 0.0     + 0-3.98282- 4 0.0     + 0-5.80039- 59648 4 51  886
 0.0     + 0 4.48370- 6                                                 9648 4 51  887
                                                                        9648 4  0  888

 9.62480+ 4 2.45941+ 2           0           1           0           09648 4 52  889
 0.0     + 0 2.45941+ 2           0           2           0           09648 4 52  890
 0.0     + 0 0.0     + 0           0           0           1           39648 4 52  891
           3           2           0           0           0           09648 4 52  892
 0.0     + 0 1.44184+ 5           0           0           2           09648 4 52  893
 0.0     + 0 0.0     + 0                                               9648 4 52  894
 0.0     + 0 8.00000+ 6           0           0          18           09648 4 52  895
 0.0     + 0 1.76663- 2 0.0     + 0-1.65734- 2 0.0     + 0-1.84029- 39648 4 52  896
 0.0     + 0 1.95144- 3 0.0     + 0 2.13365- 4 0.0     + 0-1.84612- 49648 4 52  897
 0.0     + 0-1.41774- 5 0.0     + 0-1.61608- 7 0.0     + 0-2.62713- 89648 4 52  898
 0.0     + 0 2.00000+ 7           0           0          20           09648 4 52  899
 0.0     + 0 9.03079- 2 0.0     + 0 1.17900- 3 0.0     + 0-8.64277- 39648 4 52  900
 0.0     + 0-4.02811- 3 0.0     + 0-7.18937- 5 0.0     + 0 9.01223- 49648 4 52  901
 0.0     + 0 3.93035- 4 0.0     + 0-2.17726- 6 0.0     + 0-4.45483- 59648 4 52  902
 0.0     + 0-1.43621- 5                                                 9648 4 52  903
                                                                        9648 4  0  904

 9.62480+ 4 2.45941+ 2           0           1           0           09648 4 53  905
 0.0     + 0 2.45941+ 2           0           2           0           09648 4 53  906
 0.0     + 0 0.0     + 0           0           0           1           39648 4 53  907
           3           2           0           0           0           09648 4 53  908
 0.0     + 0 2.98208+ 5           0           0           2           09648 4 53  909
 0.0     + 0 0.0     + 0                                               9648 4 53  910
 0.0     + 0 8.00000+ 6           0           0          18           09648 4 53  911
 0.0     + 0-4.79860- 2 0.0     + 0 8.87996- 4 0.0     + 0 2.85189- 39648 4 53  912
 0.0     + 0-1.23491- 3 0.0     + 0 2.27318- 4 0.0     + 0-7.53825- 59648 4 53  913
 0.0     + 0-9.11263- 6 0.0     + 0-6.56973- 8 0.0     + 0-2.58504- 89648 4 53  914
 0.0     + 0 2.00000+ 7           0           0          20           09648 4 53  915
 0.0     + 0 2.03618- 2 0.0     + 0-1.74821- 2 0.0     + 0-2.59380- 39648 4 53  916
 0.0     + 0 2.35967- 3 0.0     + 0 6.19743- 4 0.0     + 0-3.84455- 49648 4 53  917
 0.0     + 0-9.54031- 5 0.0     + 0 3.53041- 5 0.0     + 0 9.81006- 69648 4 53  918
 0.0     + 0-4.82981- 6                                                 9648 4 53  919
                                                                        9648 4  0  920

 9.62480+ 4 2.45941+ 2           0           1           0           09648 4 54  921
 0.0     + 0 2.45941+ 2           0           2           0           09648 4 54  922
 0.0     + 0 0.0     + 0           0           0           1           39648 4 54  923
           3           2           0           0           0           09648 4 54  924
 0.0     + 0 5.12074+ 5           0           0           2           09648 4 54  925
 0.0     + 0 0.0     + 0                                               9648 4 54  926
 0.0     + 0 8.00000+ 6           0           0          18           09648 4 54  927
 0.0     + 0-4.15310- 2 0.0     + 0 8.66144- 3 0.0     + 0-2.39907- 39648 4 54  928
 0.0     + 0 4.93831- 4 0.0     + 0-2.61686- 4 0.0     + 0-4.87510- 59648 4 54  929
 0.0     + 0-4.81362- 6 0.0     + 0-6.71923- 8 0.0     + 0-1.31650- 89648 4 54  930
 0.0     + 0 2.00000+ 7           0           0          20           09648 4 54  931
 0.0     + 0-3.48527- 2 0.0     + 0-7.26213- 3 0.0     + 0 4.45130- 39648 4 54  932
 0.0     + 0-2.53370- 4 0.0     + 0-5.17149- 4 0.0     + 0 1.43621- 49648 4 54  933
 0.0     + 0 2.94789- 5 0.0     + 0-3.65474- 5 0.0     + 0-1.07885- 59648 4 54  934
```

```
0.0     + 0-3.36271- 6                                                  9648 4 54  935
                                                                        9648 4  0  936
9.62480+ 4 2.45941+ 2          0          1          0                09648 4 55  937
0.0     + 0 2.45941+ 2         0          2          0                09648 4 55  938
0.0     + 0 0.0    + 0         0          0          1                39648 4 55  939
          3          2         0          0          0                09648 4 55  940
0.0     + 0 1.05226+ 6         0          0          2                09648 4 55  941
0.0     + 0 0.0    + 0                                                  9648 4 55  942
0.0     + 0 8.00000+ 6         0          0         18                09648 4 55  943
0.0     + 0 1.13759- 1 0.0   + 0 1.58333- 2 0.0   + 0-3.14558- 39648 4 55  944
0.0     + 0-3.49330- 3 0.0   + 0-1.38591- 3 0.0   + 0-2.99653- 59648 4 55  945
0.0     + 0 2.09282- 6 0.0   + 0 1.51373- 8 0.0   + 0 9.60709- 99648 4 55  946
0.0     + 0 2.00000+ 7         0          0         20                09648 4 55  947
0.0     + 0 1.60405- 1 0.0   + 0 4.86029- 2 0.0   + 0 1.33160- 29648 4 55  948
0.0     + 0 9.76839- 4 0.0   + 0-2.39224- 3 0.0   + 0-2.25019- 39648 4 55  949
0.0     + 0-1.19013- 3 0.0   + 0-3.36639- 4 0.0   + 0-4.27955- 59648 4 55  950
0.0     + 0 5.19900- 6                                                  9648 4 55  951
                                                                        9648 4  0  952
9.62480+ 4 2.4594'+ 2          0          1          0                09648 4 56  953
0.0     + 0 2.45941+ 2         0          2          0                09648 4 56  954
0.0     + 0 0.0    + 0         0          0          1                39648 4 56  955
          3          2         0          0          0                09648 4 56  956
0.0     + 0 1.05427+ 6         0          0          2                09648 4 56  957
0.0     + 0 0.0    + 0                                                  9648 4 56  958
0.0     + 0 8.00000+ 6         0          0         18                09648 4 56  959
0.0     + 0 1.59458- 1 0.0   + 0 4.83009- 2 0.0   + 0 1.43702- 29648 4 56  960
0.0     + 0 3.16284- 3 0.0   + 0 4.27216- 4 0.0   + 0 6.07671- 59648 4 56  961
0.0     + 0-6.10969- 6 0.0   + 0 3.70292- 8 0.0   + 0-3.33310-119648 4 56  962
0.0     + 0 2.00000+ 7         0          0         20                09648 4 56  963
0.0     + 0 1.93611- 1 0.0   + 0 7.94284- 2 0.0   + 0 3.75235- 29648 4 56  964
0.0     + 0 1.78116- 2 0.0   + 0 7.83132- 3 0.0   + 0 2.86627- 39648 4 56  965
0.0     + 0 7.10483- 4 0.0   + 0 1.06581- 5 0.0   + 0-3.95272- 59648 4 56  966
0.0     + 0-7.73280- 6                                                  9648 4 56  967
                                                                        9648 4  0  968
9.62480+ 4 2.45941+ 2          0          1          0                09648 4 57  969
0.0     + 0 2.45941+ 2         0          2          0                09648 4 57  970
0.0     + 0 0.0    + 0         0          0          1                39648 4 57  971
          3          2         0          0          0                09648 4 57  972
0.0     + 0 1.08841+ 6         0          0          2                09648 4 57  973
0.0     + 0 0.0    + 0                                                  9648 4 57  974
0.0     + 0 8.00000+ 6         0          0         18                09648 4 57  975
0.0     + 0 1.98153- 1 0.0   + 0 8.40908- 2 0.0   + 0 4.00839- 29648 4 57  976
0.0     + 0 1.88620- 2 0.0   + 0 7.01819- 3 0.0   + 0 2.51853- 39648 4 57  977
0.0     + 0 8.37276- 5 0.0   + 0 1.07309- 6 0.0   + 0 1.36484- 79648 4 57  978
0.0     + 0 2.00000+ 7         0          0         20                09648 4 57  979
0.0     + 0 2.16781- 1 0.0   + 0 1.03034- 1 0.0   + 0 5.88402- 29648 4 57  980
0.0     + 0 3.56582- 2 0.0   + 0 2.16972- 2 0.0   + 0 1.27336- 29648 4 57  981
0.0     + 0 6.82550- 3 0.0   + 0 3.13913- 3 0.0   + 0 9.74753- 49648 4 57  982
0.0     + 0 2.22425- 4                                                  9648 4 57  983
                                                                        9648 4  0  984
9.62480+ 4 2.45941+ 2          0          1          0                09648 4 58  985
0.0     + 0 2.45941+ 2         0          2          0                09648 4 58  986
0.0     + 0 0.0    + 0         0          0          1                39648 4 58  987
          3          2         0          0          0                09648 4 58  988
0.0     + 0 1.09845+ 6         0          0          2                09648 4 58  989
0.0     + 0 0.0    + 0                                                  9648 4 58  990
0.0     + 0 8.00000+ 6         0          0         18                09648 4 58  991
0.0     + 0 5.73337- 2 0.0   + 0-7.78565- 3 0.0   + 0-5.03444- 39648 4 58  992
0.0     + 0-4.31437- 4 0.0   + 0 4.11168- 4 0.0   + 0 1.63346- 49648 4 58  993
0.0     + 0 4.15536- 6 0.0   + 0 1.09283- 7 0.0   + 0 1.32442- 99648 4 58  994
0.0     + 0 2.00000+ 7         0          0         20                09648 4 58  995
0.0     + 0 1.24865- 1 0.0   + 0 2.13268- 2 0.0   + 0-2.34635- 39648 4 58  996
0.0     + 0-5.24263- 3 0.0   + 0-2.87878- 3 0.0   + 0-5.75851- 49648 4 58  997
0.0     + 0 3.75254- 4 0.0   + 0 3.22991- 4 0.0   + 0 1.03828- 49648 4 58  998
0.0     + 0 1.88120- 5                                                  9648 4 58  999
                                                                        9648 4  0 1000
9.62480+ 4 2.45941+ 2          0          2          0                09648 4 91 1001
0.0     + 0 2.45941+ 2         0          1          0                09648 4 91 1002
0.0     + 0 0.0    + 0         0          0          1                29648 4 91 1003
          2          2         0          0          0                09648 4 91 1004
0.0     + 0 1.13058+ 6         0          0          1                29648 4 91 1005
          2          2         0          0          0                09648 4 91 1006
```

```
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                          9648 4 91 1007
 0.0    + 0 2.00000+ 7           0           0           1           29648 4 91 1008
           2           2           0           0           0           09648 4 91 1009
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                          9648 4 91 1010
                                                                      9648 4  0 1011
                                                                      9648 0  0 1012
 9.62480+ 4 2.45941+ 2           0           0           2           09648 5 16 1013
 6.23800+ 6 0.0    + 0           0           9           1           29648 5 16 1014
           2           2           0           0           0           09648 5 16 1015
 6.23800+ 6 5.00000- 1 2.00000+ 7 5.00000- 1                          9648 5 16 1016
 0.0    + 0 0.0    + 0           0           0           1           89648 5 16 1017
           8           2           0           0           0           09648 5 16 1018
 6.23800+ 6 4.36953+ 5 8.00000+ 6 5.10183+ 5 1.00000+ 7 5.81878+ 59648 5 16 1019
 1.20000+ 7 6.45421+ 5 1.40000+ 7 7.03089+ 5 1.60000+ 7 7.56260+ 59648 5 16 1020
 1.80000+ 7 8.05847+ 5 2.00000+ 7 8.52489+ 5                          9648 5 16 1021
 6.23800+ 6 0.0    + 0           0           9           1           29648 5 16 1022
           2           2           0           0           0           09648 5 16 1023
 6.23800+ 6 5.00000- 1 2.00000+ 7 5.00000- 1                          9648 5 16 1024
 0.0    + 0 0.0    + 0           0           0           1           89648 5 16 1025
           8           2           0           0           0           09648 5 16 1026
 6.23800+ 6 4.13194+ 5 8.00000+ 6 4.13194+ 5 1.00000+ 7 4.13194+ 59648 5 16 1027
 1.20000+ 7 3.98292+ 5 1.40000+ 7 4.83330+ 5 1.60000+ 7 5.55517+ 59648 5 16 1028
 1.80000+ 7 6.19336+ 5 2.00000+ 7 6.77169+ 5                          9648 5 16 1029
                                                                      9648 5  0 1030
 9.62480+ 4 2.45941+ 2           0           0           3           09648 5 17 1031
 1.14166+ 7 0.0    + 0           0           9           1           29648 5 17 1032
           2           2           0           0           0           09648 5 17 1033
 1.14166+ 7 3.33333- 1 2.00000+ 7 3.33333- 1                          9648 5 17 1034
 0.0    + 0 0.0    + 0           0           0           1           69648 5 17 1035
           6           2           0           0           0           09648 5 17 1036
 1.14166+ 7 6.27571+ 5 1.20000+ 7 6.45421+ 5 1.40000+ 7 7.03089+ 59648 5 17 1037
 1.60000+ 7 7.56260+ 5 1.80000+ 7 8.05847+ 5 2.00000+ 7 8.52489+ 59648 5 17 1038
 1.14166+ 7 0.0    + 0           0           9           1           29648 5 17 1039
           2           2           0           0           0           09648 5 17 1040
 1.14166+ 7 3.33333- 1 2.00000+ 7 3.33333- 1                          9648 5 17 1041
 0.0    + 0 0.0    + 0           0           0           1           69648 5 17 1042
           6           2           0           0           0           09648 5 17 1043
 1.14166+ 7 4.32049+ 5 1.20000+ 7 4.42335+ 5 1.40000+ 7 4.94371+ 59648 5 17 1044
 1.60000+ 7 5.57845+ 5 1.80000+ 7 6.19818+ 5 2.00000+ 7 6.77274+ 59648 5 17 1045
 1.14166+ 7 0.0    + 0           0           9           1           29648 5 17 1046
           2           2           0           0           0           09648 5 17 1047
 1.14166+ 7 3.33333- 1 2.00000+ 7 3.33333- 1                          9648 5 17 1048
 0.0    + 0 0.0    + 0           0           0           1           69648 5 17 1049
           6           2           0           0           0           09648 5 17 1050
 1.14166+ 7 4.15289+ 5 1.20000+ 7 4.15289+ 5 1.40000+ 7 4.15289+ 59648 5 17 1051
 1.60000+ 7 4.15289+ 5 1.80000+ 7 4.15289+ 5 2.00000+ 7 4.32175+ 59648 5 17 1052
                                                                      9648 5  0 1053
 9.62480+ 4 2.45941+ 2           0           0           1           09648 5 18 1054
 2.00000+ 7 0.0    + 0           0           7           1           29648 5 18 1055
           2           2           0           0           0           09648 5 18 1056
 1.00000- 5 1.00000+ 0 2.00000+ 7 1.00000+ 0                          9648 5 18 1057
 0.0    + 0 0.0    + 0           0           0           1           29648 5 18 1058
           2           2           0           0           0           09648 5 18 1059
 1.00000- 5 1.38000+ 6 2.00000+ 7 1.38000+ 6                          9648 5 18 1060
                                                                      9648 5  0 1061
 9.62480+ 4 2.45941+ 2           0           0           4           09648 5 37 1062
 1.78999+ 7 0.0    + 0           0           9           1           29648 5 37 1063
           2           2           0           0           0           09648 5 37 1064
 1.78999+ 7 2.50000- 1 2.00000+ 7 2.50000- 1                          9648 5 37 1065
 0.0    + 0 0.0    + 0           0           0           1           39648 5 37 1066
           3           2           0           0           0           09648 5 37 1067
 1.78999+ 7 8.03440+ 5 1.80000+ 7 8.05847+ 5 2.00000+ 7 8.52489+ 59648 5 37 1068
 1.78999+ 7 0.0    + 0           0           9           1           29648 5 37 1069
           2           2           0           0           0           09648 5 37 1070
 1.78999+ 7 2.50000- 1 2.00000+ 7 2.50000- 1                          9648 5 37 1071
 0.0    + 0 0.0    + 0           0           0           1           39648 5 37 1072
           3           2           0           0           0           09648 5 37 1073
 1.78999+ 7 6.65608+ 5 1.80000+ 7 6.66612+ 5 2.00000+ 7 6.95040+ 59648 5 37 1074
 1.78999+ 7 0.0    + 0           0           9           1           29648 5 37 1075
           2           2           0           0           0           09648 5 37 1076
 1.78999+ 7 2.50000- 1 2.00000+ 7 2.50000- 1                          9648 5 37 1077
 0.0    + 0 0.0    + 0           0           0           1           39648 5 37 1078
```

```
          3           2           0           0           0           09648 5 37 1079
1.78999+ 7 4.74432+ 5 1.80000+ 7 4.74900+ 5 2.00000+ 7 4.92257+ 59648 5 37 1080
1.78999+ 7 0.0    + 0           0           9           1           29648 5 37 1081
          2           2           0           0           0           09648 5 37 1082
1.78999+ 7 2.50000- 1 2.00000+ 7 2.50000- 1                           9648 5 37 1083
0.0    + 0 0.0    + 0           0           0           1           39648 5 37 1084
          3           2           0           0           0           09648 5 37 1085
1.78999+ 7 4.14810+ 5 1.80000+ 7 4.14810+ 5 2.00000+ 7 4.14810+ 59648 5 37 1086
                                                                      9648 5  0 1087
9.62480+ 4 2.45941+ 2           0           0           1           09648 5 91 1088
1.13058+ 6 0.0    + 0           0           9           1           29648 5 91 1089
          2           2           0           0           0           09648 5 91 1090
1.13058+ 6 1.00000+ 0 2.00000+ 7 1.00000+ 0                           9648 5 91 1091
0.0    + 0 0.0    + 0           0           0           1          119648 5 91 1092
         11           2           0           0           0           09648 5 91 1093
1.13058+ 6 4.10596+ 5 2.00000+ 6 4.10596+ 5 4.00000+ 6 4.10596+ 59648 5 91 1094
6.00000+ 6 4.26053+ 5 8.00000+ 6 5.10183+ 5 1.00000+ 7 5.81878+ 59648 5 91 1095
1.20000+ 7 6.45421+ 5 1.40000+ 7 7.03089+ 5 1.60000+ 7 7.56260+ 59648 5 91 1096
1.80000+ 7 8.05847+ 5 2.00000+ 7 8.52489+ 5                           9648 5 91 1097
                                                                      9648 5  0 1098
                                                                      9648 0  0 1099
                                                                         0 0  0 1100
                                                                        -1 0  0    0
```

```
 CM-249                                                                0          0
9.62490+ 4 2.46936+ 2          1          1          0          09649 1451     1
0.0    + 0 0.0    + 0          0          0          0          09649 1451     2
0.0    + 0 0.0    + 0          0          0         97         399649 1451     3
96-CM-249 JAERI       EVAL-MAR84 Y.KIKUCHI AND T.NAKAGAWA         9649 1451     4
JAERI-M84-116         DIST-                                       9649 1451     5
HISTORY                                                           9649 1451     6
84-03 NEW EVALUATION FOR JENDL-3 WAS MADE BY Y.KIKUCHI AND        9649 1451     7
      T.NAKAGAWA (JAERI).  DETAILS ARE GIVEN IN REF. /1/.         9649 1451     8
                                                                  9649 1451     9
MF=1  GENERAL INFORMATION                                         9649 1451    10
  MT=451   COMMENTS AND DICTIONARY                                9649 1451    11
  MT=452   NUMBER OF NEUTRONS PER FISSION                         9649 1451    12
             SEMI-EMPIRICAL FORMULA BY HOWERTON /2/.              9649 1451    13
  MT=455   DELAYED NEUTRON DATA                                   9649 1451    14
             SEMI-EMPIRICAL FORMULA BY TUTTLE /3/.                9649 1451    15
                                                                  9649 1451    16
MF=2,MT=151  RESONANCE PARAMETERS                                 9649 1451    17
  RESOLVED RESONANCES : NOT GIVEN                                 9649 1451    18
                                                                  9649 1451    19
  UNRESOLVED RESONANCES : 4.15 EV - 30 KEV                        9649 1451    20
    OBTAIED FROM OPTICAL MODEL CALCULATION:                       9649 1451    21
        S0=1.08E-4  ,S1=3.95E-4  ,S2=1.04E-4  ,R=8.8 FM.          9649 1451    22
    ESTIMATED FROM LEVEL DENSITY PARAMETERS AND SYSTEMATICS       9649 1451    23
        DOBS=8.3  EV, GAM-G=40 MILLI-EV                           9649 1451    24
    GAM-F OBTAINED BY FITTING THE ESTIMATED SIG-FIS               9649 1451    25
                                                                  9649 1451    26
  CALCULATED RESONANCE INTEGRALS                                  9649 1451    27
      FISSION          139  B                                     9649 1451    28
      CAPTURE          215  B                                     9649 1451    29
                                                                  9649 1451    30
MF=3  NEUTRON CROSS SECTIONS                                      9649 1451    31
  BELOW 4.3 EV : POINT-WISE DATA                                  9649 1451    32
        SIG-C OBTAINED FROM MEASUREMENTS BY DIAMOND /4/.          9649 1451    33
        SIG-F ESTIMATED BY RATIO TO SIG-C IN UNRESOLVED RESONANCE 9649 1451    34
              REGION.                                             9649 1451    35
    2200 M/S CROSS SECTIONS                                       9649 1451    36
      TOTAL           13.22   B                                   9649 1451    37
      ELASTIC         10.8    B                                   9649 1451    38
      FISSION          0.82   B                                   9649 1451    39
      CAPTURE          1.6    B                                   9649 1451    40
                                                                  9649 1451    41
  BETWEEN 4.3 EV AND 30 KEV : NO BACKGROUND CROSS SECTION GIVEN.  9649 1451    42
                                                                  9649 1451    43
  ABOVE 30 KEV :                                                  9649 1451    44
  MT=1,2,4,51-57,91,102,251   SIG-T,SIG-EL,SIG-IN,SIG-C,MU-BAR   9649 1451    45
        CALCULATED WITH OPTICAL AND STATISTICAL MODELS.           9649 1451    46
        OPTICAL POTENTIAL PARAMETERS WERE OBTAINED BY FITTING THE 9649 1451    47
        TOTAL CROSS SECTION OF PHILLIPS AND HOWE /5/ FOR AM-241:  9649 1451    48
           V = 43.4 - 0.107*EN                        (MEV)       9649 1451    49
           WS= 6.95 - 0.339*EN + 0.0531*EN**2         (MEV)       9649 1451    50
           WV= 0            , VSO = 7.0               (MEV)       9649 1451    51
           R = RSO = 1.282  , RS = 1.29               (FM)        9649 1451    52
           A = ASO = 0.60   , B  = 0.5                (FM)        9649 1451    53
        STATISTICAL MODEL CALCULATION WITH CASTHY CODE /6/.       9649 1451    54
           COMPETING PROCESSES : FISSION,(N,2N),(N,3N),(N,4N).    9649 1451    55
           LEVEL FLUCTUATION CONSIDERED.                          9649 1451    56
        THE LEVEL SCHEME TAKEN FROM REF. /7/.                     9649 1451    57
                 NO.        ENERGY(KEV)   SPIN-PARITY             9649 1451    58
                G.S.            0           1/2 +                9649 1451    59
                  1            26.22        3/2 +                9649 1451    60
                  2            42.4         5/2 +                9649 1451    61
                  3            52.18        7/2 +                9649 1451    62
                  4           110           9/2 +                9649 1451    63
                  5           110.1         7/2 +                9649 1451    64
                  6           146           9/2 +                9649 1451    65
                  7           208           3/2 +                9649 1451    66
             CONTINUUM LEVELS ASSUMED ABOVE 220 KEV.              9649 1451    67
        THE LEVEL DENSITY PARAMETERS : GILBERT AND CAMERON /8/.   9649 1451    68
        GAMMA-RAY STRENGTH FUNCTION OF 4.8E-4 DEDUCED FROM        9649 1451    69
        UNRESOLVED RESONANCE PARAMETERS.                          9649 1451    70
                                                                  9649 1451    71
```

```
  MT=16,17,37       (N,2N),(N,3N),(N,4N)                                9649 1451   72
        CALCULATED WITH EVAPORATION MODEL.                              9649 1451   73
                                                                        9649 1451   74
  MT=18             FISSION                                             9649 1451   75
        ESTIMATED AS 0.95 * SIG-F(CM-247) BY USING SYSTEMATICS OF       9649 1451   76
        BEHRENS AND HOWERTON /9/.                                       9649 1451   77
                                                                        9649 1451   78
MF=4  ANGULAR DISTRIBUTIONS OF SECONDARY NEUTRONS                       9649 1451   79
  MT=2,51-57            CALCULATED WITH OPTICAL MODEL.                  9649 1451   80
  MT=16,17,18,37,91     ISOTROPIC IN THE LABORATORY SYSTEM.             9649 1451   81
                                                                        9649 1451   82
MF=5  ENERGY DISTRIBUTIONS OF SECONDARY NEUTRONS                        9649 1451   83
  MT=16,17,37,91        EVAPORATION SPECTRUM.                           9649 1451   84
  MT=18                 MAXWELLIAN FISSION SPECTRUM.                    9649 1451   85
                        TEMPERATURE ESTIMATED FROM SYSTEMATICS OF       9649 1451   86
                        SMITH+ /10/.                                    9649 1451   87
                                                                        9649 1451   88
REFERENCES                                                              9649 1451   89
 1) KIKUCHI Y. AND NAKAGAWA T.: JAERI-M84-116 (1984).                   9649 1451   90
 2) HOWERTON R.J.: NUCL.SCI.ENG.,62,438(1977).                          9649 1451   91
 3) TUTTLE R.J.: INDG(NDS)-107/G+SPECIAL,P.29 (1979).                   9649 1451   92
 4) DIAMOND H.ET AL.: ANL-7330 (1967).                                  9649 1451   93
 5) PHILLIPS T.W. AND HOWE F.R.:NUCL.SCI.ENG.,69,375(1979).             9649 1451   94
 6) IGARASI S. : J.NUCL.SCI.TECHNOL.,12,67 (1975).                      9649 1451   95
 7) LEDERER C.M. AND SHIRLEY V.S. : TABLE OF ISOTOPES , 7TH ED.         9649 1451   96
 8) GILBERT A. AND CAMERON A.G.W. : CAN.J.PHYS.,43,1446 (1965).         9649 1451   97
 9) BEHRENS J.W. AND HOWERTON R.J.: NUCL.SCI.END.,65,464 (1978).        9649 1451   98
10) SMITH A.B. ET AL.: ANL/NDM-50 (1979).                               9649 1451   99
                                                                        9649 1451  100
                                  1        451        139               9649 1451  101
                                  1        452          3               9649 1451  102
                                  1        455          7               9649 1451  103
                                  2        151        279               9649 1451  104
                                  3          1         47               9649 1451  105
                                  3          2         43               9649 1451  106
                                  3          4         15               9649 1451  107
                                  3         16         10               9649 1451  108
                                  3         17          7               9649 1451  109
                                  3         18         16               9649 1451  110
                                  3         37          5               9649 1451  111
                                  3         51         15               9649 1451  112
                                  3         52         14               9649 1451  113
                                  3         53         13               9649 1451  114
                                  3         54         12               9649 1451  115
                                  3         55         12               9649 1451  116
                                  3         56         12               9649 1451  117
                                  3         57         11               9649 1451  118
                                  3         91         10               9649 1451  119
                                  3        102         16               9649 1451  120
                                  3        251         16               9649 1451  121
                                  4          2        191               9649 1451  122
                                  4         16         10               9649 1451  123
                                  4         17         10               9649 1451  124
                                  4         18         10               9649 1451  125
                                  4         37         10               9649 1451  126
                                  4         51         20               9649 1451  127
                                  4         52         20               9649 1451  128
                                  4         53         20               9649 1451  129
                                  4         54         20               9649 1451  130
                                  4         55         20               9649 1451  131
                                  4         56         20               9649 1451  132
                                  4         57         20               9649 1451  133
                                  4         91         10               9649 1451  134
                                  5         16         17               9649 1451  135
                                  5         17         22               9649 1451  136
                                  5         18          7               9649 1451  137
                                  5         37         25               9649 1451  138
                                  5         91         10               9649 1451  139
                                                                        9649 1  0  140
9.62490+ 4 2.46936+ 2             0          1          0             09649 1452  141
0.0     + 0 0.0     + 0           0          0          2             09649 1452  142
```

```
3.32000+ 0 2.14000- 7                                                    9649 1452  143
                                                                         9649 1  0  144
9.62490+ 4 2.46936+ 2          0          2          0                  09649 1455  145
0.0    + 0 0.0    + 0          0          0          6                  09649 1455  146
1.32000- 2 3.21000- 2 1.39000- 1 3.58000- 1 1.41000+ 0 4.02000+ 09649 1455  147
0.0    + 0 0.0    + 0          0          0          1                  49649 1455  148
         4            2          0          0          0                  09649 1455  149
1.00000- 5 2.88000- 2 5.00000+ 6 2.88000- 2 7.00000+ 6 1.96000- 29649 1455  150
2.00000+ 7 1.96000- 2                                                    9649 1455  151
                                                                         9649 1  0  152
                                                                         9649 0  0  153
9.62490+ 4 2.46936+ 2          0          0          1                  09649 2151  154
9.62490+ 4 1.00000+ 0          0          1          1                  09649 2151  155
4.15000+ 0 3.00000+ 4          2          2          0                  09649 2151  156
5.00000- 1 8.79570- 1          0          0          3                  09649 2151  157
2.46936+ 2 0.0    + 0          0          0          2                  09649 2151  158
0.0    + 0 0.0    + 0          2          0        198                329649 2151  159
0.0    + 0 0.0    + 0 1.00000+ 0 1.00000+ 0 0.0    + 0 1.00000+ 09649 2151  160
4.15000+ 0 3.32000+ 1 0.0    + 0 3.57050- 3 4.00000- 2 4.07170+ 09649 2151  161
5.00000+ 0 3.32000+ 1 0.0    + 0 3.57050- 3 4.00000- 2 4.07170+ 09649 2151  162
6.00000+ 0 3.32000+ 1 0.0    + 0 3.57050- 3 4.00000- 2 4.07170+ 09649 2151  163
8.00000+ 0 3.31990+ 1 0.0    + 0 3.57050- 3 4.00000- 2 4.07170+ 09649 2151  164
1.00000+ 1 3.31990+ 1 0.0    + 0 3.57050- 3 4.00000- 2 4.07170+ 09649 2151  165
1.50000+ 1 3.31990+ 1 0.0    + 0 3.57040- 3 4.00000- 2 4.07170+ 09649 2151  166
2.00000+ 1 3.31980+ 1 0.0    + 0 3.57040- 3 4.00000- 2 4.07170+ 09649 2151  167
3.00000+ 1 3.31980+ 1 0.0    + 0 3.57030- 3 4.00000- 2 4.07170+ 09649 2151  168
4.00000+ 1 3.31970+ 1 0.0    + 0 3.57020- 3 4.00000- 2 4.07170+ 09649 2151  169
5.00000+ 1 3.31960+ 1 0.0    + 0 3.57010- 3 4.00000- 2 4.07170+ 09649 2151  170
6.00000+ 1 3.31960+ 1 0.0    + 0 3.57010- 3 4.00000- 2 4.07170+ 09649 2151  171
8.00000+ 1 3.31940+ 1 0.0    + 0 3.56990- 3 4.00000- 2 4.07170+ 09649 2151  172
1.00000+ 2 3.31930+ 1 0.0    + 0 3.56980- 3 4.00000- 2 4.07170+ 09649 2151  173
1.50000+ 2 3.31890+ 1 0.0    + 0 3.56940- 3 4.00000- 2 4.07170+ 09649 2151  174
2.00000+ 2 3.31860+ 1 0.0    + 0 3.56900- 3 4.00000- 2 4.07170+ 09649 2151  175
3.00000+ 2 3.31790+ 1 0.0    + 0 3.56830- 3 4.00000- 2 4.07170+ 09649 2151  176
4.00000+ 2 3.31720+ 1 0.0    + 0 3.56750- 3 4.00000- 2 4.07170+ 09649 2151  177
5.00000+ 2 3.31650+ 1 0.0    + 0 3.56680- 3 4.00000- 2 4.07170+ 09649 2151  178
6.00000+ 2 3.31570+ 1 0.0    + 0 3.56590- 3 4.00000- 2 4.07170+ 09649 2151  179
8.00000+ 2 3.31430+ 1 0.0    + 0 3.56440- 3 4.00000- 2 4.07170+ 09649 2151  180
1.00000+ 3 3.31290+ 1 0.0    + 0 3.56290- 3 4.00000- 2 4.07170+ 09649 2151  181
1.50000+ 3 3.30940+ 1 0.0    + 0 3.55910- 3 4.00000- 2 4.07170+ 09649 2151  182
2.00000+ 3 3.30590+ 1 0.0    + 0 3.55540- 3 4.00000- 2 4.07170+ 09649 2151  183
3.00000+ 3 3.29880+ 1 0.0    + 0 3.54780- 3 4.00000- 2 4.07170+ 09649 2151  184
4.00000+ 3 3.29180+ 1 0.0    + 0 3.54020- 3 4.00000- 2 4.07170+ 09649 2151  185
5.00000+ 3 3.28480+ 1 0.0    + 0 3.53270- 3 4.00000- 2 4.07170+ 09649 2151  186
6.00000+ 3 3.27780+ 1 0.0    + 0 3.52520- 3 4.00000- 2 4.07170+ 09649 2151  187
8.00000+ 3 3.26390+ 1 0.0    + 0 3.51020- 3 4.00000- 2 4.07170+ 09649 2151  188
1.00000+ 4 3.25000+ 1 0.0    + 0 3.49530- 3 4.00000- 2 4.07170+ 09649 2151  189
1.50000+ 4 3.21560+ 1 0.0    + 0 3.45820- 3 4.00000- 2 4.07170+ 09649 2151  190
2.00000+ 4 3.18150+ 1 0.0    + 0 3.42160- 3 4.00000- 2 4.07170+ 09649 2151  191
3.00000+ 4 3.11460+ 1 3.58820- 6 3.34960- 3 4.00000- 2 4.07170+ 09649 2151  192
1.00000+ 0 0.0    + 0          2          0        198                329649 2151  193
0.0    + 0 0.0    + 0 1.00010+ 0 1.00000+ 0 0.0    + 0 1.00000+ 09649 2151  194
4.15000+ 0 1.10670+ 1 0.0    + 0 1.19020- 3 4.00000- 2 7.68250- 39649 2151  195
5.00000+ 0 1.10670+ 1 0.0    + 0 1.19020- 3 4.00000- 2 7.68250- 39649 2151  196
6.00000+ 0 1.10670+ 1 0.0    + 0 1.19020- 3 4.00000- 2 7.68250- 39649 2151  197
8.00000+ 0 1.10660+ 1 0.0    + 0 1.19020- 3 4.00000- 2 7.68250- 39649 2151  198
1.00000+ 1 1.10660+ 1 0.0    + 0 1.19020- 3 4.00000- 2 7.68250- 39649 2151  199
1.50000+ 1 1.10660+ 1 0.0    + 0 1.19010- 3 4.00000- 2 7.68250- 39649 2151  200
2.00000+ 1 1.10660+ 1 0.0    + 0 1.19010- 3 4.00000- 2 7.68250- 39649 2151  201
3.00000+ 1 1.10660+ 1 0.0    + 0 1.19010- 3 4.00000- 2 7.68250- 39649 2151  202
4.00000+ 1 1.10660+ 1 0.0    + 0 1.19010- 3 4.00000- 2 7.68250- 39649 2151  203
5.00000+ 1 1.10650+ 1 0.0    + 0 1.19000- 3 4.00000- 2 7.68250- 39649 2151  204
6.00000+ 1 1.10650+ 1 0.0    + 0 1.19000- 3 4.00000- 2 7.68250- 39649 2151  205
8.00000+ 1 1.10650+ 1 0.0    + 0 1.19000- 3 4.00000- 2 7.68250- 39649 2151  206
1.00000+ 2 1.10640+ 1 0.0    + 0 1.18990- 3 4.00000- 2 7.68250- 39649 2151  207
1.50000+ 2 1.10630+ 1 0.0    + 0 1.18980- 3 4.00000- 2 7.68250- 39649 2151  208
2.00000+ 2 1.10620+ 1 0.0    + 0 1.18970- 3 4.00000- 2 7.68250- 39649 2151  209
3.00000+ 2 1.10600+ 1 0.0    + 0 1.18940- 3 4.00000- 2 7.68250- 39649 2151  210
4.00000+ 2 1.10570+ 1 0.0    + 0 1.18920- 3 4.00000- 2 7.68250- 39649 2151  211
5.00000+ 2 1.10550+ 1 0.0    + 0 1.18890- 3 4.00000- 2 7.68250- 39649 2151  212
6.00000+ 2 1.10520+ 1 0.0    + 0 1.18860- 3 4.00000- 2 7.68250- 39649 2151  213
8.00000+ 2 1.10480+ 1 0.0    + 0 1.18810- 3 4.00000- 2 7.68250- 39649 2151  214
```

```
1.00000+ 3 1.10430+ 1 0.0     + 0 1.18760- 3 4.00000- 2 7.68250- 39649 2151  215
1.50000+ 3 1.10310+ 1 0.0     + 0 1.18640- 3 4.00000- 2 7.68250- 39649 2151  216
2.00000+ 3 1.10200+ 1 0.0     + 0 1.18510- 3 4.00000- 2 7.68250- 39649 2151  217
3.00000+ 3 1.09960+ 1 0.0     + 0 1.18260- 3 4.00000- 2 7.68250- 39649 2151  218
4.00000+ 3 1.09730+ 1 0.0     + 0 1.18010- 3 4.00000- 2 7.68250- 39649 2151  219
5.00000+ 3 1.09490+ 1 0.0     + 0 1.17760- 3 4.00000- 2 7.68250- 39649 2151  220
6.00000+ 3 1.09260+ 1 0.0     + 0 1.17510- 3 4.00000- 2 7.68250- 39649 2151  221
8.00000+ 3 1.08800+ 1 0.0     + 0 1.17010- 3 4.00000- 2 7.68250- 39649 2151  222
1.00000+ 4 1.08330+ 1 0.0     + 0 1.16510- 3 4.00000- 2 7.68250- 39649 2151  223
1.50000+ 4 1.07190+ 1 0.0     + 0 1.15270- 3 4.00000- 2 7.68250- 39649 2151  224
2.00000+ 4 1.06050+ 1 0.0     + 0 1.14050- 3 4.00000- 2 7.68250- 39649 2151  225
3.00000+ 4 1.03820+ 1 6.76780- 2 1.11650- 3 4.00000- 2 7.68250- 39649 2151  226
2.46936+ 2 0.0     + 0           1           0           3           09649 2151  227
0.0     + 0 0.0     + 0           2           0         198         329649 2151  228
0.0     + 0 0.0     + 0 1.00000+ 0 1.00000+ 0 0.0     + 0 1.00000+ 09649 2151  229
4.15000+ 0 3.32000+ 1 0.0     + 0 1.31140- 2 4.00000- 2 0.0     + 09649 2151  230
5.00000+ 0 3.32000+ 1 0.0     + 0 1.31140- 2 4.00000- 2 0.0     + 09649 2151  231
6.00000+ 0 3.32000+ 1 0.0     + 0 1.31140- 2 4.00000- 2 0.0     + 09649 2151  232
8.00000+ 0 3.31990+ 1 0.0     + 0 1.31140- 2 4.00000- 2 0.0     + 09649 2151  233
1.00000+ 1 3.31990+ 1 0.0     + 0 1.31140- 2 4.00000- 2 0.0     + 09649 2151  234
1.50000+ 1 3.31990+ 1 0.0     + 0 1.31140- 2 4.00000- 2 0.0     + 09649 2151  235
2.00000+ 1 3.31980+ 1 0.0     + 0 1.31140- 2 4.00000- 2 0.0     + 09649 2151  236
3.00000+ 1 3.31980+ 1 0.0     + 0 1.31140- 2 4.00000- 2 0.0     + 09649 2151  237
4.00000+ 1 3.31970+ 1 0.0     + 0 1.31130- 2 4.00000- 2 0.0     + 09649 2151  238
5.00000+ 1 3.31960+ 1 0.0     + 0 1.31130- 2 4.00000- 2 0.0     + 09649 2151  239
6.00000+ 1 3.31960+ 1 0.0     + 0 1.31130- 2 4.00000- 2 0.0     + 09649 2151  240
8.00000+ 1 3.31940+ 1 0.0     + 0 1.31120- 2 4.00000- 2 0.0     + 09649 2151  241
1.00000+ 2 3.31930+ 1 0.0     + 0 1.31120- 2 4.00000- 2 0.0     + 09649 2151  242
1.50000+ 2 3.31890+ 1 0.0     + 0 1.31100- 2 4.00000- 2 0.0     + 09649 2151  243
2.00000+ 2 3.31860+ 1 0.0     + 0 1.31090- 2 4.00000- 2 0.0     + 09649 2151  244
3.00000+ 2 3.31790+ 1 0.0     + 0 1.31060- 2 4.00000- 2 0.0     + 09649 2151  245
4.00000+ 2 3.31720+ 1 0.0     + 0 1.31030- 2 4.00000- 2 0.0     + 09649 2151  246
5.00000+ 2 3.31650+ 1 0.0     + 0 1.31010- 2 4.00000- 2 0.0     + 09649 2151  247
6.00000+ 2 3.31570+ 1 0.0     + 0 1.30980- 2 4.00000- 2 0.0     + 09649 2151  248
8.00000+ 2 3.31430+ 1 0.0     + 0 1.30920- 2 4.00000- 2 0.0     + 09649 2151  249
1.00000+ 3 3.31290+ 1 0.0     + 0 1.30870- 2 4.00000- 2 0.0     + 09649 2151  250
1.50000+ 3 3.30940+ 1 0.0     + 0 1.30730- 2 4.00000- 2 0.0     + 09649 2151  251
2.00000+ 3 3.30590+ 1 0.0     + 0 1.30590- 2 4.00000- 2 0.0     + 09649 2151  252
3.00000+ 3 3.29880+ 1 0.0     + 0 1.30310- 2 4.00000- 2 0.0     + 09649 2151  253
4.00000+ 3 3.29180+ 1 0.0     + 0 1.30030- 2 4.00000- 2 0.0     + 09649 2151  254
5.00000+ 3 3.28480+ 1 0.0     + 0 1.29750- 2 4.00000- 2 0.0     + 09649 2151  255
6.00000+ 3 3.27780+ 1 0.0     + 0 1.29480- 2 4.00000- 2 0.0     + 09649 2151  256
8.00000+ 3 3.26390+ 1 0.0     + 0 1.28930- 2 4.00000- 2 0.0     + 09649 2151  257
1.00000+ 4 3.25000+ 1 0.0     + 0 1.28380- 2 4.00000- 2 0.0     + 09649 2151  258
1.50000+ 4 3.21560+ 1 0.0     + 0 1.27020- 2 4.00000- 2 0.0     + 09649 2151  259
2.00000+ 4 3.18150+ 1 0.0     + 0 1.25680- 2 4.00000- 2 0.0     + 09649 2151  260
3.00000+ 4 3.11460+ 1 9.44090- 3 1.23030- 2 4.00000- 2 0.0     + 09649 2151  261
1.00000+ 0 0.0     + 0           2           0         198         329649 2151  262
0.0     + 0 0.0     + 0 2.00000+ 0 2.00000+ 0 0.0     + 0 2.00000+ 09649 2151  263
4.15000+ 0 1.10670+ 1 0.0     + 0 4.37150- 3 4.00000- 2 1.99750+ 09649 2151  264
5.00000+ 0 1.10670+ 1 0.0     + 0 4.37150- 3 4.00000- 2 1.99750+ 09649 2151  265
6.00000+ 0 1.10670+ 1 0.0     + 0 4.37150- 3 4.00000- 2 1.99750+ 09649 2151  266
8.00000+ 0 1.10660+ 1 0.0     + 0 4.37140- 3 4.00000- 2 1.99750+ 09649 2151  267
1.00000+ 1 1.10660+ 1 0.0     + 0 4.37140- 3 4.00000- 2 1.99750+ 09649 2151  268
1.50000+ 1 1.10660+ 1 0.0     + 0 4.37140- 3 4.00000- 2 1.99750+ 09649 2151  269
2.00000+ 1 1.10660+ 1 0.0     + 0 4.37130- 3 4.00000- 2 1.99750+ 09649 2151  270
3.00000+ 1 1.10660+ 1 0.0     + 0 4.37120- 3 4.00000- 2 1.99750+ 09649 2151  271
4.00000+ 1 1.10660+ 1 0.0     + 0 4.37110- 3 4.00000- 2 1.99750+ 09649 2151  272
5.00000+ 1 1.10650+ 1 0.0     + 0 4.37100- 3 4.00000- 2 1.99750+ 09649 2151  273
6.00000+ 1 1.10650+ 1 0.0     + 0 4.37100- 3 4.00000- 2 1.99750+ 09649 2151  274
8.00000+ 1 1.10650+ 1 0.0     + 0 4.37070- 3 4.00000- 2 1.99750+ 09649 2151  275
1.00000+ 2 1.10640+ 1 0.0     + 0 4.37060- 3 4.00000- 2 1.99750+ 09649 2151  276
1.50000+ 2 1.10630+ 1 0.0     + 0 4.37010- 3 4.00000- 2 1.99750+ 09649 2151  277
2.00000+ 2 1.10620+ 1 0.0     + 0 4.36970- 3 4.00000- 2 1.99750+ 09649 2151  278
3.00000+ 2 1.10600+ 1 0.0     + 0 4.36870- 3 4.00000- 2 1.99750+ 09649 2151  279
4.00000+ 2 1.10570+ 1 0.0     + 0 4.36780- 3 4.00000- 2 1.99750+ 09649 2151  280
5.00000+ 2 1.10550+ 1 0.0     + 0 4.36690- 3 4.00000- 2 1.99750+ 09649 2151  281
6.00000+ 2 1.10520+ 1 0.0     + 0 4.36590- 3 4.00000- 2 1.99750+ 09649 2151  282
8.00000+ 2 1.10480+ 1 0.0     + 0 4.36400- 3 4.00000- 2 1.99750+ 09649 2151  283
1.00000+ 3 1.10430+ 1 0.0     + 0 4.36220- 3 4.00000- 2 1.99750+ 09649 2151  284
1.50000+ 3 1.10310+ 1 0.0     + 0 4.35760- 3 4.00000- 2 1.99750+ 09649 2151  285
2.00000+ 3 1.10200+ 1 0.0     + 0 4.35290- 3 4.00000- 2 1.99750+ 09649 2151  286
```

```
3.00000+ 3 1.09960+ 1 0.0     + 0 4.34360- 3 4.00000- 2 1.99750+ 09649 2151  287
4.00000+ 3 1.09730+ 1 0.0     + 0 4.33440- 3 4.00000- 2 1.99750+ 09649 2151  288
5.00000+ 3 1.09490+ 1 0.0     + 0 4.32510- 3 4.00000- 2 1.99750+ 09649 2151  289
6.00000+ 3 1.09260+ 1 0.0     + 0 4.31600- 3 4.00000- 2 1.99750+ 09649 2151  290
8.00000+ 3 1.08800+ 1 0.0     + 0 4.29760- 3 4.00000- 2 1.99750+ 09649 2151  291
1.00000+ 4 1.08330+ 1 0.0     + 0 4.27940- 3 4.00000- 2 1.99750+ 09649 2151  292
1.50000+ 4 1.07190+ 1 0.0     + 0 4.23400- 3 4.00000- 2 1.99750+ 09649 2151  293
2.00000+ 4 1.06050+ 1 0.0     + 0 4.18920- 3 4.00000- 2 1.99750+ 09649 2151  294
3.00000+ 4 1.03820+ 1 6.29400- 3 4.10110- 3 4.00000- 2 1.99750+ 09649 2151  295
2.00000+ 0 0.0     + 0          2          0          198          329649 2151  296
0.0     + 0 0.0     + 0 2.00000+ 0 1.00000+ 0 0.0     + 0 1.00000+ 09649 2151  297
4.15000+ 0 6.63990+ 0 0.0     + 0 2.62290- 3 4.00000- 2 4.07170- 19649 2151  298
5.00000+ 0 6.63990+ 0 0.0     + 0 2.62290- 3 4.00000- 2 4.07170- 19649 2151  299
6.00000+ 0 6.63990+ 0 0.0     + 0 2.62290- 3 4.00000- 2 4.07170- 19649 2151  300
8.00000+ 0 6.63980+ 0 0.0     + 0 2.62280- 3 4.00000- 2 4.07170- 19649 2151  301
1.00000+ 1 6.63980+ 0 0.0     + 0 2.62280- 3 4.00000- 2 4.07170- 19649 2151  302
1.50000+ 1 6.63970+ 0 0.0     + 0 2.62280- 3 4.00000- 2 4.07170- 19649 2151  303
2.00000+ 1 6.63970+ 0 0.0     + 0 2.62280- 3 4.00000- 2 4.07170- 19649 2151  304
3.00000+ 1 6.63960+ 0 0.0     + 0 2.62280- 3 4.00000- 2 4.07170- 19649 2151  305
4.00000+ 1 6.63940+ 0 0.0     + 0 2.62270- 3 4.00000- 2 4.07170- 19649 2151  306
5.00000+ 1 6.63920+ 0 0.0     + 0 2.62260- 3 4.00000- 2 4.07170- 19649 2151  307
6.00000+ 1 6.63920+ 0 0.0     + 0 2.62260- 3 4.00000- 2 4.07170- 19649 2151  308
8.00000+ 1 6.63880+ 0 0.0     + 0 2.62250- 3 4.00000- 2 4.07170- 19649 2151  309
1.00000+ 2 6.63860+ 0 0.0     + 0 2.62240- 3 4.00000- 2 4.07170- 19649 2151  310
1.50000+ 2 6.63780+ 0 0.0     + 0 2.62210- 3 4.00000- 2 4.07170- 19649 2151  311
2.00000+ 2 6.63720+ 0 0.0     + 0 2.62180- 3 4.00000- 2 4.07170- 19649 2151  312
3.00000+ 2 6.63580+ 0 0.0     + 0 2.62120- 3 4.00000- 2 4.07170- 19649 2151  313
4.00000+ 2 6.63440+ 0 0.0     + 0 2.62070- 3 4.00000- 2 4.07170- 19649 2151  314
5.00000+ 2 6.63290+ 0 0.0     + 0 2.62010- 3 4.00000- 2 4.07170- 19649 2151  315
6.00000+ 2 6.63140+ 0 0.0     + 0 2.61950- 3 4.00000- 2 4.07170- 19649 2151  316
8.00000+ 2 6.62860+ 0 0.0     + 0 2.61840- 3 4.00000- 2 4.07170- 19649 2151  317
1.00000+ 3 6.62580+ 0 0.0     + 0 2.61730- 3 4.00000- 2 4.07170- 19649 2151  318
1.50000+ 3 6.61880+ 0 0.0     + 0 2.61450- 3 4.00000- 2 4.07170- 19649 2151  319
2.00000+ 3 6.61170+ 0 0.0     + 0 2.61180- 3 4.00000- 2 4.07170- 19649 2151  320
3.00000+ 3 6.59760+ 0 0.0     + 0 2.60620- 3 4.00000- 2 4.07170- 19649 2151  321
4.00000+ 3 6.58360+ 0 0.0     + 0 2.60060- 3 4.00000- 2 4.07170- 19649 2151  322
5.00000+ 3 6.56960+ 0 0.0     + 0 2.59510- 3 4.00000- 2 4.07170- 19649 2151  323
6.00000+ 3 6.55560+ 0 0.0     + 0 2.58960- 3 4.00000- 2 4.07170- 19649 2151  324
8.00000+ 3 6.52770+ 0 0.0     + 0 2.57860- 3 4.00000- 2 4.07170- 19649 2151  325
1.00000+ 4 6.50000+ 0 0.0     + 0 2.56760- 3 4.00000- 2 4.07170- 19649 2151  326
1.50000+ 4 6.43110+ 0 0.0     + 0 2.54040- 3 4.00000- 2 4.07170- 19649 2151  327
2.00000+ 4 6.36310+ 0 0.0     + 0 2.51350- 3 4.00000- 2 4.07170- 19649 2151  328
3.00000+ 4 6.22920+ 0 3.77640- 3 2.46060- 3 4.00000- 2 4.07170- 19649 2151  329
2.46936+ 2 0.0     + 0          2          0          3            09649 2151  330
1.00000+ 0 0.0     + 0          2          0          198          329649 2151  331
0.0     + 0 0.0     + 0 1.00010+ 0 1.00000+ 0 0.0     + 0 1.00000+ 09649 2151  332
4.15000+ 0 1.10670+ 1 0.0     + 0 1.15630- 3 4.00000- 2 7.68250- 39649 2151  333
5.00000+ 0 1.10670+ 1 0.0     + 0 1.15630- 3 4.00000- 2 7.68250- 39649 2151  334
6.00000+ 0 1.10670+ 1 0.0     + 0 1.15630- 3 4.00000- 2 7.68250- 39649 2151  335
8.00000+ 0 1.10660+ 1 0.0     + 0 1.15630- 3 4.00000- 2 7.68250- 39649 2151  336
1.00000+ 1 1.10660+ 1 0.0     + 0 1.15630- 3 4.00000- 2 7.68250- 39649 2151  337
1.50000+ 1 1.10660+ 1 0.0     + 0 1.15630- 3 4.00000- 2 7.68250- 39649 2151  338
2.00000+ 1 1.10660+ 1 0.0     + 0 1.15630- 3 4.00000- 2 7.68250- 39649 2151  339
3.00000+ 1 1.10660+ 1 0.0     + 0 1.15630- 3 4.00000- 2 7.68250- 39649 2151  340
4.00000+ 1 1.10660+ 1 0.0     + 0 1.15620- 3 4.00000- 2 7.68250- 39649 2151  341
5.00000+ 1 1.10650+ 1 0.0     + 0 1.15620- 3 4.00000- 2 7.68250- 39649 2151  342
6.00000+ 1 1.10650+ 1 0.0     + 0 1.15620- 3 4.00000- 2 7.68250- 39649 2151  343
8.00000+ 1 1.10650+ 1 0.0     + 0 1.15610- 3 4.00000- 2 7.68250- 39649 2151  344
1.00000+ 2 1.10640+ 1 0.0     + 0 1.15610- 3 4.00000- 2 7.68250- 39649 2151  345
1.50000+ 2 1.10630+ 1 0.0     + 0 1.15600- 3 4.00000- 2 7.68250- 39649 2151  346
2.00000+ 2 1.10620+ 1 0.0     + 0 1.15580- 3 4.00000- 2 7.68250- 39649 2151  347
3.00000+ 2 1.10600+ 1 0.0     + 0 1.15560- 3 4.00000- 2 7.68250- 39649 2151  348
4.00000+ 2 1.10570+ 1 0.0     + 0 1.15540- 3 4.00000- 2 7.68250- 39649 2151  349
5.00000+ 2 1.10550+ 1 0.0     + 0 1.15510- 3 4.00000- 2 7.68250- 39649 2151  350
6.00000+ 2 1.10520+ 1 0.0     + 0 1.15480- 3 4.00000- 2 7.68250- 39649 2151  351
8.00000+ 2 1.10480+ 1 0.0     + 0 1.15440- 3 4.00000- 2 7.68250- 39649 2151  352
1.00000+ 3 1.10430+ 1 0.0     + 0 1.15390- 3 4.00000- 2 7.68250- 39649 2151  353
1.50000+ 3 1.10310+ 1 0.0     + 0 1.15260- 3 4.00000- 2 7.68250- 39649 2151  354
2.00000+ 3 1.10200+ 1 0.0     + 0 1.15140- 3 4.00000- 2 7.68250- 39649 2151  355
3.00000+ 3 1.09960+ 1 0.0     + 0 1.14900- 3 4.00000- 2 7.68250- 39649 2151  356
4.00000+ 3 1.09730+ 1 0.0     + 0 1.14650- 3 4.00000- 2 7.68250- 39649 2151  357
5.00000+ 3 1.09490+ 1 0.0     + 0 1.14410- 3 4.00000- 2 7.68250- 39649 2151  358
```

```
 6.00000+ 3 1.09260+ 1 0.0     + 0 1.14160- 3 4.00000- 2 7.68250- 39649 2151  359
 8.00000+ 3 1.08800+ 1 0.0     + 0 1.13680- 3 4.00000- 2 7.68250- 39649 2151  360
 1.00000+ 4 1.08330+ 1 0.0     + 0 1.13200- 3 4.00000- 2 7.68250- 39649 2151  361
 1.50000+ 4 1.07190+ 1 0.0     + 0 1.12000- 3 4.00000- 2 7.68250- 39649 2151  362
 2.00000+ 4 1.06050+ 1 0.0     + 0 1.10810- 3 4.00000- 2 7.68250- 39649 2151  363
 3.00000+ 4 1.03820+ 1 6.76780- 2 1.08480- 3 4.00000- 2 7.68250- 39649 2151  364
 2.00000+ 0 0.0     + 0          2          0          198          329649 2151  365
 0.0     + 0 0.0     + 0 1.00010+ 0 2.00000+ 0 0.0     + 0 1.00000+ 09649 2151  366
 4.15000+ 0 6.63990+ 0 0.0     + 0 6.93790- 4 4.00000- 2 1.02180+ 09649 2151  367
 5.00000+ 0 6.63990+ 0 0.0     + 0 6.93790- 4 4.00000- 2 1.02180+ 09649 2151  368
 6.00000+ 0 6.63990+ 0 0.0     + 0 6.93790- 4 4.00000- 2 1.02180+ 09649 2151  369
 8.00000+ 0 6.63980+ 0 0.0     + 0 6.93780- 4 4.00000- 2 1.02180+ 09649 2151  370
 1.00000+ 1 6.63980+ 0 0.0     + 0 6.93790- 4 4.00000- 2 1.02180+ 09649 2151  371
 1.50000+ 1 6.63970+ 0 0.0     + 0 6.93780- 4 4.00000- 2 1.02180+ 09649 2151  372
 2.00000+ 1 6.63970+ 0 0.0     + 0 6.93770- 4 4.00000- 2 1.02180+ 09649 2151  373
 3.00000+ 1 6.63960+ 0 0.0     + 0 6.93760- 4 4.00000- 2 1.02180+ 09649 2151  374
 4.00000+ 1 6.63940+ 0 0.0     + 0 6.93740- 4 4.00000- 2 1.02180+ 09649 2151  375
 5.00000+ 1 6.63920+ 0 0.0     + 0 6.93720- 4 4.00000- 2 1.02180+ 09649 2151  376
 6.00000+ 1 6.63920+ 0 0.0     + 0 6.93720- 4 4.00000- 2 1.02180+ 09649 2151  377
 8.00000+ 1 6.63880+ 0 0.0     + 0 6.93680- 4 4.00000- 2 1.02180+ 09649 2151  378
 1.00000+ 2 6.63860+ 0 0.0     + 0 6.93660- 4 4.00000- 2 1.02180+ 09649 2151  379
 1.50000+ 2 6.63780+ 0 0.0     + 0 6.93580- 4 4.00000- 2 1.02180+ 09649 2151  380
 2.00000+ 2 6.63720+ 0 0.0     + 0 6.93510- 4 4.00000- 2 1.02180+ 09649 2151  381
 3.00000+ 2 6.63580+ 0 0.0     + 0 6.93360- 4 4.00000- 2 1.02180+ 09649 2151  382
 4.00000+ 2 6.63440+ 0 0.0     + 0 6.93210- 4 4.00000- 2 1.02180+ 09649 2151  383
 5.00000+ 2 6.63290+ 0 0.0     + 0 6.93070- 4 4.00000- 2 1.02180+ 09649 2151  384
 6.00000+ 2 6.63140+ 0 0.0     + 0 6.92910- 4 4.00000- 2 1.02180+ 09649 2151  385
 8.00000+ 2 6.62860+ 0 0.0     + 0 6.92610- 4 4.00000- 2 1.02180+ 09649 2151  386
 1.00000+ 3 6.62580+ 0 0.0     + 0 6.92320- 4 4.00000- 2 1.02180+ 09649 2151  387
 1.50000+ 3 6.61880+ 0 0.0     + 0 6.91590- 4 4.00000- 2 1.02180+ 09649 2151  388
 2.00000+ 3 6.61170+ 0 0.0     + 0 6.90850- 4 4.00000- 2 1.02180+ 09649 2151  389
 3.00000+ 3 6.59760+ 0 0.0     + 0 6.89370- 4 4.00000- 2 1.02180+ 09649 2151  390
 4.00000+ 3 6.58360+ 0 0.0     + 0 6.87910- 4 4.00000- 2 1.02180+ 09649 2151  391
 5.00000+ 3 6.56960+ 0 0.0     + 0 6.86440- 4 4.00000- 2 1.02180+ 09649 2151  392
 6.00000+ 3 6.55560+ 0 0.0     + 0 6.84990- 4 4.00000- 2 1.02180+ 09649 2151  393
 8.00000+ 3 6.52770+ 0 0.0     + 0 6.82070- 4 4.00000- 2 1.02180+ 09649 2151  394
 1.00000+ 4 6.50000+ 0 0.0     + 0 6.79180- 4 4.00000- 2 1.02180+ 09649 2151  395
 1.50000+ 4 6.43110+ 0 0.0     + 0 6.71980- 4 4.00000- 2 1.02180+ 09649 2151  396
 2.00000+ 4 6.36310+ 0 0.0     + 0 6.64870- 4 4.00000- 2 1.02180+ 09649 2151  397
 3.00000+ 4 6.22920+ 0 4.06070- 2 6.50880- 4 4.00000- 2 1.02180+ 09649 2151  398
 3.00000+ 0 0.0     + 0          2          0          198          329649 2151  399
 0.0     + 0 0.0     + 0 2.00000+ 0 1.00000+ 0 0.0     + 0 1.00000+ 09649 2151  400
 4.15000+ 0 4.74280+ 0 0.0     + 0 4.95570- 4 4.00000- 2 1.45970- 19649 2151  401
 5.00000+ 0 4.74280+ 0 0.0     + 0 4.95570- 4 4.00000- 2 1.45970- 19649 2151  402
 6.00000+ 0 4.74280+ 0 0.0     + 0 4.95570- 4 4.00000- 2 1.45970- 19649 2151  403
 8.00000+ 0 4.74270+ 0 0.0     + 0 4.95560- 4 4.00000- 2 1.45970- 19649 2151  404
 1.00000+ 1 4.74270+ 0 0.0     + 0 4.95560- 4 4.00000- 2 1.45970- 19649 2151  405
 1.50000+ 1 4.74270+ 0 0.0     + 0 4.95550- 4 4.00000- 2 1.45970- 19649 2151  406
 2.00000+ 1 4.74260+ 0 0.0     + 0 4.95550- 4 4.00000- 2 1.45970- 19649 2151  407
 3.00000+ 1 4.74260+ 0 0.0     + 0 4.95540- 4 4.00000- 2 1.45970- 19649 2151  408
 4.00000+ 1 4.74240+ 0 0.0     + 0 4.95530- 4 4.00000- 2 1.45970- 19649 2151  409
 5.00000+ 1 4.74230+ 0 0.0     + 0 4.95520- 4 4.00000- 2 1.45970- 19649 2151  410
 6.00000+ 1 4.74230+ 0 0.0     + 0 4.95510- 4 4.00000- 2 1.45970- 19649 2151  411
 8.00000+ 1 4.74200+ 0 0.0     + 0 4.95490- 4 4.00000- 2 1.45970- 19649 2151  412
 1.00000+ 2 4.74180+ 0 0.0     + 0 4.95470- 4 4.00000- 2 1.45970- 19649 2151  413
 1.50000+ 2 4.74130+ 0 0.0     + 0 4.95410- 4 4.00000- 2 1.45970- 19649 2151  414
 2.00000+ 2 4.74080+ 0 0.0     + 0 4.95360- 4 4.00000- 2 1.45970- 19649 2151  415
 3.00000+ 2 4.73980+ 0 0.0     + 0 4.95260- 4 4.00000- 2 1.45970- 19649 2151  416
 4.00000+ 2 4.73880+ 0 0.0     + 0 4.95150- 4 4.00000- 2 1.45970- 19649 2151  417
 5.00000+ 2 4.73780+ 0 0.0     + 0 4.95050- 4 4.00000- 2 1.45970- 19649 2151  418
 6.00000+ 2 4.73670+ 0 0.0     + 0 4.94930- 4 4.00000- 2 1.45970- 19649 2151  419
 8.00000+ 2 4.73470+ 0 0.0     + 0 4.94720- 4 4.00000- 2 1.45970- 19649 2151  420
 1.00000+ 3 4.73270+ 0 0.0     + 0 4.94510- 4 4.00000- 2 1.45970- 19649 2151  421
 1.50000+ 3 4.72770+ 0 0.0     + 0 4.93990- 4 4.00000- 2 1.45970- 19649 2151  422
 2.00000+ 3 4.72270+ 0 0.0     + 0 4.93470- 4 4.00000- 2 1.45970- 19649 2151  423
 3.00000+ 3 4.71260+ 0 0.0     + 0 4.92410- 4 4.00000- 2 1.45970- 19649 2151  424
 4.00000+ 3 4.70260+ 0 0.0     + 0 4.91370- 4 4.00000- 2 1.45970- 19649 2151  425
 5.00000+ 3 4.69250+ 0 0.0     + 0 4.90320- 4 4.00000- 2 1.45970- 19649 2151  426
 6.00000+ 3 4.68260+ 0 0.0     + 0 4.89280- 4 4.00000- 2 1.45970- 19649 2151  427
 8.00000+ 3 4.66270+ 0 0.0     + 0 4.87190- 4 4.00000- 2 1.45970- 19649 2151  428
 1.00000+ 4 4.64290+ 0 0.0     + 0 4.85130- 4 4.00000- 2 1.45970- 19649 2151  429
 1.50000+ 4 4.59370+ 0 0.0     + 0 4.79990- 4 4.00000- 2 1.45970- 19649 2151  430
```

```
2.00000+ 4 4.54500+ 0 0.0     + 0 4.74900- 4 4.00000- 2 1.45970- 19649 2151  431
3.00000+ 4 4.44940+ 0 1.02520- 6 4.64910- 4 4.00000- 2 1.45970- 19649 2151  432
                                                                 9649 2   0  433
                                                                 9649 0   0  434
9.62490+ 4 2.46936+ 2           0          99           0          09649 3   1  435
0.0    + 0 0.0    + 0           0           0           3        1309649 3   1  436
         12          5          17           2         130         59649 3   1  437
1.00000- 5 1.32600+ 2 2.66312- 5 8.54308+ 1 7.09219- 5 5.65287+ 19649 3   1  438
1.88873- 4 3.88195+ 1 5.02991- 4 2.79685+ 1 1.33952- 3 2.13197+ 19649 3   1  439
3.56731- 3 1.72457+ 1 9.50015- 3 1.47495+ 1 2.53000- 2 1.32200+ 19649 3   1  440
9.05424- 2 1.20792+ 1 3.24029- 1 1.14762+ 1 4.15000+ 0 1.09890+ 19649 3   1  441
4.15000+ 0 0.0     + 0 2.63061+ 4 0.0     + 0 2.72295+ 4 3.22689- 29649 3   1  442
2.81530+ 4 6.34650- 2 3.00000+ 4 1.22899- 1 3.00000+ 4 1.40948+ 19649 3   1  443
4.25717+ 4 1.38923+ 1 5.00000+ 4 1.38036+ 1 5.24114+ 4 1.37773+ 19649 3   1  444
8.00000+ 4 1.35095+ 1 1.00000+ 5 1.33234+ 1 1.10445+ 5 1.32246+ 19649 3   1  445
1.10546+ 5 1.32236+ 1 1.46591+ 5 1.28720+ 1 1.50000+ 5 1.28380+ 19649 3   1  446
2.00000+ 5 1.23330+ 1 2.08842+ 5 1.22433+ 1 2.20891+ 5 1.21215+ 19649 3   1  447
3.00000+ 5 1.13452+ 1 4.00000+ 5 1.04595+ 1 5.00000+ 5 9.70578+ 09649 3   1  448
6.00000+ 5 9.08553+ 0 8.00000+ 5 8.19472+ 0 1.00000+ 6 7.65727+ 09649 3   1  449
1.50000+ 6 7.12010+ 0 2.00000+ 6 7.07512+ 0 2.44949+ 6 7.25903+ 09649 3   1  450
3.00000+ 6 7.44772+ 0 4.00000+ 6 7.75690+ 0 4.73180+ 6 7.80306+ 09649 3   1  451
5.00000+ 6 7.78554+ 0 5.23318+ 6 7.72315+ 0 5.47723+ 6 7.66126+ 09649 3   1  452
5.60349+ 6 7.63050+ 0 5.73266+ 6 7.59987+ 0 5.86481+ 6 7.56936+ 09649 3   1  453
6.00000+ 6 7.53897+ 0 6.44742+ 6 7.30004+ 0 6.68349+ 6 7.18343+ 09649 3   1  454
6.92820+ 6 7.06868+ 0 7.00000+ 6 7.03612+ 0 7.18188+ 6 6.95577+ 09649 3   1  455
7.31218+ 6 6.89999+ 0 7.44484+ 6 6.84466+ 0 7.57991+ 6 6.78977+ 09649 3   1  456
7.64836+ 6 6.76249+ 0 7.71743+ 6 6.73532+ 0 7.78712+ 6 6.70826+ 09649 3   1  457
7.85744+ 6 6.68131+ 0 7.89284+ 6 6.66787+ 0 7.92840+ 6 6.65447+ 09649 3   1  458
7.96412+ 6 6.64108+ 0 7.98204+ 6 6.63440+ 0 8.00000+ 6 6.62773+ 09649 3   1  459
8.45897+ 6 6.47389+ 0 8.69824+ 6 6.39832+ 0 8.94427+ 6 6.32363+ 09649 3   1  460
9.00000+ 6 6.30711+ 0 9.19727+ 6 6.24981+ 0 9.32644+ 6 6.21322+ 09649 3   1  461
9.45742+ 6 6.17685+ 0 9.59024+ 6 6.14069+ 0 9.65735+ 6 6.12269+ 09649 3   1  462
9.72493+ 6 6.10474+ 0 9.79298+ 6 6.08685+ 0 9.86151+ 6 6.06901+ 09649 3   1  463
9.89595+ 6 6.06011+ 0 9.93051+ 6 6.05122+ 0 9.96519+ 6 6.04234+ 09649 3   1  464
9.98258+ 6 6.03791+ 0 1.00000+ 7 6.03348+ 0 1.02341+ 7 5.99695+ 09649 3   1  465
1.04736+ 7 5.96065+ 0 1.05954+ 7 5.94259+ 0 1.07187+ 7 5.92458+ 09649 3   1  466
1.08434+ 7 5.90662+ 0 1.09696+ 7 5.88871+ 0 1.10000+ 7 5.88696+ 09649 3   1  467
1.20000+ 7 5.83221+ 0 1.24900+ 7 5.80719+ 0 1.27424+ 7 5.79473+ 09649 3   1  468
1.30000+ 7 5.78229+ 0 1.32346+ 7 5.79529+ 0 1.34735+ 7 5.80832+ 09649 3   1  469
1.37167+ 7 5.82137+ 0 1.39642+ 7 5.83446+ 0 1.40000+ 7 5.83633+ 09649 3   1  470
1.42344+ 7 5.84851+ 0 1.44728+ 7 5.86072+ 0 1.47340+ 7 5.87389+ 09649 3   1  471
1.48664+ 7 5.88049+ 0 1.50000+ 7 5.88710+ 0 1.52440+ 7 5.90888+ 09649 3   1  472
1.54919+ 7 5.93074+ 0 1.57439+ 7 5.95265+ 0 1.58714+ 7 5.96369+ 09649 3   1  473
1.60000+ 7 5.97472+ 0 1.61482+ 7 5.98734+ 0 1.63570+ 7 6.00497+ 09649 3   1  474
1.65686+ 7 6.02267+ 0 1.67829+ 7 6.04041+ 0 1.70000+ 7 6.05821+ 09649 3   1  475
1.72046+ 7 6.07482+ 0 1.74001+ 7 6.08886+ 0 1.75978+ 7 6.10294+ 09649 3   1  476
1.77978+ 7 6.11705+ 0 1.80000+ 7 6.13119+ 0 1.80000+ 7 6.13119+ 09649 3   1  477
1.82728+ 7 6.15007+ 0 1.85497+ 7 6.16900+ 0 1.87735+ 7 6.18414+ 09649 3   1  478
1.88864+ 7 6.19172+ 0 1.90000+ 7 6.19931+ 0 1.92452+ 7 6.21558+ 09649 3   1  479
1.94936+ 7 6.23189+ 0 1.97452+ 7 6.24825+ 0 1.98722+ 7 6.25644+ 09649 3   1  480
2.00000+ 7 6.26464+ 0                                            9649 3   1  481
                                                                 9649 3   0  482
9.62490+ 4 2.46936+ 2           0           0           0          09649 3   2  483
0.0    + 0 0.0    + 0           0           0           3        1189649 3   2  484
         3          5           5           2         118         59649 3   2  485
1.00000- 5 1.08000+ 1 2.53000- 2 1.08000+ 1 4.15000+ 0 1.08000+ 19649 3   2  486
4.15000+ 0 0.0     + 0 3.00000+ 4 0.0     + 0 3.00000+ 4 1.15886+ 19649 3   2  487
4.25717+ 4 1.13598+ 1 5.00000+ 4 1.12271+ 1 5.24114+ 4 1.11814+ 19649 3   2  488
8.00000+ 4 1.07026+ 1 1.00000+ 5 1.03812+ 1 1.10445+ 5 1.02248+ 19649 3   2  489
1.10546+ 5 1.02233+ 1 1.46591+ 5 9.72249+ 0 1.50000+ 5 9.67835+ 09649 3   2  490
2.00000+ 5 9.08185+ 0 2.08842+ 5 8.99006+ 0 2.20891+ 5 8.84691+ 09649 3   2  491
3.00000+ 5 8.01214+ 0 4.00000+ 5 7.11377+ 0 5.00000+ 5 6.41963+ 09649 3   2  492
6.00000+ 5 5.77815+ 0 8.00000+ 5 4.78023+ 0 1.00000+ 6 4.12305+ 09649 3   2  493
1.50000+ 6 3.49847+ 0 2.00000+ 6 3.65116+ 0 2.44949+ 6 4.16040+ 09649 3   2  494
3.00000+ 6 4.46904+ 0 4.00000+ 6 4.94542+ 0 4.73180+ 6 4.98471+ 09649 3   2  495
5.00000+ 6 4.95030+ 0 5.23318+ 6 4.88466+ 0 5.47723+ 6 4.81311+ 09649 3   2  496
5.60349+ 6 4.77503+ 0 5.73266+ 6 4.73536+ 0 5.86481+ 6 4.69408+ 09649 3   2  497
6.00000+ 6 4.65114+ 0 6.44742+ 6 4.38497+ 0 6.68349+ 6 4.25329+ 09649 3   2  498
6.92820+ 6 4.12247+ 0 7.00000+ 6 4.08591+ 0 7.18188+ 6 4.01767+ 09649 3   2  499
7.31218+ 6 3.97094+ 0 7.44484+ 6 3.92467+ 0 7.57991+ 6 3.87883+ 09649 3   2  500
7.64836+ 6 3.85608+ 0 7.71743+ 6 3.83344+ 0 7.78712+ 6 3.81091+ 09649 3   2  501
7.85744+ 6 3.78849+ 0 7.89284+ 6 3.77732+ 0 7.92840+ 6 3.76618+ 09649 3   2  502
```

```
 7.96412+ 6 3.75506+ 0 7.98204+ 6 3.74951+ 0 8.00000+ 6 3.74397+ 09649 3  2  503
 8.45897+ 6 3.57290+ 0 8.69824+ 6 3.48876+ 0 8.94427+ 6 3.40554+ 09649 3  2  504
 9.00000+ 6 3.38716+ 0 9.19727+ 6 3.32088+ 0 9.32644+ 6 3.27849+ 09649 3  2  505
 9.45742+ 6 3.23627+ 0 9.59024+ 6 3.19422+ 0 9.65735+ 6 3.17327+ 09649 3  2  506
 9.72493+ 6 3.15235+ 0 9.79298+ 6 3.13147+ 0 9.86151+ 6 3.11064+ 09649 3  2  507
 9.89595+ 6 3.10024+ 0 9.93051+ 6 3.08985+ 0 9.96519+ 6 3.07947+ 09649 3  2  508
 9.98258+ 6 3.07428+ 0 1.00000+ 7 3.06910+ 0 1.02341+ 7 3.02482+ 09649 3  2  509
 1.04736+ 7 2.98016+ 0 1.05954+ 7 2.95768+ 0 1.07187+ 7 2.93508+ 09649 3  2  510
 1.08434+ 7 2.91238+ 0 1.09696+ 7 2.88956+ 0 1.10000+ 7 2.88660+ 09649 3  2  511
 1.20000+ 7 2.81468+ 0 1.24900+ 7 2.77845+ 0 1.27424+ 7 2.76054+ 09649 3  2  512
 1.30000+ 7 2.74277+ 0 1.32346+ 7 2.74831+ 0 1.34735+ 7 2.75392+ 09649 3  2  513
 1.37167+ 7 2.75962+ 0 1.39642+ 7 2.76540+ 0 1.40000+ 7 2.76623+ 09649 3  2  514
 1.42344+ 7 2.77005+ 0 1.44728+ 7 2.77392+ 0 1.47340+ 7 2.77815+ 09649 3  2  515
 1.48664+ 7 2.78029+ 0 1.50000+ 7 2.78244+ 0 1.52440+ 7 2.79637+ 09649 3  2  516
 1.54919+ 7 2.81024+ 0 1.57439+ 7 2.82407+ 0 1.58714+ 7 2.83096+ 09649 3  2  517
 1.60000+ 7 2.83784+ 0 1.61482+ 7 2.83923+ 0 1.63570+ 7 2.85333+ 09649 3  2  518
 1.65686+ 7 2.86738+ 0 1.67829+ 7 2.88136+ 0 1.70000+ 7 2.89529+ 09649 3  2  519
 1.72046+ 7 2.91519+ 0 1.74001+ 7 2.93241+ 0 1.75978+ 7 2.94973+ 09649 3  2  520
 1.77978+ 7 2.96717+ 0 1.80000+ 7 2.98471+ 0 1.80000+ 7 2.94555+ 09649 3  2  521
 1.82728+ 7 2.95905+ 0 1.85497+ 7 2.97267+ 0 1.87735+ 7 2.98361+ 09649 3  2  522
 1.88864+ 7 2.98911+ 0 1.90000+ 7 2.99463+ 0 1.92452+ 7 3.00682+ 09649 3  2  523
 1.94936+ 7 3.01910+ 0 1.97452+ 7 3.03148+ 0 1.98722+ 7 3.03771+ 09649 3  2  524
 2.00000+ 7 3.04396+ 0                                           9649 3  2  525
                                                                 9649 3  0  526
 9.62490+ 4 2.46936+ 2          0          99          0         09649 3  4  527
 0.0     + 0-2.62000+ 4          0           0          1        349649 3  4  528
        34          3          0           0          0         09649 3  4  529
 2.63061+ 4 0.0     + 0 3.00000+ 4 1.22899- 1 4.25717+ 4 2.90707- 19649 3  4  530
 5.00000+ 4 3.98084- 1 5.24114+ 4 4.30793- 1 8.00000+ 4 7.35657- 19649 3  4  531
 1.00000+ 5 8.55682- 1 1.10445+ 5 9.01465- 1 1.10546+ 5 9.01857- 19649 3  4  532
 1.46591+ 5 1.01225+ 0 1.50000+ 5 1.01869+ 0 2.00000+ 5 1.08021+ 09649 3  4  533
 2.08842+ 5 1.08919+ 0 2.20891+ 5 1.12273+ 0 3.00000+ 5 1.23171+ 09649 3  4  534
 4.00000+ 5 1.24469+ 0 5.00000+ 5 1.33855+ 0 6.00000+ 5 1.31590+ 09649 3  4  535
 8.00000+ 5 1.23909+ 0 1.00000+ 6 1.20047+ 0 1.50000+ 6 1.19516+ 09649 3  4  536
 2.00000+ 6 9.78441- 1 3.00000+ 6 6.74506- 1 4.00000+ 6 7.20085- 19649 3  4  537
 4.73180+ 6 7.95886- 1 5.00000+ 6 7.72289- 1 6.00000+ 6 2.41962- 19649 3  4  538
 8.00000+ 6 9.16033- 3 1.00000+ 7 3.00012- 4 1.09696+ 7 1.00459- 49649 3  4  539
 1.30000+ 7 1.17423- 4 1.50000+ 7 6.98441- 5 1.72046+ 7 6.54017- 59649 3  4  540
 2.00000+ 7 9.84463- 5                                           9649 3  4  541
                                                                 9649 3  0  542
 9.62490+ 4 2.46936+ 2          0          99          0         09649 3 16  543
 0.0     + 0-4.71270+ 6          0           0          1        199649 3 16  544
        19          2          0           0          0         09649 3 16  545
 4.73180+ 6 0.0     + 0 5.00000+ 6 6.25450- 2 6.00000+ 6 6.45830- 19649 3 16  546
 7.00000+ 6 7.23790- 1 8.00000+ 6 7.14600- 1 9.00000+ 6 6.95500- 19649 3 16  547
 1.00000+ 7 7.14080- 1 1.09696+ 7 8.07330- 1 1.10000+ 7 8.08010- 19649 3 16  548
 1.20000+ 7 7.41020- 1 1.30000+ 7 4.24210- 1 1.40000+ 7 1.89460- 19649 3 16  549
 1.50000+ 7 7.63880- 2 1.60000+ 7 3.24540- 2 1.61482+ 7 2.88900- 29649 3 16  550
 1.70000+ 7 1.35610- 2 1.80000+ 7 5.21900- 3 1.90000+ 7 1.87380- 39649 3 16  551
 2.00000+ 7 6.72620- 4                                           9649 3 16  552
                                                                 9649 3  0  553
 9.62490+ 4 2.46936+ 2          0          99          0         09649 3 17  554
 0.0     + 0-1.09254+ 7          0           0          1        119649 3 17  555
        11          2          0           0          0         09649 3 17  556
 1.09696+ 7 0.0     + 0 1.20000+ 7 7.63960- 2 1.30000+ 7 3.15190- 19649 3 17  557
 1.40000+ 7 4.80550- 1 1.50000+ 7 5.48200- 1 1.60000+ 7 6.24350- 19649 3 17  558
 1.61482+ 7 6.42200- 1 1.70000+ 7 6.88760- 1 1.80000+ 7 6.60040- 19649 3 17  559
 1.90000+ 7 5.06660- 1 2.00000+ 7 3.28470- 1                     9649 3 17  560
                                                                 9649 3  0  561
 9.62490+ 4 2.46936+ 2          0          99          0         09649 3 18  562
 0.0     + 0 0.0     + 0          0           0          3        379649 3 18  563
         3          5          5           2         37         59649 3 18  564
 1.00000- 5 4.13000+ 1 2.53000- 2 8.20000- 1 4.15000+ 0 6.40300- 29649 3 18  565
 4.15000+ 0 0.0     + 0 3.00000+ 4 0.0     + 0 3.00000+ 4 1.94750+ 09649 3 18  566
 5.00000+ 4 1.90000+ 0 8.00000+ 4 1.90000+ 0 1.00000+ 5 1.94750+ 09649 3 18  567
 1.50000+ 5 2.04250+ 0 2.00000+ 5 2.09000+ 0 3.00000+ 5 2.04250+ 09649 3 18  568
 4.00000+ 5 2.05200+ 0 5.00000+ 5 1.90000+ 0 6.00000+ 5 1.94750+ 09649 3 18  569
 8.00000+ 5 2.13750+ 0 1.00000+ 6 2.30000+ 0 1.50000+ 6 2.40000+ 09649 3 18  570
 2.00000+ 6 2.43000+ 0 3.00000+ 6 2.30000+ 0 4.00000+ 6 2.09000+ 09649 3 18  571
 5.00000+ 6 2.00000+ 0 6.00000+ 6 2.00000+ 0 7.00000+ 6 2.11000+ 09649 3 18  572
 8.00000+ 6 2.16000+ 0 9.00000+ 6 2.22000+ 0 1.00000+ 7 2.25000+ 09649 3 18  573
 1.10000+ 7 2.19000+ 0 1.20000+ 7 2.20000+ 0 1.30000+ 7 2.30000+ 09649 3 18  574
```

```
1.40000+ 7 2.40000+ 0 1.50000+ 7 2.48000+ 0 1.60000+ 7 2.48000+ 09649 3 18  575
1.70000+ 7 2.46000+ 0 1.80000+ 7 2.48000+ 0 1.90000+ 7 2.54000+ 09649 3 18  576
2.00000+ 7 2.60000+ 0                                            9649 3 18  577
                                                                 9649 3  0  578
9.62490+ 4 2.46936+ 2          0          99          0          09649 3 37  579
0.0     + 0-1.60831+ 7          0           0          1          59649 3 37  580
         5          2          0           0          0          09649 3 37  581
1.61482+ 7 0.0     + 0 1.80000+ 7 1.14660- 3 1.80000+ 7 4.03030- 29649 3 37  582
1.90000+ 7 1.56060- 1 2.00000+ 7 2.91440- 1                      9649 3 37  583
                                                                 9649 3  0  584
9.62490+ 4 2.46936+ 2          0           1          0          09649 3 51  585
0.0     + 0-2.62000+ 4          0           0          1         349649 3 51  586
        34          3          0           0          0          09649 3 51  587
2.63061+ 4 0.0     + 0 3.00000+ 4 1.22899- 1 4.25717+ 4 2.90707- 19649 3 51  588
5.00000+ 4 3.56755- 1 5.24114+ 4 3.73718- 1 8.00000+ 4 4.94001- 19649 3 51  589
1.00000+ 5 5.33483- 1 1.10445+ 5 5.47727- 1 1.10546+ 5 5.47846- 19649 3 51  590
1.46591+ 5 5.65398- 1 1.50000+ 5 5.65568- 1 2.00000+ 5 5.60918- 19649 3 51  591
2.08842+ 5 5.60566- 1 2.20891+ 5 5.48989- 1 3.00000+ 5 4.81196- 19649 3 51  592
4.00000+ 5 3.92388- 1 5.00000+ 5 3.48230- 1 6.00000+ 5 2.84159- 19649 3 51  593
8.00000+ 5 1.82409- 1 1.00000+ 6 1.19885- 1 1.50000+ 6 4.59946- 29649 3 51  594
2.00000+ 6 1.35513- 2 3.00000+ 6 9.78403- 4 4.00000+ 6 9.80006- 59649 3 51  595
4.73180+ 6 1.88349- 5 5.00000+ 6 9.80318- 6 6.00000+ 6 3.48679- 79649 3 51  596
8.00000+ 6 2.91528-10 1.00000+ 7 3.18766-13 1.09696+ 7 2.33368-149649 3 51  597
1.30000+ 7 1.39391-15 1.50000+ 7 5.43568-17 1.72046+ 7 3.08754-189649 3 51  598
2.00000+ 7 1.68667-19                                            9649 3 51  599
                                                                 9649 3  0  600
9.62490+ 4 2.46936+ 2          0           2          0          09649 3 52  601
0.0     + 0-4.24000+ 4          0           0          1         329649 3 52  602
        32          3          0           0          0          09649 3 52  603
4.25717+ 4 0.0     + 0 5.00000+ 4 4.13293- 2 5.24114+ 4 5.70755- 29649 3 52  604
8.00000+ 4 1.93286- 1 1.00000+ 5 2.50002- 1 1.10445+ 5 2.72100- 19649 3 52  605
1.10546+ 5 2.72290- 1 1.46591+ 5 3.13821- 1 1.50000+ 5 3.16110- 19649 3 52  606
2.00000+ 5 3.37709- 1 2.08842+ 5 3.40666- 1 2.20891+ 5 3.39294- 19649 3 52  607
3.00000+ 5 3.16345- 1 4.00000+ 5 2.72658- 1 5.00000+ 5 2.54591- 19649 3 52  608
6.00000+ 5 2.18666- 1 8.00000+ 5 1.55117- 1 1.00000+ 6 1.10799- 19649 3 52  609
1.50000+ 6 4.75992- 2 2.00000+ 6 1.46854- 2 3.00000+ 6 1.12539- 39649 3 52  610
4.00000+ 6 1.18154- 4 4.73180+ 6 2.33856- 5 5.00000+ 6 1.22950- 59649 3 52  611
6.00000+ 6 4.49908- 7 8.00000+ 6 3.85000-10 1.00000+ 7 4.28735-139649 3 52  612
1.09696+ 7 3.15700-14 1.30000+ 7 1.90418-15 1.50000+ 7 7.50255-179649 3 52  613
1.72046+ 7 4.29831-18 2.00000+ 7 2.36639-19                      9649 3 52  614
                                                                 9649 3  0  615
9.62490+ 4 2.46936+ 2          0           3          0          09649 3 53  616
0.0     + 0-5.22000+ 4          0           0          1         309649 3 53  617
        30          3          0           0          0          09649 3 53  618
5.24114+ 4 0.0     + 0 8.00000+ 4 4.83699- 2 1.00000+ 5 7.21970- 29649 3 53  619
1.10445+ 5 8.16383- 2 1.10546+ 5 8.17201- 2 1.46591+ 5 9.89514- 29649 3 53  620
1.50000+ 5 9.99853- 2 2.00000+ 5 1.10589- 1 2.08842+ 5 1.12198- 19649 3 53  621
2.20891+ 5 1.12973- 1 3.00000+ 5 1.12842- 1 4.00000+ 5 1.07361- 19649 3 53  622
5.00000+ 5 1.11798- 1 6.00000+ 5 1.07234- 1 8.00000+ 5 9.21120- 29649 3 53  623
1.00000+ 6 7.52190- 2 1.50000+ 6 3.77728- 2 2.00000+ 6 1.23734- 29649 3 53  624
3.00000+ 6 1.03203- 3 4.00000+ 6 1.16463- 4 4.73180+ 6 2.40700- 59649 3 53  625
5.00000+ 6 1.28350- 5 6.00000+ 6 4.89348- 7 8.00000+ 6 4.36866-109649 3 53  626
1.00000+ 7 4.99353-13 1.09696+ 7 3.70759-14 1.30000+ 7 2.26630-159649 3 53  627
1.50000+ 7 9.03703-17 1.72046+ 7 5.23126-18 2.00000+ 7 2.90809-199649 3 53  628
                                                                 9649 3  0  629
9.62490+ 4 2.46936+ 2          0           4          0          09649 3 54  630
0.0     + 0-1.10000+ 5          0           0          1         279649 3 54  631
        27          3          0           0          0          09649 3 54  632
1.10445+ 5 0.0     + 0 1.10546+ 5 1.37019- 7 1.46591+ 5 7.09312- 49649 3 54  633
1.50000+ 5 7.98091- 4 2.00000+ 5 2.55810- 3 2.08842+ 5 2.97456- 39649 3 54  634
2.20891+ 5 3.54711- 3 3.00000+ 5 8.57212- 3 4.00000+ 5 1.61845- 29649 3 54  635
5.00000+ 5 2.59478- 2 6.00000+ 5 3.31278- 2 8.00000+ 5 3.95076- 29649 3 54  636
1.00000+ 6 3.81761- 2 1.50000+ 6 2.30128- 2 2.00000+ 6 8.20233- 39649 3 54  637
3.00000+ 6 7.78029- 4 4.00000+ 6 9.75846- 5 4.73180+ 6 2.14598- 59649 3 54  638
5.00000+ 6 1.16754- 5 6.00000+ 6 4.71763- 7 8.00000+ 6 4.47110-109649 3 54  639
1.00000+ 7 5.29742-13 1.09696+ 7 3.97873-14 1.30000+ 7 2.47387-159649 3 54  640
1.50000+ 7 1.00112-16 1.72046+ 7 5.87400-18 2.00000+ 7 3.30585-199649 3 54  641
                                                                 9649 3  0  642
9.62490+ 4 2.46936+ 2          0           5          0          09649 3 55  643
0.0     + 0-1.10100+ 5          0           0          1         269649 3 55  644
        26          3          0           0          0          09649 3 55  645
1.10546+ 5 0.0     + 0 1.46591+ 5 3.33733- 2 1.50000+ 5 3.62052- 29649 3 55  646
```

```
 2.00000+ 5 6.71793- 2 2.08842+ 5 7.12005- 2 2.20891+ 5 7.54453- 29649 3 55  647
 3.00000+ 5 8.94790- 2 4.00000+ 5 9.20305- 2 5.00000+ 5 9.90774- 29649 3 55  648
 6.00000+ 5 9.67461- 2 8.00000+ 5 8.48773- 2 1.00000+ 6 7.04077- 29649 3 55  649
 1.50000+ 6 3.64656- 2 2.00000+ 6 1.21545- 2 3.00000+ 6 1.02473- 39649 3 55  650
 4.00000+ 6 1.15742- 4 4.73180+ 6 2.39005- 5 5.00000+ 6 1.27397- 59649 3 55  651
 6.00000+ 6 4.85900- 7 8.00000+ 6 4.34749-10 1.00000+ 7 4.97407-139649 3 55  652
 1.09696+ 7 3.69432-14 1.30000+ 7 2.25831-15 1.50000+ 7 9.00873-179649 3 55  653
 1.72046+ 7 5.21980-18 2.00000+ 7 2.90320-19                          9649 3 55  654
                                                                      9649 3  0  655
 9.62490+ 4 2.46936+ 2          0          6          0           09649 3 56  656
 0.0    + 0-1.46000+ 5          0          0          1          259649 3 56  657
        25          3           0          0          0           09649 3 56  658
 1.46591+ 5 0.0    + 0 1.50000+ 5 2.37331- 5 2.00000+ 5 1.25803- 39649 3 56  659
 2.08842+ 5 1.58503- 3 2.20891+ 5 2.06042- 3 3.00000+ 5 6.43734- 39649 3 56  660
 4.00000+ 5 1.35657- 2 5.00000+ 5 2.28478- 2 6.00000+ 5 2.99805- 29649 3 56  661
 8.00000+ 5 3.68088- 2 1.00000+ 6 3.61752- 2 1.50000+ 6 2.23955- 29649 3 56  662
 2.00000+ 6 8.08901- 3 3.00000+ 6 7.73201- 4 4.00000+ 6 9.70572- 59649 3 56  663
 4.73180+ 6 2.13380- 5 5.00000+ 6 1.16075- 5 6.00000+ 6 4.69331- 79649 3 56  664
 8.00000+ 6 4.45605-10 1.00000+ 7 5.28343-13 1.09696+ 7 3.96923-149649 3 56  665
 1.30000+ 7 2.46927-15 1.50000+ 7 9.99085-17 1.72046+ 7 5.86557-189649 3 56  666
 2.00000+ 7 3.30223-19                                                9649 3 56  667
                                                                      9649 3  0  668
 9.62490+ 4 2.46936+ 2          0          7          0           09649 3 57  669
 0.0    + 0-2.08000+ 5          0          0          1          229649 3 57  670
        22          3           0          0          0           09649 3 57  671
 2.08842+ 5 0.0    + 0 2.20891+ 5 4.04165- 2 3.00000+ 5 1.88372- 19649 3 57  672
 4.00000+ 5 2.41897- 1 5.00000+ 5 2.54869- 1 6.00000+ 5 2.26015- 19649 3 57  673
 8.00000+ 5 1.55713- 1 1.00000+ 6 1.05184- 1 1.50000+ 6 4.22274- 29649 3 57  674
 2.00000+ 6 1.29465- 2 3.00000+ 6 9.66597- 4 4.00000+ 6 9.69335- 59649 3 57  675
 4.73180+ 6 1.85650- 5 5.00000+ 6 9.64587- 6 6.00000+ 6 3.42449- 79649 3 57  676
 8.00000+ 6 2.87600-10 1.00000+ 7 3.15253-13 1.09696+ 7 2.30931-149649 3 57  677
 1.30000+ 7 1.38072-15 1.50000+ 7 5.38610-17 1.72046+ 7 3.06761-189649 3 57  678
 2.00000+ 7 1.67827-19                                                9649 3 57  679
                                                                      9649 3  0  680
 9.62490+ 4 2.46936+ 2          0         98          0           09649 3 91  681
 0.0    + 0-2.20000+ 5          0          0          1          219649 3 91  682
        21          3           0          0          0           09649 3 91  683
 2.20891+ 5 0.0    + 0 3.00000+ 5 2.84646- 2 4.00000+ 5 1.08604- 19649 3 91  684
 5.00000+ 5 2.21193- 1 6.00000+ 5 3.19974- 1 8.00000+ 5 4.92544- 19649 3 91  685
 1.00000+ 6 6.44619- 1 1.50000+ 6 9.39693- 1 2.00000+ 6 8.96439- 19649 3 91  686
 3.00000+ 6 6.67828- 1 4.00000+ 6 7.19345- 1 4.73180+ 6 7.95735- 19649 3 91  687
 5.00000+ 6 7.72208- 1 6.00000+ 6 2.41959- 1 8.00000+ 6 9.16033- 39649 3 91  688
 1.00000+ 7 3.00012- 4 1.09696+ 7 1.00459- 4 1.30000+ 7 1.17423- 49649 3 91  689
 1.50000+ 7 6.98441- 5 1.72046+ 7 6.54017- 5 2.00000+ 7 9.84463- 59649 3 91  690
                                                                      9649 3  0  691
 9.62490+ 4 2.46936+ 2          0         99          0           09649 3102  692
 0.0    + 0 1.58500+ 6          0          0          3          389649 3102  693
         3          5           5          2         38           59649 3102  694
 1.00000- 5 8.05000+ 1 2.53000- 2 1.60000+ 0 4.15000+ 0 1.24930- 19649 3102  695
 4.15000+ 0 0.0    + 0 3.00000+ 4 0.0    + 0 3.00000+ 4 4.35811- 19649 3102  696
 4.25717+ 4 3.26927- 1 5.00000+ 4 2.78456- 1 5.24114+ 4 2.65102- 19649 3102  697
 8.00000+ 4 1.71226- 1 1.00000+ 5 1.39047- 1 1.10445+ 5 1.27950- 19649 3102  698
 1.10546+ 5 1.27855- 1 1.46591+ 5 1.00270- 1 1.50000+ 5 9.84589- 29649 3102  699
 2.00000+ 5 8.09388- 2 2.08842+ 5 7.91735- 2 2.20891+ 5 7.36049- 29649 3102  700
 3.00000+ 5 5.88457- 2 4.00000+ 5 4.90427- 2 5.00000+ 5 4.75975- 29649 3102  701
 6.00000+ 5 4.39838- 2 8.00000+ 5 3.79008- 2 1.00000+ 6 3.37539- 29649 3102  702
 1.50000+ 6 2.64697- 2 2.00000+ 6 1.55217- 2 3.00000+ 6 4.17290- 39649 3102  703
 4.00000+ 6 1.39580- 3 4.73180+ 6 5.98859- 4 5.00000+ 6 4.10522- 49649 3102  704
 6.00000+ 6 3.80067- 5 8.00000+ 6 2.21517- 7 1.00000+ 7 2.27889- 99649 3102  705
 1.09696+ 7 5.19891-10 1.30000+ 7 3.45083-10 1.50000+ 7 1.45009-109649 3102  706
 1.72046+ 7 1.04490-10 2.00000+ 7 1.25703-10                          9649 3102  707
                                                                      9649 3  0  708
 9.62490+ 4 2.46936+ 2          0          0          0           09649 3251  709
 0.0    + 0 0.0    + 0          0          0          1          379649 3251  710
        37          3           0          0          0           09649 3251  711
 1.00000- 5 2.69975- 3 1.00000+ 3 3.17385- 3 1.00000+ 4 1.04266- 29649 3251  712
 2.63061+ 4 2.92981- 2 3.00000+ 4 3.46938- 2 4.25717+ 4 5.09746- 29649 3251  713
 5.00000+ 4 6.09196- 2 5.24114+ 4 6.42066- 2 8.00000+ 4 1.02342- 19649 3251  714
 1.00000+ 5 1.29924- 1 1.10445+ 5 1.43998- 1 1.10546+ 5 1.44132- 19649 3251  715
 1.46591+ 5 1.90714- 1 1.50000+ 5 1.94924- 1 2.00000+ 5 2.51743- 19649 3251  716
 2.08842+ 5 2.60741- 1 2.20891+ 5 2.73192- 1 3.00000+ 5 3.43206- 19649 3251  717
 4.00000+ 5 4.09397- 1 5.00000+ 5 4.52325- 1 6.00000+ 5 4.85229- 19649 3251  718
```

```
 8.00000+ 5 5.24263- 1 1.00000+ 6 5.40286- 1 1.50000+ 6 5.65019- 19649 3251  719
 2.00000+ 6 6.15593- 1 3.00000+ 6 7.04386- 1 4.00000+ 6 7.59808- 19649 3251  720
 4.73180+ 6 7.88104- 1 5.00000+ 6 7.96111- 1 6.00000+ 6 8.15965- 19649 3251  721
 8.00000+ 6 8.22216- 1 1.00000+ 7 8.21975- 1 1.09696+ 7 8.31181- 19649 3251  722
 1.30000+ 7 8.63281- 1 1.50000+ 7 8.96369- 1 1.72046+ 7 9.23859- 19649 3251  723
 2.00000+ 7 9.43292- 1                                            9649 3251  724
                                                                  9649 3  0  725
                                                                  9649 0  0  726
 9.62490+ 4 2.46936+ 2          1          1          0          09649 4  2  727
 0.0    + 0 2.46936+ 2          0          2        441         209649 4  2  728
 1.00000+ 0 2.69975- 3 3.27991- 6-1.51610-18 0.0    + 0 0.0    + 09649 4  2  729
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  730
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  731
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 9.99990- 1 4.85953- 39649 4  2  732
 1.12454- 5 1.26499- 8 7.68353-12-7.62520-15 0.0    + 0 0.0    + 09649 4  2  733
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  734
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  735
 0.0    + 0-2.69971- 3 9.99974- 1 6.94213- 3 2.34277- 5 4.59995- 89649 4  2  736
 5.64082-11 2.45221-14 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  737
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  738
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 9.83954- 6-4.85943- 39649 4  2  739
 9.99950- 1 8.99895- 3 3.97558- 5 1.08364- 7 1.97698-10 2.55059-139649 4  2  740
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  741
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  742
 0.0    + 0-3.79490- 8 2.24902- 5-6.94193- 3 9.99917- 1 1.10440- 29649 4  2  743
 6.02064- 5 2.08056- 7 4.94084-10 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  744
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  745
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 1.49411-10-1.01196- 79649 4  2  746
 3.90449- 5-8.99861- 3 9.99876- 1 1.30826- 2 8.47695- 5 3.53973- 79649 4  2  747
-3.62805- 8-7.61147-10 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  748
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  749
 0.0    + 0-5.94056-13 4.47063-10-2.01240- 7 5.96312- 5-1.10435- 29649 4  2  750
 9.99827- 1 1.51173- 2 1.13397- 4 5.52445- 7-4.88824- 8-1.40945- 99649 4  2  751
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  752
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 2.37486-15-1.94969-129649 4  2  753
 9.87343-10-3.46748- 7 8.42848- 5-1.30819- 2 9.99769- 1 1.71494- 29649 4  2  754
 1.46157- 4 8.13398- 7-3.49399- 8-1.27066- 9 0.0    + 0 0.0    + 09649 4  2  755
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  756
 0.0    + 0-9.52572-18 8.42195-15-4.69138-12 1.87227- 9-5.46119- 79649 4  2  757
 1.13019- 4-1.51164- 2 9.99704- 1 1.91796- 2 1.83047- 4 1.14573- 69649 4  2  758
-2.98100- 8-7.27336-10 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  759
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 3.82920-20-2.09830-179649 4  2  760
 2.17924-14-9.63350-12 3.21981- 9-8.07690- 7 1.45841- 4-1.71482- 29649 4  2  761
 9.99630- 1 2.12084- 2 2.24027- 4 1.55727- 6-5.03582- 8-7.90879-109649 4  2  762
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  763
 0.0    + 0 0.0    + 0 6.12308-20-6.12191-17 4.79102-14-1.78428-119649 4  2  764
 5.16452- 9-1.13978- 6 1.82754- 4-1.91781- 2 9.99548- 1 2.32361- 29649 4  2  765
 2.69077- 4 2.05527- 6-8.49373- 8-3.88905- 9 0.0    + 0 0.0    + 09649 4  2  766
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  767
 1.92526-19-1.34975-16 9.46221-14-3.06744-11 7.85770- 9-1.55068- 69649 4  2  768
 2.23758- 4-2.12066- 2 9.99458- 1 2.52628- 2 3.18208- 4 2.64572- 69649 4  2  769
-1.51068- 8-1.17130- 9 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  770
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 4.39254-19-3.88423-169649 4  2  771
 1.72827-13-4.98065-11 1.14674- 8-2.04870- 6 2.68854- 4-2.32339- 29649 4  2  772
 9.99359- 1 2.72888- 2 3.71547- 4 3.34585- 6-2.34266- 8-3.67904- 99649 4  2  773
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  774
 0.0    + 0 0.0    + 0 1.13153-18-8.37839-16 2.97165-13-7.72742-119649 4  2  775
 1.61784- 8-2.64214- 6 3.18043- 4-2.52602- 2 9.99253- 1 2.93139- 29649 4  2  776
 4.28896- 4 4.15254- 6 4.12446- 8 4.34823-10 0.0    + 0 0.0    + 09649 4  2  777
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  778
 2.33148-18-1.59408-15 4.86775-13-1.15504-10 2.21923- 8-3.33927- 69649 4  2  779
 3.71324- 4-2.72857- 2 9.99138- 1 3.13384- 2 4.90415- 4 5.08621- 69649 4  2  780
-1.18587- 8-2.30680- 9 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  781
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 4.30941-18-2.81155-159649 4  2  782
 7.66124-13-1.67347-10 2.97275- 8-4.14839- 6 4.28698- 4-2.93105- 29649 4  2  783
 9.99015- 1 3.33623- 2 5.55900- 4 6.14141- 6 1.39870- 8-1.55155- 99649 4  2  784
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  785
 0.0    + 0-1.42585-20 7.43650-18-4.69992-15 1.16590-12-2.36114-109649 4  2  786
 3.90191- 8-5.07779- 6 4.90162- 4-3.13345- 2 9.98884- 1 3.53856- 29649 4  2  787
 6.25558- 4 7.33710- 6 2.26672- 8 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  788
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0-2.46065-209649 4  2  789
 1.22107-17-7.53774-15 1.72396-12-3.25608-10 5.03191- 8-6.13575- 69649 4  2  790
```

```
 5.55716- 4-3.33578- 2 9.98745- 1 3.74082- 2 6.99287- 4 8.67652- 69649 4  2  791
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  792
 0.0    + 0 0.0    + 0 0.0    + 0-4.03575-20 1.92864-17-1.16880-149649 4  2  793
 2.48641-12-4.40160-10 6.38959- 8-7.33054- 6 6.25360- 4-3.53805- 29649 4  2  794
 9.98597- 1 3.94302- 2 7.77124- 4 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  795
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  796
 0.0    + 0-6.36254-20 2.95086-17-1.76160-14 3.50864-12-5.84660-109649 4  2  797
 8.00352- 8-8.67045- 6 6.99092- 4-3.74025- 2 9.98442- 1 4.14517- 29649 4  2  798
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 09649 4  2  799
 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0 0.0    + 0-9.71291-209649 4  2  800
 4.39515-17-2.59089-14 4.85654-12-7.64595-10 9.90389- 8-1.01637- 59649 4  2  801
 7.76912- 4-3.94239- 2 9.98278- 1                                  9649 4  2  802
 0.0    + 0 0.0    + 0          0          0          1          379649 4  2  803
        37          2           0          0          0           09649 4  2  804
 0.0    + 0 1.00000- 5          0          0          2           09649 4  2  805
 0.0    + 0 0.0    + 0                                              9649 4  2  806
 0.0    + 0 1.00000+ 3          0          0          2           09649 4  2  807
 4.74247- 4 5.43706- 5                                              9649 4  2  808
 0.0    + 0 1.00000+ 4          0          0          4           09649 4  2  809
 7.73612- 3 3.39100- 3 3.37189- 7 3.12226- 9                       9649 4  2  810
 0.0    + 0 2.63061+ 4          0          0          4           09649 4  2  811
 2.66181- 2 7.22987- 3 6.82990- 6 1.19583- 7                       9649 4  2  812
 0.0    + 0 3.00000+ 4          0          0          4           09649 4  2  813
 3.20141- 2 7.34268- 3 1.04307- 5 1.80253- 7                       9649 4  2  814
 0.0    + 0 4.25717+ 4          0          0          6           09649 4  2  815
 4.83020- 2 9.85281- 3 3.06443- 5 9.78508- 7-1.89869-10 2.30207-109649 4  2  816
 0.0    + 0 5.00000+ 4          0          0          6           09649 4  2  817
 5.82505- 2 1.11680- 2 4.99123- 5 1.66103- 6-4.04435-10 5.52527-109649 4  2  818
 0.0    + 0 5.24114+ 4          0          0          6           09649 4  2  819
 6.15387- 2 1.15748- 2 5.75904- 5 1.98442- 6-5.03655-10 7.07580-109649 4  2  820
 0.0    + 0 8.00000+ 4          0          0          6           09649 4  2  821
 9.96878- 2 1.65642- 2 2.06871- 4 9.54668- 6-3.32738- 9 4.87576- 99649 4  2  822
 0.0    + 0 1.00000+ 5          0          0          6           09649 4  2  823
 1.27282- 1 2.08211- 2 4.03914- 4 2.24136- 5-8.06900- 9 1.41565- 89649 4  2  824
 0.0    + 0 1.10445+ 5          0          0          6           09649 4  2  825
 1.41362- 1 2.32683- 2 5.42684- 4 3.27413- 5-1.13382- 8 2.31740- 89649 4  2  826
 0.0    + 0 1.10546+ 5          0          0          6           09649 4  2  827
 1.41496- 1 2.32925- 2 5.44147- 4 3.28548- 5-1.13709- 8 2.32788- 89649 4  2  828
 0.0    + 0 1.46591+ 5          0          0          6           09649 4  2  829
 1.88103- 1 3.24699- 2 1.24870- 3 9.46973- 5-1.66225- 8 8.17451- 89649 4  2  830
 0.0    + 0 1.50000+ 5          0          0          6           09649 4  2  831
 1.92316- 1 3.33966- 2 1.33519- 3 1.03321- 4-1.52264- 8 9.12424- 89649 4  2  832
 0.0    + 0 2.00000+ 5          0          0          6           09649 4  2  833
 2.49175- 1 4.78721- 2 3.04654- 3 3.06091- 4 1.66783- 7 4.00523- 79649 4  2  834
 0.0    + 0 2.08842+ 5          0          0          6           09649 4  2  835
 2.58180- 1 5.05541- 2 3.43989- 3 3.59985- 4 2.62060- 7 5.08479- 79649 4  2  836
 0.0    + 0 2.20891+ 5          0          0          6           09649 4  2  837
 2.70641- 1 5.42885- 2 4.03222- 3 4.44234- 4 4.49753- 7 6.96886- 79649 4  2  838
 0.0    + 0 3.00000+ 5          0          0          8           09649 4  2  839
 3.40723- 1 7.89430- 2 9.40753- 3 1.41082- 3 8.73534- 6 4.33171- 69649 4  2  840
 2.69737- 8 7.49242-11                                              9649 4  2  841
 0.0    + 0 4.00000+ 5          0          0          8           09649 4  2  842
 4.06997- 1 1.09487- 1 2.02607- 2 4.10503- 3 5.71515- 5 2.36785- 59649 4  2  843
 2.16039- 7 6.45658-10                                              9649 4  2  844
 0.0    + 0 5.00000+ 5          0          0          8           09649 4  2  845
 4.50000- 1 1.37339- 1 3.55464- 2 9.20439- 3 2.40614- 4 8.87642- 59649 4  2  846
 1.07853- 6 3.51371- 9                                              9649 4  2  847
 0.0    + 0 6.00000+ 5          0          0         10           09649 4  2  848
 4.82976- 1 1.63693- 1 5.55881- 2 1.76952- 2 7.87862- 4 2.69247- 49649 4  2  849
 5.29404- 6 4.90117- 7 5.26967- 9 2.34057-10                        9649 4  2  850
 0.0    + 0 8.00000+ 5          0          0         10           09649 4  2  851
 5.22145- 1 2.13992- 1 1.06565- 1 4.74399- 2 4.49375- 3 1.39941- 39649 4  2  852
 4.10246- 5 4.76784- 6 7.03914- 8 3.99031- 9                        9649 4  2  853
 0.0    + 0 1.00000+ 6          0          0         10           09649 4  2  854
 5.38303- 1 2.63953- 1 1.62565- 1 9.42447- 2 1.52137- 2 4.59423- 39649 4  2  855
 1.87173- 4 2.58262- 5 5.02848- 7 3.50105- 8                        9649 4  2  856
 0.0    + 0 1.50000+ 6          0          0         12           09649 4  2  857
 5.63333- 1 3.74410- 1 2.65443- 1 2.32550- 1 8.27824- 2 2.65239- 29649 4  2  858
 2.08786- 3 3.86379- 4 1.95137- 5 1.53703- 6 7.25431- 8 2.47274- 99649 4  2  859
 0.0    + 0 2.00000+ 6          0          0         12           09649 4  2  860
 6.14088- 1 4.41292- 1 3.19752- 1 3.13071- 1 1.65619- 1 5.99133- 29649 4  2  861
 7.87556- 3 1.94111- 3 1.41683- 4 1.74272- 5 1.04542- 6 5.82993- 89649 4  2  862
```

```
 0.0     + 0 3.00000+ 6           0           0           14          09649 4  2  863
 7.03112- 1 5.26899- 1 4.10653- 1 3.55714- 1 2.55182- 1 1.16876- 19649 4  2  864
 3.20677- 2 1.17746- 2 1.59030- 3 3.74522- 4 2.40177- 5 4.23877- 69649 4  2  865
 2.49772- 7 3.03560- 9                                            9649 4  2  866
 0.0     + 0 4.00000+ 6           0           0           16          09649 4  2  867
 7.58752- 1 6.07610- 1 4.87397- 1 3.89858- 1 2.96745- 1 1.63730- 19649 4  2  868
 6.45274- 2 2.98672- 2 7.51276- 3 2.32613- 3 2.18231- 4 6.80957- 59649 4  2  869
 6.33483- 6 8.74116- 7 3.36274- 8 1.64841- 9                      9649 4  2  870
 0.0     + 0 4.73180+ 6           0           0           16          09649 4  2  871
 7.87176- 1 6.55443- 1 5.33210- 1 4.26285- 1 3.22981- 1 1.99420- 19649 4  2  872
 9.07289- 2 4.82034- 2 1.82325- 2 6.36023- 3 1.09499- 3 3.28199- 49649 4  2  873
 3.45740- 5 5.91805- 6 2.72384- 7 1.50679- 8                      9649 4  2  874
 0.0     + 0 5.00000+ 6           0           0           16          09649 4  2  875
 7.95222- 1 6.69660- 1 5.48744- 1 4.41034- 1 3.33273- 1 2.13245- 19649 4  2  876
 1.01296- 1 5.60104- 2 2.38652- 2 8.78414- 3 1.85032- 3 5.28475- 49649 4  2  877
 5.89900- 5 1.07418- 5 5.41778- 7 3.12241- 8                      9649 4  2  878
 0.0     + 0 6.00000+ 6           0           0           18          09649 4  2  879
 8.15171- 1 7.04739- 1 5.94677- 1 4.89379- 1 3.71800- 1 2.61367- 19649 4  2  880
 1.42335- 1 8.49326- 2 4.90506- 2 2.31597- 2 7.95419- 3 2.06227- 39649 4  2  881
 3.15373- 4 6.38220- 5 1.13541- 5 1.01065- 6 1.27399- 7 8.06192- 99649 4  2  882
 0.0     + 0 8.00000+ 6           0           0           20          09649 4  2  883
 8.21429- 1 7.07836- 1 6.18111- 1 5.31222- 1 4.28180- 1 3.25526- 19649 4  2  884
 2.20977- 1 1.42409- 1 1.07296- 1 7.60493- 2 3.90274- 2 1.33793- 29649 4  2  885
 3.88626- 3 1.15903- 3 2.54786- 4 4.53056- 5 8.93634- 6 9.22598- 79649 4  2  886
 1.08111- 7 6.56755- 9                                            9649 4  2  887
 0.0     + 0 1.00000+ 7           0           0           20          09649 4  2  888
 8.21137- 1 6.88536- 1 6.04399- 1 5.35212- 1 4.57760- 1 3.76367- 19649 4  2  889
 2.95975- 1 2.22813- 1 1.77368- 1 1.50388- 1 1.04178- 1 5.31923- 29649 4  2  890
 2.27390- 2 8.06394- 3 2.16702- 3 5.05858- 4 1.23213- 4 2.01849- 59649 4  2  891
 3.25766- 6 5.60247- 7                                            9649 4  2  892
 0.0     + 0 1.09696+ 7           0           0           20          09649 4  2  893
 8.30352- 1 6.91905- 1 6.02153- 1 5.32863- 1 4.64686- 1 3.95124- 19649 4  2  894
 3.24181- 1 2.60318- 1 2.11461- 1 1.83525- 1 1.41014- 1 8.36570- 29649 4  2  895
 4.01652- 2 1.54488- 2 4.72252- 3 1.25905- 3 3.31735- 4 6.29042- 59649 4  2  896
 1.19277- 5 2.24381- 6                                            9649 4  2  897
 0.0     + 0 1.30000+ 7           0           0           20          09649 4  2  898
 8.62549- 1 7.27686- 1 6.24699- 1 5.48464- 1 4.86663- 1 4.28812- 19649 4  2  899
 3.73183- 1 3.22188- 1 2.76043- 1 2.40137- 1 2.03502- 1 1.47520- 19649 4  2  900
 8.65007- 2 4.13558- 2 1.66160- 2 5.81103- 3 1.84604- 3 4.70795- 49649 4  2  901
 1.22132- 4 2.57222- 5                                            9649 4  2  902
 0.0     + 0 1.50000+ 7           0           0           20          09649 4  2  903
 8.95779- 1 7.80682- 1 6.78975- 1 5.98432- 1 5.30692- 1 4.73049- 19649 4  2  904
 4.20695- 1 3.72354- 1 3.27645- 1 2.85830- 1 2.45518- 1 1.95995- 19649 4  2  905
 1.34571- 1 7.84269- 2 3.92994- 2 1.71282- 2 6.53590- 3 2.09938- 39649 4  2  906
 6.21670- 4 1.53615- 4                                            9649 4  2  907
 0.0     + 0 1.72046+ 7           0           0           20          09649 4  2  908
 9.23407- 1 8.31794- 1 7.41238- 1 6.61049- 1 5.88845- 1 5.27430- 19649 4  2  909
 4.71044- 1 4.20502- 1 3.72385- 1 3.26906- 1 2.81240- 1 2.33582- 19649 4  2  910
 1.78269- 1 1.20938- 1 7.25544- 2 3.84440- 2 1.78341- 2 7.11525- 39649 4  2  911
 2.49593- 3 7.54967- 4                                            9649 4  2  912
 0.0     + 0 2.00000+ 7           0           0           20          09649 4  2  913
 9.42946- 1 8.71194- 1 7.95901- 1 7.22511- 1 6.52535- 1 5.88026- 19649 4  2  914
 5.28051- 1 4.72687- 1 4.20231- 1 3.70138- 1 3.20887- 1 2.71463- 19649 4  2  915
 2.20473- 1 1.67409- 1 1.17035- 1 7.48812- 2 4.31316- 2 2.18366- 29649 4  2  916
 9.62245- 3 3.68020- 3                                            9649 4  2  917
                                                                  9649 4  0  918
 9.62490+ 4 2.46936+ 2           0           2           0           09649 4 16  919
 0.0     + 0 2.46936+ 2           0           1           0           09649 4 16  920
 0.0     + 0 0.0     + 0           0           0           1           29649 4 16  921
           2           2           0           0           0           09649 4 16  922
 0.0     + 0 4.73180+ 6           0           0           1           29649 4 16  923
           2           2           0           0           0           09649 4 16  924
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                      9649 4 16  925
 0.0     + 0 2.00000+ 7           0           0           1           29649 4 16  926
           2           2           0           0           0           09649 4 16  927
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                      9649 4 16  928
                                                                  9649 4  0  929
 9.62490+ 4 2.46936+ 2           0           2           0           09649 4 17  930
 0.0     + 0 2.46936+ 2           0           1           0           09649 4 17  931
 0.0     + 0 0.0     + 0           0           0           1           29649 4 17  932
           2           2           0           0           0           09649 4 .   933
 0.0     + 0 1.09696+ 7           0           0           1           29649 4 17  934
```

```
           2           2           0           0           0          09649 4 17  935
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                           9649 4 17  936
 0.0     + 0 2.00000+ 7           0           0           1          29649 4 17  937
           2           2           0           0           0          09649 4 17  938
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                           9649 4 17  939
                                                                       9649 4  0  940
 9.62490+ 4 2.46936+ 2           0           2           0          09649 4 18  941
 0.0     + 0 2.46936+ 2           0           1           0          09649 4 18  942
 0.0     + 0 0.0     + 0           0           0           1          29649 4 18  943
           2           2           0           0           0          09649 4 18  944
 0.0     + 0 1.00000- 5           0           0           1          29649 4 18  945
           2           2           0           0           0          09649 4 18  946
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                           9649 4 18  947
 0.0     + 0 2.00000+ 7           0           0           1          29649 4 18  948
           2           2           0           0           0          09649 4 18  949
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                           9649 4 18  950
                                                                       9649 4  0  951
 9.62490+ 4 2.46936+ 2           0           2           0          09649 4 37  952
 0.0     + 0 2.46936+ 2           0           1           0          09649 4 37  953
 0.0     + 0 0.0     + 0           0           0           1          29649 4 37  954
           2           2           0           0           0          09649 4 37  955
 0.0     + 0 1.61482+ 7           0           0           1          29649 4 37  956
           2           2           0           0           0          09649 4 37  957
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                           9649 4 37  958
 0.0     + 0 2.00000+ 7           0           0           1          29649 4 37  959
           2           2           0           0           0          09649 4 37  960
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                           9649 4 37  961
                                                                       9649 4  0  962
 9.62490+ 4 2.46936+ 2           0           1           0          09649 4 51  963
 0.0     + 0 2.46936+ 2           0           2           0          09649 4 51  964
 0.0     + 0 0.0     + 0           0           0           1          49649 4 51  965
           4           2           0           0           0          09649 4 51  966
 0.0     + 0 2.63061+ 4           0           0           2          09649 4 51  967
 0.0     + 0 0.0     + 0                                               9649 4 51  968
 0.0     + 0 8.00000+ 6           0           0          18          09649 4 51  969
 0.0     + 0 1.37531- 1 0.0     + 0 3.22618- 2 0.0     + 0 5.26905- 39649 4 51  970
 0.0     + 0-7.02130- 4 0.0     + 0-8.27745- 4 0.0     + 0-2.18721- 49649 4 51  971
 0.0     + 0-1.56415- 5 0.0     + 0-1.95191- 7 0.0     + 0-2.38728- 89649 4 51  972
 0.0     + 0 1.30000+ 7           0           0          20          09649 4 51  973
 0.0     + 0 1.57156- 1 0.0     + 0 4.68681- 2 0.0     + 0 1.33767- 29649 4 51  974
 0.0     + 0 2.24506- 3 0.0     + 0-6.57920- 4 0.0     + 0-7.33788- 49649 4 51  975
 0.0     + 0-2.65047- 4 0.0     + 0-3.26054- 5 0.0     + 0-2.99295- 69649 4 51  976
 0.0     + 0-2.42118- 7                                               9649 4 51  977
 0.0     + 0 2.00000+ 7           0           0          20          09649 4 51  978
 0.0     + 0 1.73825- 1 0.0     + 0 6.10976- 2 0.0     + 0 2.31089- 29649 4 51  979
 0.0     + 0 7.72630- 3 0.0     + 0 1.61872- 3 0.0     + 0-3.42657- 49649 4 51  980
 0.0     + 0-5.83144- 4 0.0     + 0-3.21672- 4 0.0     + 0-1.01159- 49649 4 51  981
 0.0     + 0-2.01706- 5                                               9649 4 51  982
                                                                       9649 4  0  983
9.62490+ 4 2.46936+ 2           0           1           0          09649 4 52  984
0.0     + 0 2.46936+ 2           0           2           0          09649 4 52  985
0.0     + 0 0.0     + 0           0           0           1          49649 4 52  986
           4           2           0           0           0          09649 4 52  987
0.0     + 0 4.25717+ 4           0           0           2          09649 4 52  988
0.0     + 0 0.0     + 0                                               9649 4 52  989
0.0     + 0 8.00000+ 6           0           0          18          09649 4 52  990
0.0     + 0 8.97154- 2 0.0     + 0 3.78624- 3 0.0     + 0-5.50012- 39649 4 52  991
0.0     + 0-2.40748- 3 0.0     + 0-2.69389- 4 0.0     + 0 7.60758- 59649 4 52  992
0.0     + 0 8.36859- 6 0.0     + 0 9.02006- 8 0.0     + 0 1.65047- 89649 4 52  993
0.0     + 0 1.30000+ 7           0           0          20          09649 4 52  994
0.0     + 0 1.17104- 1 0.0     + 0 1.78981- 2 0.0     + 0-2.28846- 39649 4 52  995
0.0     + 0-3.76632- 3 0.0     + 0-1.67448- 3 0.0     + 0-2.66885- 49649 4 52  996
0.0     + 0 6.42576- 5 0.0     + 0 1.30093- 5 0.0     + 0 1.60314- 69649 4 52  997
0.0     + 0 1.65319- 7                                               9649 4 52  998
0.0     + 0 2.00000+ 7           0           0          20          09649 4 52  999
0.0     + 0 1.41374- 1 0.0     + 0 3.40376- 2 0.0     + 0 4.92635- 39649 4 52 1000
0.0     + 0-2.40871- 3 0.0     + 0-2.74082- 3 0.0     + 0-1.43962- 39649 4 52 1001
0.0     + 0-4.18842- 4 0.0     + 0-2.49834- 5 0.0     + 0 2.45063- 59649 4 52 1002
0.0     + 0 9.50727- 6                                               9649 4 52 1003
                                                                       9649 4  0 1004
9.62490+ 4 2.46936+ 2           0           1           0          09649 4 53 1005
0.0     + 0 2.46936+ 2           0           2           0          09649 4 53 1006
```

```
0.0     + 0 0.0     + 0          0           0           1           49649 4 53 1007
          4           2          0           0           0           09649 4 53 1008
0.0     + 0 5.24114+ 4           0           0           2           09649 4 53 1009
0.0     + 0 0.0     + 0                                               9649 4 53 1010
0.0     + 0 8.00000+ 6           0           0          18           09649 4 53 1011
0.0     + 0 4.11745- 2 0.0     + 0-1.22141- 2 0.0     + 0-4.60920- 39649 4 53 1012
0.0     + 0 4.12114- 4 0.0     + 0 4.76504- 4 0.0     + 0 1.41750- 59649 4 53 1013
0.0     + 0-2.32658- 6 0.0     + 0-8.34329- 9 0.0     + 0-8.53327- 99649 4 53 1014
0.0     + 0 1.30000+ 7           0           0          20           09649 4 53 1015
0.0     + 0 7.51728- 2 0.0     + 0-3.43406- 3 0.0     + 0-7.34038- 39649 4 53 1016
0.0     + 0-2.11885- 3 0.0     + 0 3.46666- 4 0.0     + 0 3.89207- 49649 4 53 1017
0.0     + 0 3.60087- 5 0.0     + 0 5.58410- 8 0.0     + 0-4.46272- 79649 4 53 1018
0.0     + 0-8.61565- 8                                                9649 4 53 1019
0.0     + 0 2.00000+ 7           0           0          20           09649 4 53 1020
0.0     + 0 1.06634- 1 0.0     + 0 1.08616- 2 0.0     + 0-5.57082- 39649 4 53 1021
0.0     + 0-4.62124- 3 0.0     + 0-1.48660- 3 0.0     + 0 1.14112- 49649 4 53 1022
0.0     + 0 3.24636- 4 0.0     + 0 1.23158- 4 0.0     + 0 1.74119- 59649 4 53 1023
0.0     + 0-1.43378- 6                                                9649 4 53 1024
                                                                      9649 4  0 1025
9.62490+ 4 2.46936+ 2           0           1           0           09649 4 54 1026
0.0     + 0 2.46936+ 2           0           2           0           09649 4 54 1027
0.0     + 0 0.0     + 0          0           0           1           49649 4 54 1028
          4           2          0           0           0           09649 4 54 1029
0.0     + 0 1.10445+ 5           0           0           2           09649 4 54 1030
0.0     + 0 0.0     + 0                                               9649 4 54 1031
0.0     + 0 8.00000+ 6           0           0          18           09649 4 54 1032
0.0     + 0-2.13173- 3 0.0     + 0-1.37322- 2 0.0     + 0 8.36073- 49649 4 54 1033
0.0     + 0 1.19679- 3 0.0     + 0-1.26408- 4 0.0     + 0-3.84784- 59649 4 54 1034
0.0     + 0-1.14459- 6 0.0     + 0-2.79452- 8 0.0     + 0 1.48316- 99649 4 54 1035
0.0     + 0 1.30000+ 7           0           0          20           09649 4 54 1036
0.0     + 0 3.45004- 2 0.0     + 0-1.41169- 2 0.0     + 0-4.34138- 39649 4 54 1037
0.0     + 0 1.03810- 3 0.0     + 0 7.51704- 4 0.0     + 0-6.21047- 59649 4 54 1038
0.0     + 0-3.85765- 5 0.0     + 0-4.10729- 6 0.0     + 0-1.86600- 79649 4 54 1039
0.0     + 0 2.21125- 8                                                9649 4 54 1040
0.0     + 0 2.00000+ 7           0           0          20           09649 4 54 1041
0.0     + 0 7.14562- 2 0.0     + 0-5.77843- 3 0.0     + 0-8.10467- 39649 4 54 1042
0.0     + 0-1.9 740- 3 0.0     + 0 7.18144- 4 0.0     + 0 6.22158- 49649 4 54 1043
0.0     + 0 8.57756- 5 0.0     + 0-4.80825- 5 0.0     + 0-2.03987- 59649 4 54 1044
0.0     + 0-2.13567- 6                                                9649 4 54 1045
                                                                      9649 4  0 1046
9.62490+ 4 2.46936+ 2           0           1           0           09649 4 55 1047
0.0     + 0 2.46936+ 2           0           2           0           09649 4 55 1048
0.0     + 0 0.0     + 0          0           0           1           49649 4 55 1049
          4           2          0           0           0           09649 4 55 1050
0.0     + 0 1.10546+ 5           0           0           2           09649 4 55 1051
0.0     + 0 0.0     + 0                                               9649 4 55 1052
0.0     + 0 8.00000+ 6           0           0          18           09649 4 55 1053
0.0     + 0 4.09687- 2 0.0     + 0-1.22113- 2 0.0     + 0-4.58978- 39649 4 55 1054
0.0     + 0 4.12873- 4 0.0     + 0 4.76452- 4 0.0     + 0 1.27941- 59649 4 55 1055
0.0     + 0-2.22750- 6 0.0     + 0-8.26682- 9 0.0     + 0-8.12076- 99649 4 55 1056
0.0     + 0 1.30000+ 7           0           0          20           09649 4 55 1057
0.0     + 0 7.49724- 2 0.0     + 0-3.49613- 3 0.0     + 0-7.32634- 39649 4 55 1058
0.0     + 0-2.10070- 3 0.0     + 0 3.49993- 4 0.0     + 0 3.87329- 49649 4 55 1059
0.0     + 0 3.48029- 5 0.0     + 0 4.70805- 8 0.0     + 0-4.45978- 79649 4 55 1060
0.0     + 0-8.44511- 8                                                9649 4 55 1061
0.0     + 0 2.00000+ 7           0           0          20           09649 4 55 1062
0.0     + 0 1.06536- 1 0.0     + 0 1.08087- 2 0.0     + 0-5.58370- 39649 4 55 1063
0.0     + 0-4.61479- 3 0.0     + 0-1.47820- 3 0.0     + 0 1.17577- 49649 4 55 1064
0.0     + 0 3.24165- 4 0.0     + 0 1.22077- 4 0.0     + 0 1.71171- 59649 4 55 1065
0.0     + 0-1.44903- 6                                                9649 4 55 1066
                                                                      9649 4  0 1067
9.62490+ 4 2.46936+ 2           0           1           0           09649 4 56 1068
0.0     + 0 2.46936+ 2           0           2           0           09649 4 56 1069
0.0     + 0 0.0     + 0          0           0           1           49649 4 56 1070
          4           2          0           0           0           09649 4 56 1071
0.0     + 0 1.46591+ 5           0           0           2           09649 4 56 1072
0.0     + 0 0.0     + 0                                               9649 4 56 1073
0.0     + 0 8.00000+ 6           0           0          18           09649 4 56 1074
0.0     + 0-2.22384- 3 0.0     + 0-1.37085- 2 0.0     + 0 8.39650- 49649 4 56 1075
0.0     + 0 1.19656- 3 0.0     + 0-1.27462- 4 0.0     + 0-3.82929- 59649 4 56 1076
0.0     + 0-1.11430- 6 0.0     + 0-2.70772- 8 0.0     + 0 1.43817- 99649 4 56 1077
0.0     + 0 1.30000+ 7           0           0          20           09649 4 56 1078
```

```
 0.0     + 0 3.43960- 2 0.0     + 0-1.41242- 2 0.0     + 0-4.32558- 39649 4 56 1079
 0.0     + 0 1.04177- 3 0.0     + 0 7.49731- 4 0.0     + 0-6.32899- 59649 4 56 1080
 0.0     + 0-3.82968- 5 0.0     + 0-4.05300- 6 0.0     + 0-1.81040- 79649 4 56 1081
 0.0     + 0 2.16495- 8                                               9649 4 56 1082
 0.0     + 0 2.00000+ 7           0           0          20         09649 4 56 1083
 0.0     + 0 7.13858- 2 0.0     + 0-5.80133- 3 0.0     + 0-8.09990- 39649 4 56 1084
 0.0     + 0-1.96914- 3 0.0     + 0 7.20538- 4 0.0     + 0 6.20751- 49649 4 56 1085
 0.0     + 0 8.46494- 5 0.0     + 0-4.80654- 5 0.0     + 0-2.02650- 59649 4 56 1086
 0.0     + 0-2.10494- 6                                               9649 4 56 1087
                                                                      9649 4  0 1088
 9.62490+ 4 2.46936+ 2           0           1           0         09649 4 57 1089
 0.0     + 0 2.46936+ 2           0           2           0         09649 4 57 1090
 0.0     + 0 0.0     + 0          0           0           1         49649 4 57 1091
           4           2          0           0           0         09649 4 57 1092
 0.0     + 0 2.08842+ 5           0           0           2         09649 4 57 1093
 0.0     + 0 0.0     + 0                                               9649 4 57 1094
 0.0     + 0 8.00000+ 6           0           0          18         09649 4 57 1095
 0.0     + 0 1.36891- 1 0.0     + 0 3.19169- 2 0.0     + 0 5.15297- 39649 4 57 1096
 0.0     + 0-7.07190- 4 0.0     + 0-8.20634- 4 0.0     + 0-[illegible].17847- 49649 4 57 1097
 0.0     + 0-1.35936- 5 0.0     + 0-1.69593- 7 0.0     + [illegible]2.03712- 89649 4 57 1098
 0.0     + 0 1.30000+ 7           0           0          20         09649 4 57 1099
 0.0     + 0 1.56825- 1 0.0     + 0 4.65946- 2 0.0     + 0 1.32086- 29649 4 57 1100
 0.0     + 0 2.17067- 3 0.0     + 0-6.72331- 4 0.0     + 0-7.28526- 49649 4 57 1101
 0.0     + 0-2.59945- 4 0.0     + 0-3.03456- 5 0.0     + 0-2.79294- 69649 4 57 1102
 0.0     + 0-2.15437- 7                                               9649 4 57 1103
 0.0     + 0 2.00000+ 7           0           0          20         09649 4 57 1104
 0.0     + 0 1.73641- 1 0.0     + 0 6.09373- 2 0.0     + 0 2.29909- 29649 4 57 1105
 0.0     + 0 7.65162- 3 0.0     + 0 1.58060- 3 0.0     + 0-3.55035- 49649 4 57 1106
 0.0     + 0-5.82285- 4 0.0     + 0-3.17091- 4 0.0     + 0-9.82296- 59649 4 57 1107
 0.0     + 0-1.93728- 5                                               9649 4 57 1108
                                                                      9649 4  0 1109
 9.62490+ 4 2.46936+ 2           0           2           0         09649 4 91 1110
 0.0     + 0 2.46936+ 2           0           1           0         09649 4 91 1111
 0.0     + 0 0.0     + 0          0           0           1         29649 4 91 1112
           2           2          0           0           0         09649 4 91 1113
 0.0     + 0 2.20891+ 5           0           0           1         29649 4 91 1114
           2           2          0           0           0         09649 4 91 1115
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                          9649 4 91 1116
 0.0     + 0 2.00000+ 7           0           0           1         29649 4 91 1117
           2           2          0           0           0         09649 4 91 1118
-1.00000+ 0 5.00000- 1 1.00000+ 0 5.00000- 1                          9649 4 91 1119
                                                                      9649 4  0 1120
                                                                      9649 0  0 1121
 9.62490+ 4 2.46936+ 2           0           0           2         09649 5 16 1122
 4.73180+ 6 0.0     + 0          0           9           1         29649 5 16 1123
           2           2          0           0           0         09649 5 16 1124
 4.73180+ 6 5.00000- 1 2.00000+ 7 5.00000- 1                          9649 5 16 1125
 0.0     + 0 0.0     + 0          0           0           1         99649 5 16 1126
           9           2          0           0           0         09649 5 16 1127
 4.73180+ 6 3.97917+ 5 6.00000+ 6 4.53739+ 5 8.00000+ 6 5.29541+ 59649 5 16 1128
 1.00000+ 7 5.95479+ 5 1.20000+ 7 6.54623+ 5 1.40000+ 7 7.08723+ 59649 5 16 1129
 1.60000+ 7 7.58882+ 5 1.80000+ 7 8.05854+ 5 2.00000+ 7 8.50181+ 59649 5 16 1130
 4.73180+ 6 0.0     + 0          0           9           1         29649 5 16 1131
           2           2          0           0           0         09649 5 16 1132
 4.73180+ 6 5.00000- 1 2.00000+ 7 5.00000- 1                          9649 5 16 1133
 0.0     + 0 0.0     + 0          0           0           1         99649 5 16 1134
           9           2          0           0           0         09649 5 16 1135
 4.73180+ 6 4.10596+ 5 6.00000+ 6 4.10596+ 5 8.00000+ 6 4.10596+ 59649 5 16 1136
 1.00000+ 7 4.10596+ 5 1.20000+ 7 4.24200+ 5 1.40000+ 7 5.04418+ 59649 5 16 1137
 1.60000+ 7 5.73440+ 5 1.80000+ 7 6.34974+ 5 2.00000+ 7 6.91047+ 59649 5 16 1138
                                                                      9649 5  0 1139
 9.62490+ 4 2.46936+ 2           0           0           3         09649 5 17 1140
 1.09696+ 7 0.0     + 0          0           9           1         29649 5 17 1141
           2           2          0           0           0         09649 5 17 1142
 1.09696+ 7 3.33333- 1 2.00000+ 7 3.33333- 1                          9649 5 17 1143
 0.0     + 0 0.0     + 0          0           0           1         69649 5 17 1144
           6           2          0           0           0         09649 5 17 1145
 1.09696+ 7 6.24872+ 5 1.20000+ 7 6.54623+ 5 1.40000+ 7 7.08723+ 59649 5 17 1146
 1.60000+ 7 7.58882+ 5 1.80000+ 7 8.05854+ 5 2.00000+ 7 8.50181+ 59649 5 17 1147
 1.09696+ 7 0.0     + 0          0           9           1         29649 5 17 1148
           2           2          0           0           0         09649 5 17 1149
 1.09696+ 7 3.33333- 1 2.00000+ 7 3.33333- 1                          9649 5 17 1150
```

```
 0.0     + 0 0.0     + 0           0           0           1           69649 5 17 1151
           6           2           0           0           0           09649 5 17 1152
 1.09696+ 7 4.36944+ 5 1.20000+ 7 4.56438+ 5 1.40000+ 7 5.11915+ 59649 5 17 1153
 1.60000+ 7 5.74953+ 5 1.80000+ 7 6.35280+ 5 2.00000+ 7 6.91113+ 59649 5 17 1154
 1.09696+ 7 0.0     + 0           0           9           1           29649 5 17 1155
           2           2           0           0           0           09649 5 17 1156
 1.09696+ 7 3.33333- 1 2.00000+ 7 3.33333- 1                            9649 5 17 1157
 0.0     + 0 0.0     + 0           0           0           1           69649 5 17 1158
           6           2           0           0           0           09649 5 17 1159
 1.09696+ 7 4.13194+ 5 1.20000+ 7 4.1*194+ 5 1.40000+ 7 4.13194+ 59649 5 17 1160
 1.60000+ 7 4.13194+ 5 1.80000+ 7 3.82313+ 5 2.00000+ 7 4.66366+ 59649 5 17 1161
                                                                        9649 5  0 1162
 9.62490+ 7 2.46936+ 2           0           0           1           09649 5 18 1163
-2.00000+ 7 0.0     + 0           0           7           1           29649 5 18 1164
           2           2           0           0           0           09649 5 18 1165
 1.00000- 5 1.00000+ 0 2.00000+ 7 1.00000+ 0                            9649 5 18 1166
 0.0     + 0 0.0     + 0           0           0           1           29649 5 18 1167
           2           2           0           0           0           09649 5 18 1168
 1.00000- 5 1.37000+ 6 2.00000+ 7 1.37000+ 6                            9649 5 18 1169
                                                                        9649 5  0 1170
 9.62490+ 4 2.46936+ 2           0           0           4           09649 5 37 1171
 1.61482+ 7 0.0     + 0           0           9           1           29649 5 37 1172
           2           2           0           0           0           09649 5 37 1173
 1.61482+ 7 2.50000- 1 2.00000+ 7 2.50000- 1                            9649 5 37 1174
 0.0     + 0 0.0     + 0           0           0           1           39649 5 37 1175
           3           2           0           0           0           09649 5 37 1176
 1.61482+ 7 7.62464+ 5 1.80000+ 7 8.05854+ 5 2.00000+ 7 8.50181+ 59649 5 37 1177
 1.61482+ 7 0.0     + 0           0           9           1           29649 5 37 1178
           2           2           0           0           0           09649 5 37 1179
 1.61482+ 7 2.50000- 1 2.00000+ 7 2.50000- 1                            9649 5 37 1180
 0.0     + 0 0.0     + 0           0           0           1           39649 5 37 1181
           3           2           0           0           0           09649 5 37 1182
 1.61482+ 7 6.27565+ 5 1.80000+ 7 6.54281+ 5 2.00000+ 7 6.96645+ 59649 5 37 1183
 1.61482+ 7 0.0     + 0           0           9           1           29649 5 37 1184
           2           2           0           0           0           09649 5 37 1185
 1.61482+ 7 2.50000- 1 2.00000+ 7 2.50000- 1                            9649 5 37 1186
 0.0     + 0 0.0     + 0           0           0           1           39649 5 37 1187
           3           2           0           0           0           09649 5 37 1188
 1.61482+ 7 4.32048+ 5 1.80000+ 7 4.48533+ 5 2.00000+ 7 4.87372+ 59649 5 37 1189
 1.61482+ 7 0.0     + 0           0           9           1           29649 5 37 1190
           2           2           0           0           0           09649 5 37 1191
 1.61482+ 7 2.50000- 1 2.00000+ 7 2.50000- 1                            9649 5 37 1192
 0.0     + 0 0.0     + 0           0           0           1           39649 5 37 1193
           3           2           0           0           0           09649 5 37 1194
 1.61482+ 7 4.15289+ 5 1.80000+ 7 4.15289+ 5 2.00000+ 7 4.15289+ 59649 5 37 1195
                                                                        9649 5  0 1196
 9.62490+ 4 2.46936+ 2           0           0           1           09649 5 91 1197
 2.20890+ 5 0.0     + 0           0           9           1           29649 5 91 1198
           2           2           0           0           0           09649 5 91 1199
 2.20890+ 5 1.00000+ 0 2.00000+ 7 1.00000+ 0                            9649 5 91 1200
 0.0     + 0 0.0     + 0           0           0           1          119649 5 91 1201
          11           2           0           0           0           09649 5 91 1202
 2.20890+ 5 3.97861+ 5 2.00000+ 6 3.97861+ 5 4.00000+ 6 3.61604+ 59649 5 91 1203
 6.00000+ 6 4.53739+ 5 8.00000+ 6 5.29541+ 5 1.00000+ 7 5.95479+ 59649 5 91 1204
 1.20000+ 7 6.54623+ 5 1.40000+ 7 7.08723+ 5 1.60000+ 7 7.58882+ 59649 5 91 1205
 1.80000+ 7 8.05854+ 5 2.00000+ 7 8.50181+ 5                            9649 5 91 1206
                                                                        9649 5  0 1207
                                                                        9649 0  0 1208
                                                                           0 0  0 1209
                                                                          -1 0  0    0
```