KfK 3327
April 1982

# Population Probabilities of Excited States in Radioactive Nuclei for s-Process Studies

G. Walter, H. Beer
Institut für Angewandte Kernphysik

Kernforschungszentrum Karlsruhe

KERNFORSCHUNGSZENTRUM KARLSRUHE

Institut für Angewandte Kernphysik

KfK 3327

# Population Probabilities of Excited States in Radioactive Nuclei for s-Process Studies

G. Walter, H. Beer

Kernforschungszentrum Karlsruhe GmbH, Karlsruhe

Kernforschungszentrum Karlsruhe GmbH
ISSN 0303-4003

ABSTRACT

The population probabilities of excited states for a series of important unstable nuclei on the s-process path have been calculated as a function of temperature. The data are presented in graphic and tabulated form.

Besetzungswahrscheinlichkeiten angeregter Zustände wichtiger radioaktiver s-Prozeß-Kerne

ZUSAMMENFASSUNG

Für eine Reihe für den s-Prozeß wichtiger, instabiler Kerne wurden die Besetzungswahrscheinlichkeiten angeregter Zustände als Funktion der Temperatur berechnet. Die Ergebnisse werden graphisch und in Tabellenform dargestellt.

## INTRODUCTION

In the study of s-process nucleosynthesis a variety of unstable nuclei are encountered with a ß-decay rate comparable to the neutron capture rate. This situation leads to a branching of the s-process where the branching ratio is a function of the neutron flux (neutron density) and often also a function of the temperature because one must bear in mind that the nuclei are affected by the hot stellar environment. They are, for instance, partly ionized and occupy excited states significantly, effects which can change the laboratory half lives by orders of magnitude /1/.

Although in the standard model of s-process nucleosynthesis only a limited number of unstable nuclei give rise to significant branching this situation has changed recently with the application of the so-called pulsed s-process. This process is believed to occur in the He shell of low to intermediate mass red giant stars /2/ as a consequence of repeated thermal instabilities and is associated with a neutron density as high as $10^{11}$ $cm^{-3}$.

Therefore, a half life of a few days is already sufficient that neutron capture is in competition with ß decay. This new situation requires an extended study of thermal effects on ß-decay. We believe that previous investigations reported by Newman /3/ and Cosner et al. /4/ can be corrected significantly by using an improved and extended set of experimental data.

In the present work we concentrate on the influence of excited state ß-decay on the laboratory half life. For s-process temperatures $3.5 \times 10^8$ K excitation energies up to 500 keV must be considered. The powerful operation of this effect is probably best illustrated in an example. $^{79}$Se has a laboratory half life of about 65 000 years. This is not surprising because the ß-transition from the $7/2^+$ $^{79}$Se ground state to the $3/2^-$ $^{79}$Br ground state is first forbidden. Considering $^{79}$Se nuclei

in a star with a temperature of $3.5 \times 10^8$ K not all nuclei will stay at the ground state, a not vanishing percentage will occupy excited states. The first excited $^{79}$Se state with spin $1/2^-$ is occupied to 1 %. As from this level an allowed ß-transition to the $^{79}$Br ground state is possible ($1/2^- \rightarrow 3/2^-$) which has a half life orders of magnitude smaller than the half life of the ground state transition, the total half life of $^{79}$Se is drastically reduced.

## POPULATION PROBABILITY

The $^{79}$Se example shows that in stellar environments one has to handle radioactive nuclei with an effective ß-transition rate $\lambda_{tot}$ in the decay of a radioactive nucleus $A_Z \rightarrow A_{(Z\pm1)}$ [(+) for $ß^-$, (-) for $ß^+$ and EC]

$$\lambda_{tot} = \sum_i P_i \sum_j \lambda_{ij} \qquad (1)$$

where $P_i$ is the fractional population of the i-th level in the nucleus $A_Z$ and $\lambda_{ij}$ the ß transition rate from the level i in $A_Z$ to a level j in $A_{(Z\pm1)}$.

$$P_i = (2J_i+1)\exp(-E_i/kT) / \sum_m (2J_m+1)\exp(-E_m/kT) \qquad (2)$$

$J_i$ and $E_i$ are spin and excitation energy of the i-th level in the nucleus $A_Z$.

According to eqs. (1), (2) the task to calculate effective ß transition rates divides into two related problems:

1) the determination of population probabilities of excited state in $A_Z$ as a function of temperature
2) the assessment of the unknown ß transition rates from excited states in $A_Z$ to levels in $A_{(Z+1)}$.

The present work deals with the first part of these problems, the population probabilities for a series of radioactive nuclei mainly important in s-process nucleosynthesis. The population probabilities $P_i$ were computed for excited states

up to 1 MeV if the spins of the levels were known. For light nuclei the calculations could be extended even to excitation energies of 2 MeV. The population probabilities of the different excited states of each isotope as a function of temperature are given in tabulated form and as a plot.

Among the treated nuclei are also species with long living isomeric states. Quick thermal equilibration of these states cannot occur in a straight forward direct absorption and emission of photons but in an indirect way over other mediating levels. In the present work it was always assumed that this indirect linking can proceed so fast that thermal equilibrium is reached in a time short compared to the half life of the isomer. This treatment is doubtful in some important cases ($^{85}Kr^{m}$, $^{176}Lu^{m}$, $^{113}Cd^{m}$, $^{115}In^{m}$, $^{115}Cd^{m}$) /5/.

As one would expect the ground state has normally the highest thermal population probability. There are however cases where this role is taken over by a low lying excited state ($^{166}Ho$). This is the effect of a high level density and a high spin of this low lying state. For some of the treated nuclei the level scheme is either incomplete or even levels are missing. $^{108,110}Ag$ and $^{109}Cd$ are among these cases. Uncertain spin and parity assignments are set in parenthesis. As we have seen in the case of $^{166}Ho$ high spin states excert a strong influence on the population probability. Therefore, it must be pointed out how important for a complete level scheme it is to rely not only on measurements via the $(n,\gamma)$-reaction where the population of high spin states is unfavoured. These investigations must be supplemented by charge particle reactions.

Nuclei where practically no information of the excited states was available like $^{192}Ir$ were not treated.

NOMENCLATURE

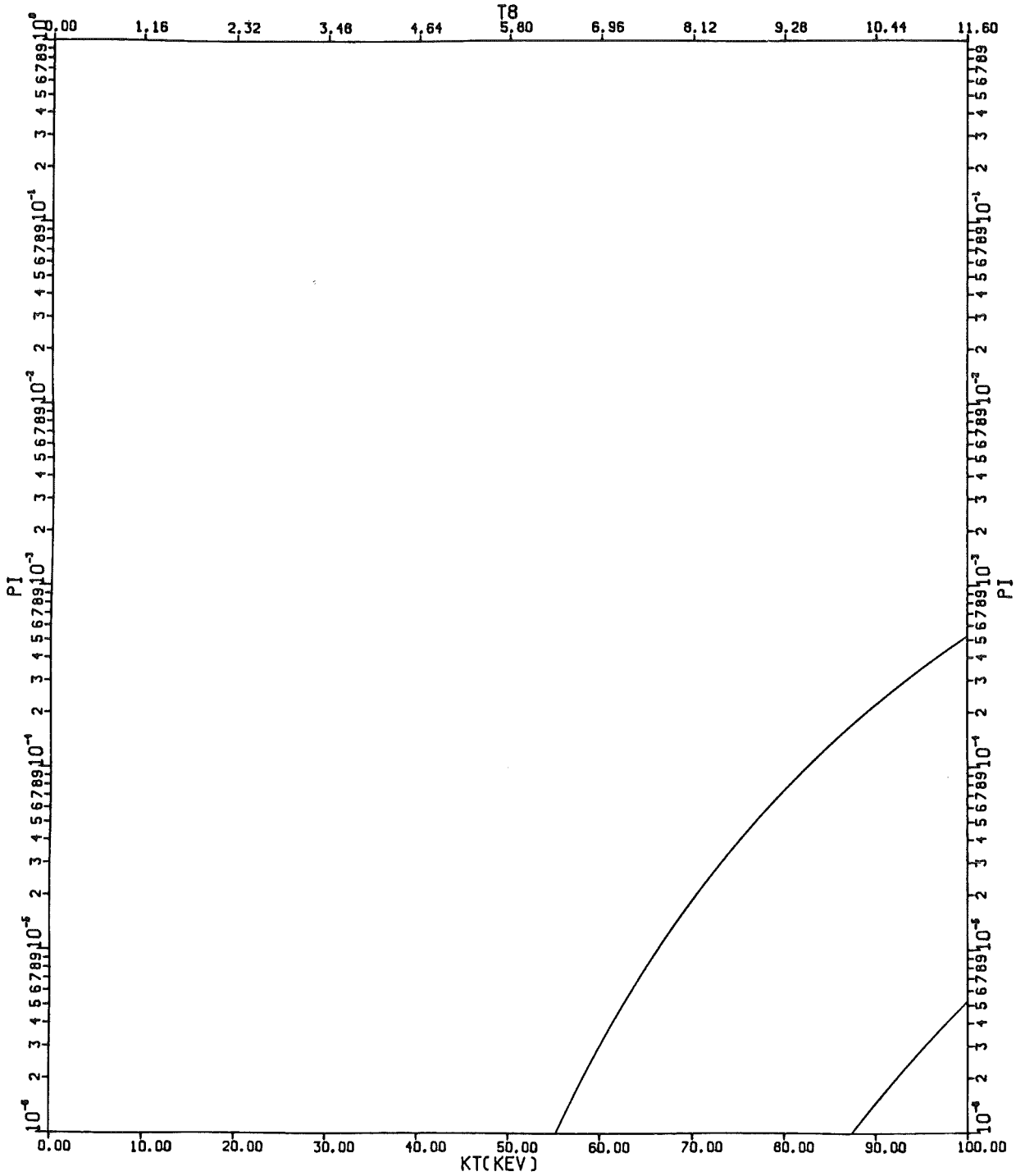
E ... excitation energy of nucleus $A_Z$ in keV
SPIN ... spin
PA ... parity
KT ... thermal energy in keV
FRACTIONAL POPULATION ... population probability P of a state with excitation energy E
T8 ... thermal temperature in units of $10^8$ K
Z-A ... chemical symbol and mass number

REFERENCES

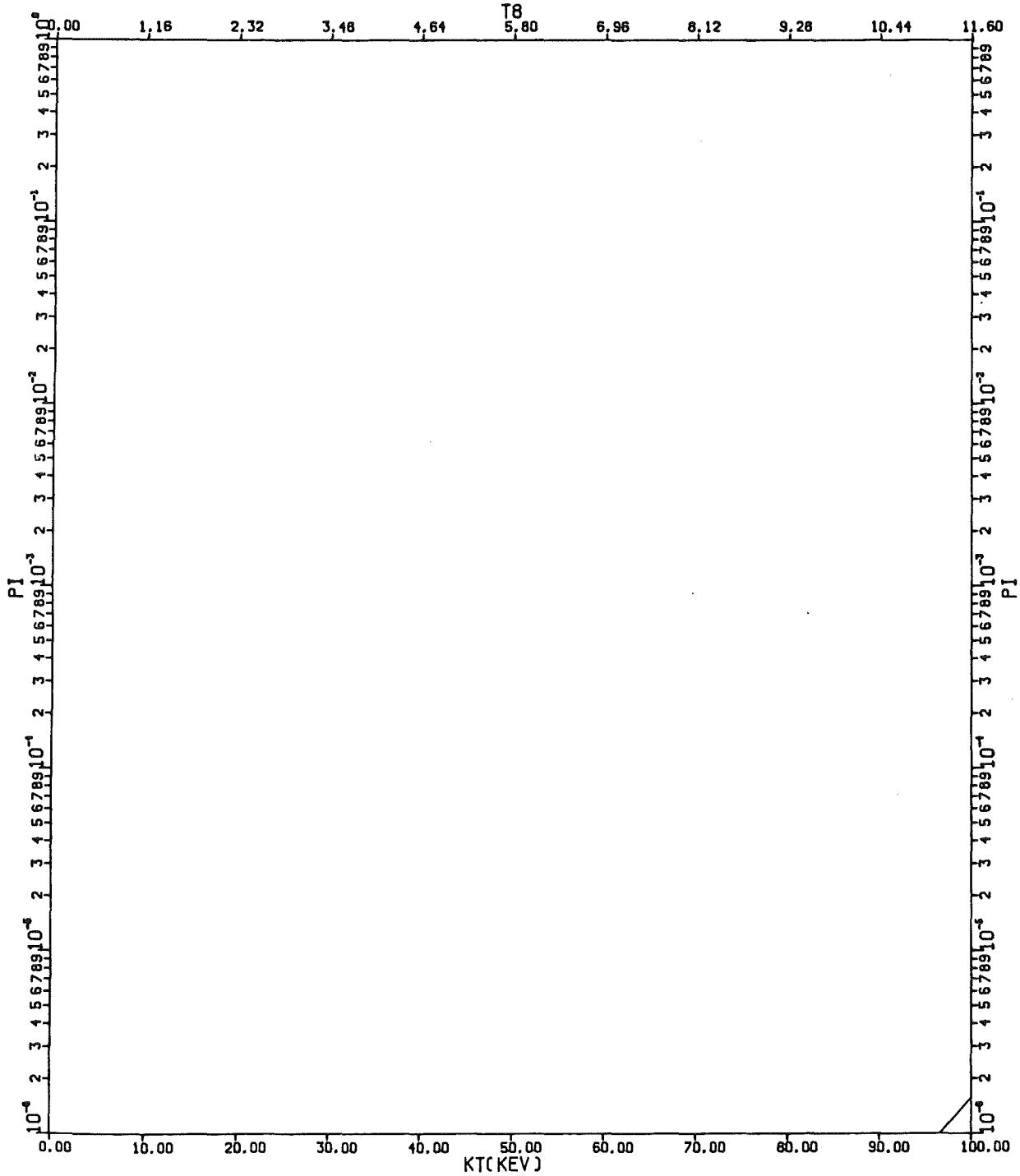
/1/ R.A. Ward, M.J. Newman, D.D. Clayton, Ap. J. Suppl. 31, 33 (1976)
/2/ J.W. Truran, Nucleonika 25, 1463 (1980)
/3/ M.J. Newman, Thesis 1973, Rice University (unpublished)
/4/ K. Cosner, J.W. Truran, Astrophys. and Space Sci. 78, 85 (1981)
/5/ H. Beer, F. Käppeler, Proc. Conf. on Neutron Capture γ-Ray Spectr. and Related Subjects, Grenoble, 1980
/6/ C.M. Lederer and V.S. Shirley, Table of Isotopes (1978) 7th ed., New York, Wiley + Sons.
/7/ Nucl. Data Sheets 24 (1978) 25.
/8/ Nucl. Data Sheets 28 (1979) 132.
/9/ Nucl. Data Sheets 28 (1979) 582.
/10/ Nucl. Data Sheets 28 (1979) 216.
/11/ Nucl. Data Sheets 27 (1979) 545.
/12/ Nucl. Data Sheets 30 (1980) 535.
/13/ Nucl. Data Sheets 25 (1978) 578.
/14/ Nucl. Data Sheets 26 (1979) 417.
/15/ Nucl. Data Sheets 23 (1978) 265.
/16/ Nucl. Data Sheets 30 (1980) 453.
/17/ Nucl. Data Sheets 26 (1979) 423.
/18/ Nucl. Data Sheets 29 (1980) 483.

/19/ Nucl. Data Sheets 29 (1980) 499.
/20/ M.A.M. Shahabuddin et al., Phys. Rev. C23 (1981) 64.
/21/ V.L. Alexev et al., 4th Int. Symp. on Neutron Capture γ-Ray Spectroscopy and Related Subjects, Grenoble, Sept. (1981).
/22/ Nucl. Data Sheets 23 (1978) 569.
/23/ Nucl. Data Sheets 25 (1978) 85.
/24/ Nucl. Data Sheets 25 (1978) 154.
/25/ Nucl. Data Sheets 30 (1980) 78.
/26/ T. von Egidy et al., Z. Physik A286 (1978) 341.
/27/ M.K. Balodis et al., 4th Int. Symp. on Neutron Capture γ-Ray Spectroscopy and Related Subjects, Grenoble, Sept. (1981).
/28/ Nucl. Data Sheets 26 (1979) 322.
/29/ R.A. Dewberry et al., Phys. Rev. C24 (1981) 1643.
/30/ R.W. Tarara et al., Phys. Rev. C24 (1981) 911.
/31/ K.S. Sharma et al., Phys. Lett. B91 (1980) 211.
/32/ R. Haupt et al., MPI f. Kernphysik, Heidelberg (1980).
/33/ Do Hun Phuoc et al., Z. Phys. A286 (1978) 107.
/34/ L.A. Montestruque et al., Nucl. Phys. A305 (1978) 29.
/35/ L.O. Barbopoulos et al., Nucl. Phys. A331 (1979) 502.
/36/ V.L. Alexeev et al., Nucl. Phys. A297 (1978) 373.
/37/ J.B. Rekstad et al., Nucl. Phys. A348 (1980) 93.
/38/ K.O. Zell et al., Z. Physik A292 (1979) 135.
/39/ K. Toyoshima, Nucl. Phys. A323 (1979) 26.
/40/ J.R. Lien et al., Nucl. Phys. A324 (1979) 141.
/41/ T. Seo et al., Nucl. Phys. A321 (1979) 341.
/42/ O. Straume et al, Z. Physik A290 (1979) 67.
/43/ Nucl. Data Sheets 27 (1979) 603.
/44/ Nucl. Data Sheets 23 (1978) 322.
/45/ Nucl. Data Sheets 29 (1980) 693.
/46/ Nucl. Data Sheets 30 (1980) 446.
/47/ Nucl. Data Sheets 22 (1977) 169.
/48/ M. Bogdanovic, et al., 4th Int. Symp. on Neutron Capture γ-Ray Spectroscopy and Related Subjects, Grenoble, Sept. (1981).
/49/ R.A. Dewberry et al., Phys. Rev. C24 (1981) 1628.

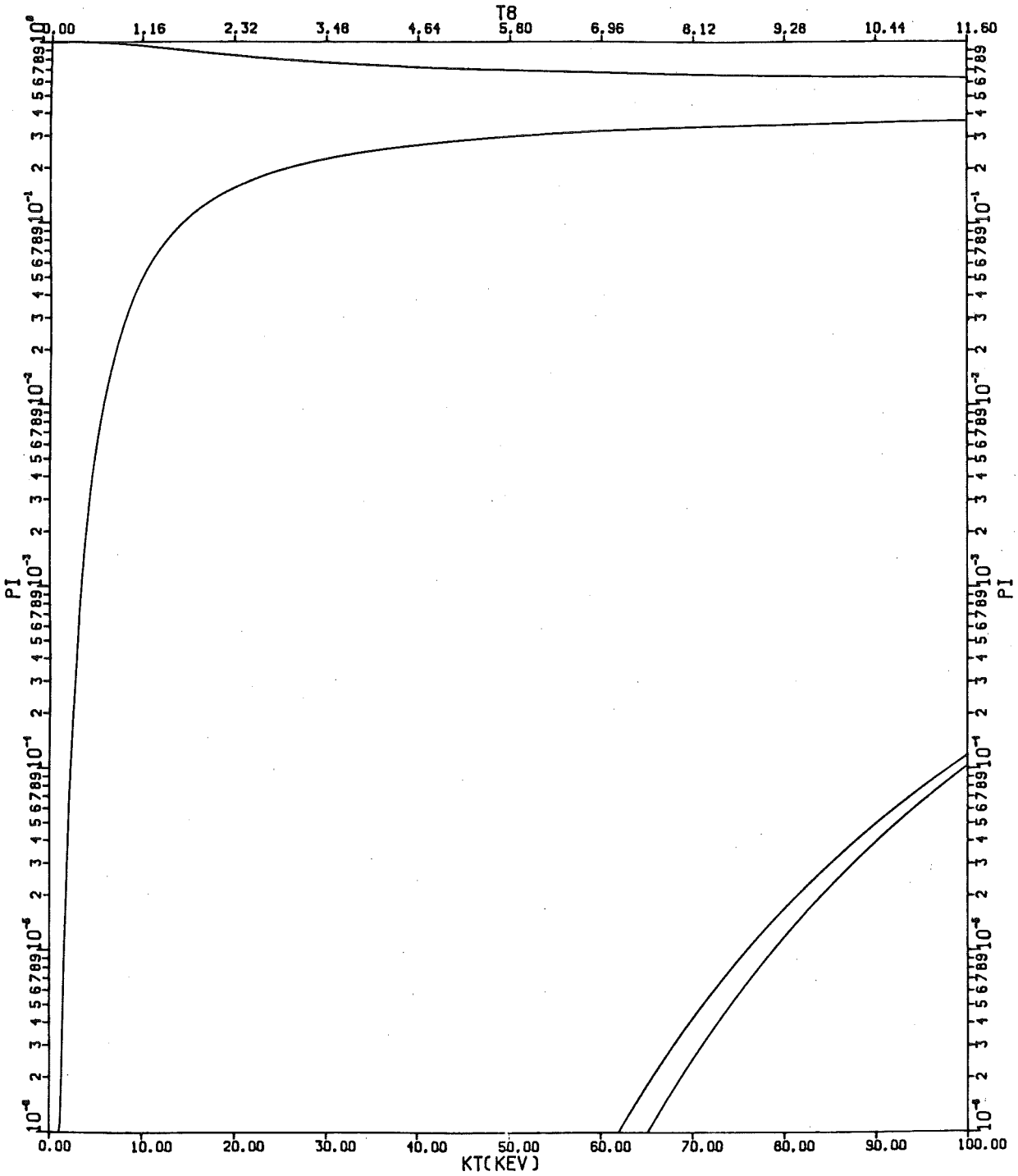
CL-36


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

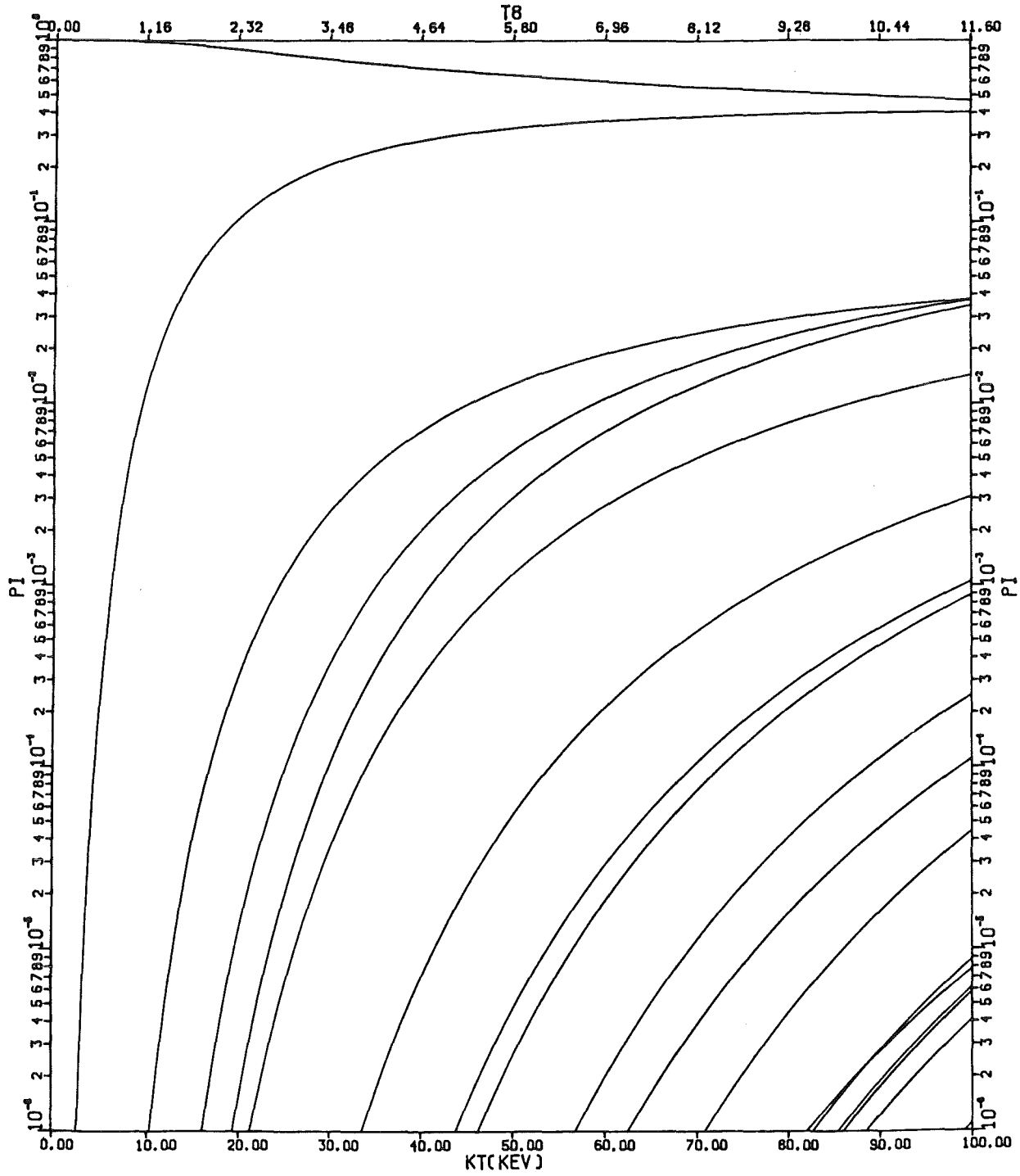
AR-39


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

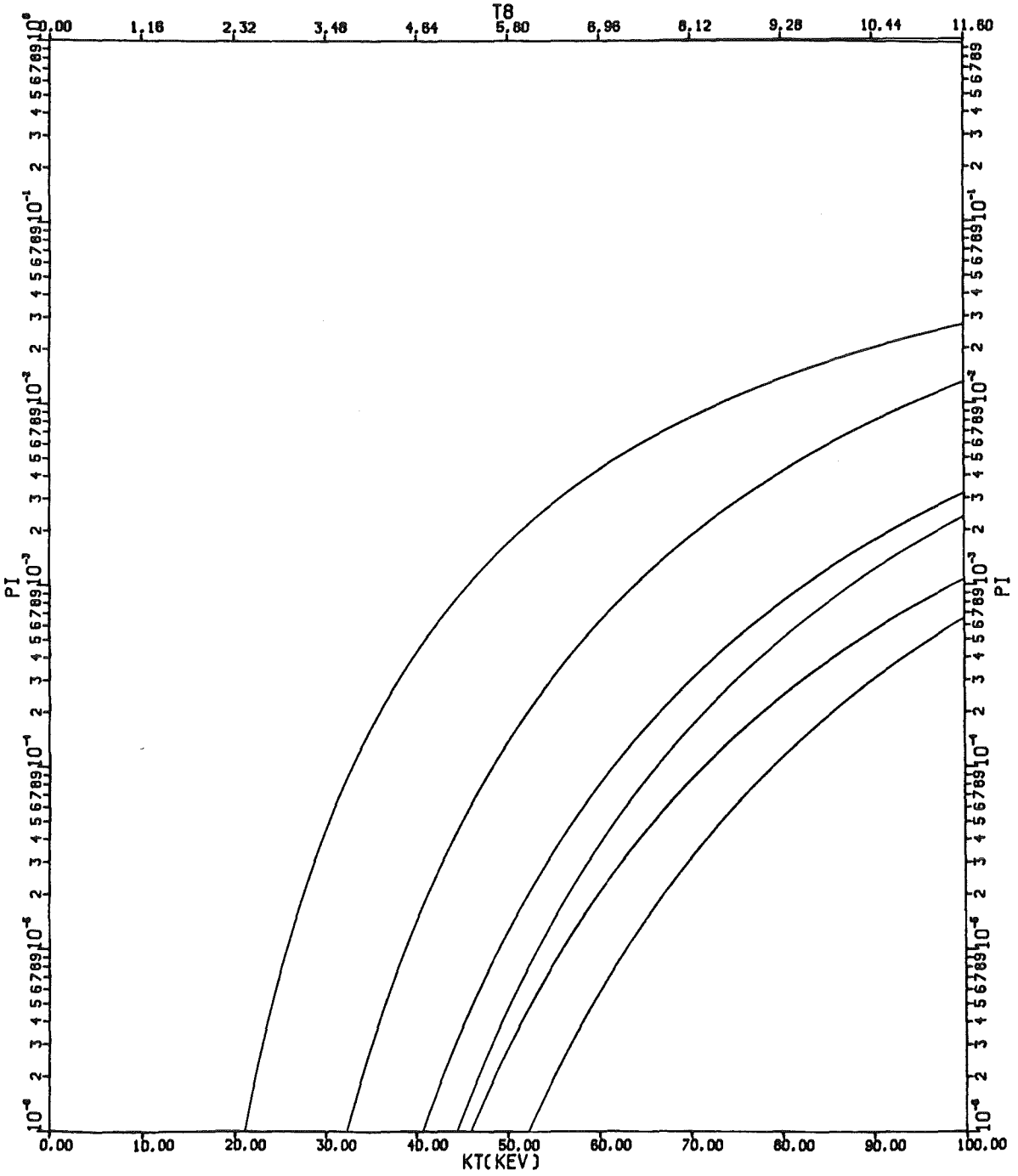
K-40


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

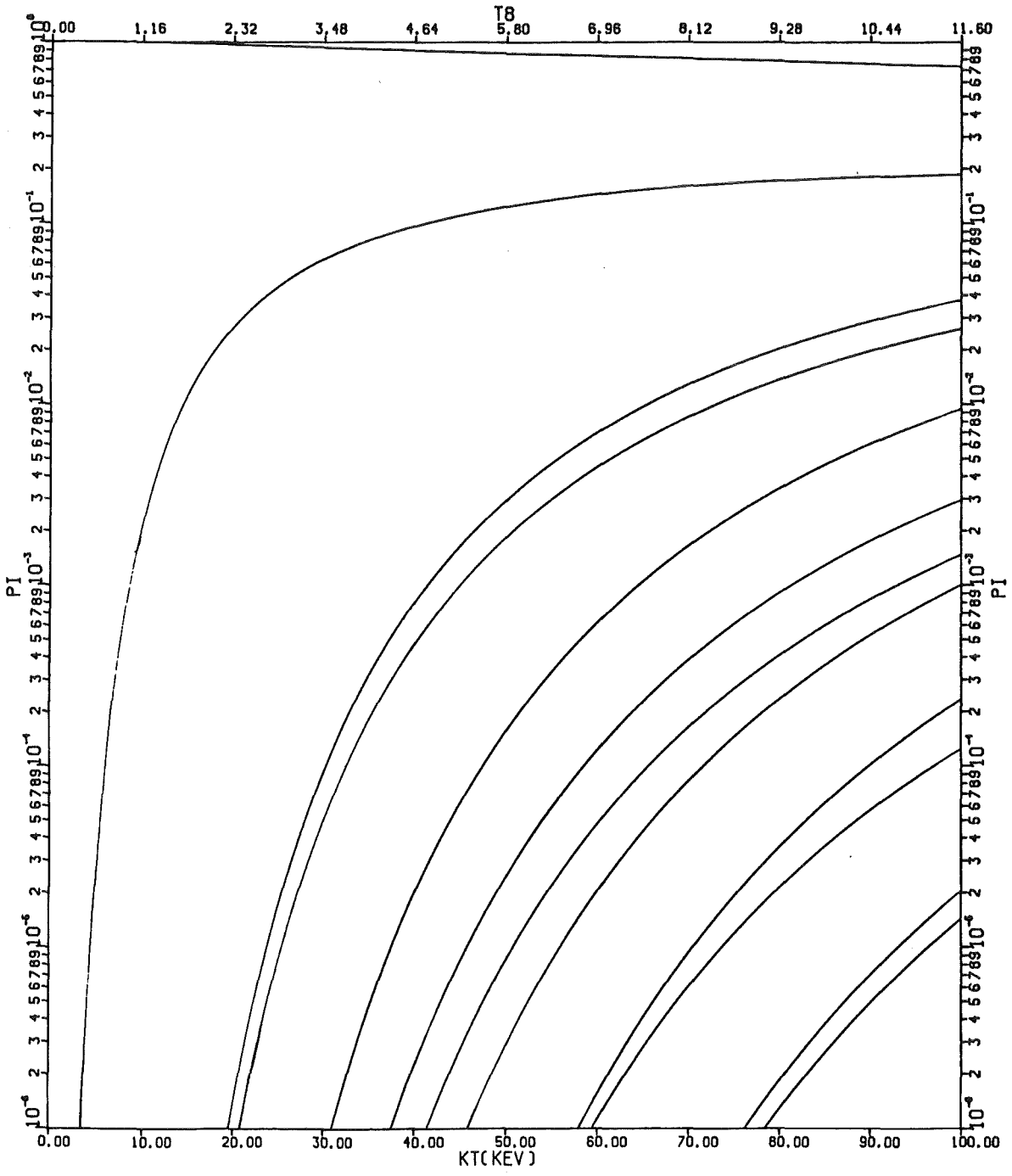
SC-46


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

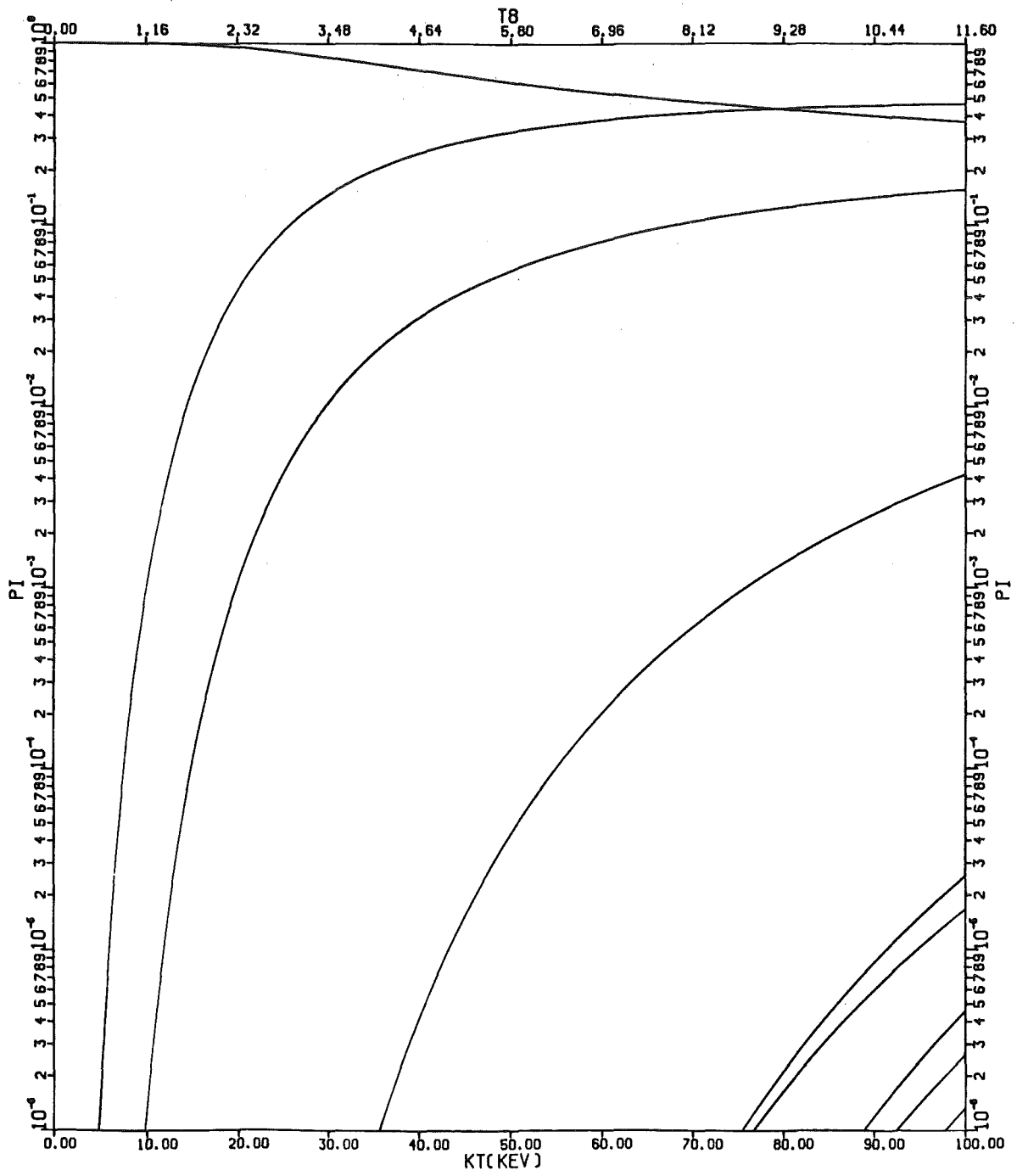
FE-59


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

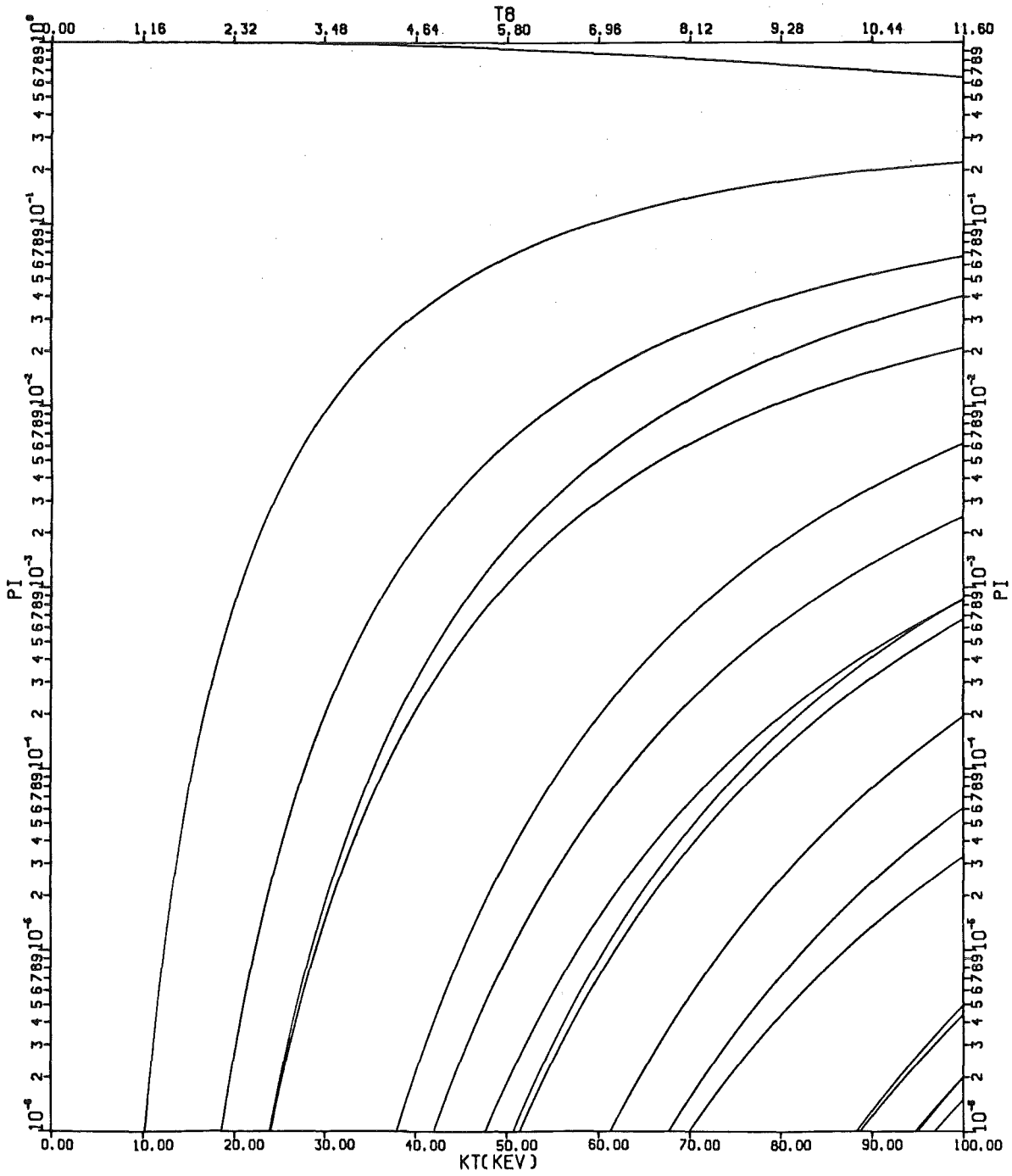
CO-60


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

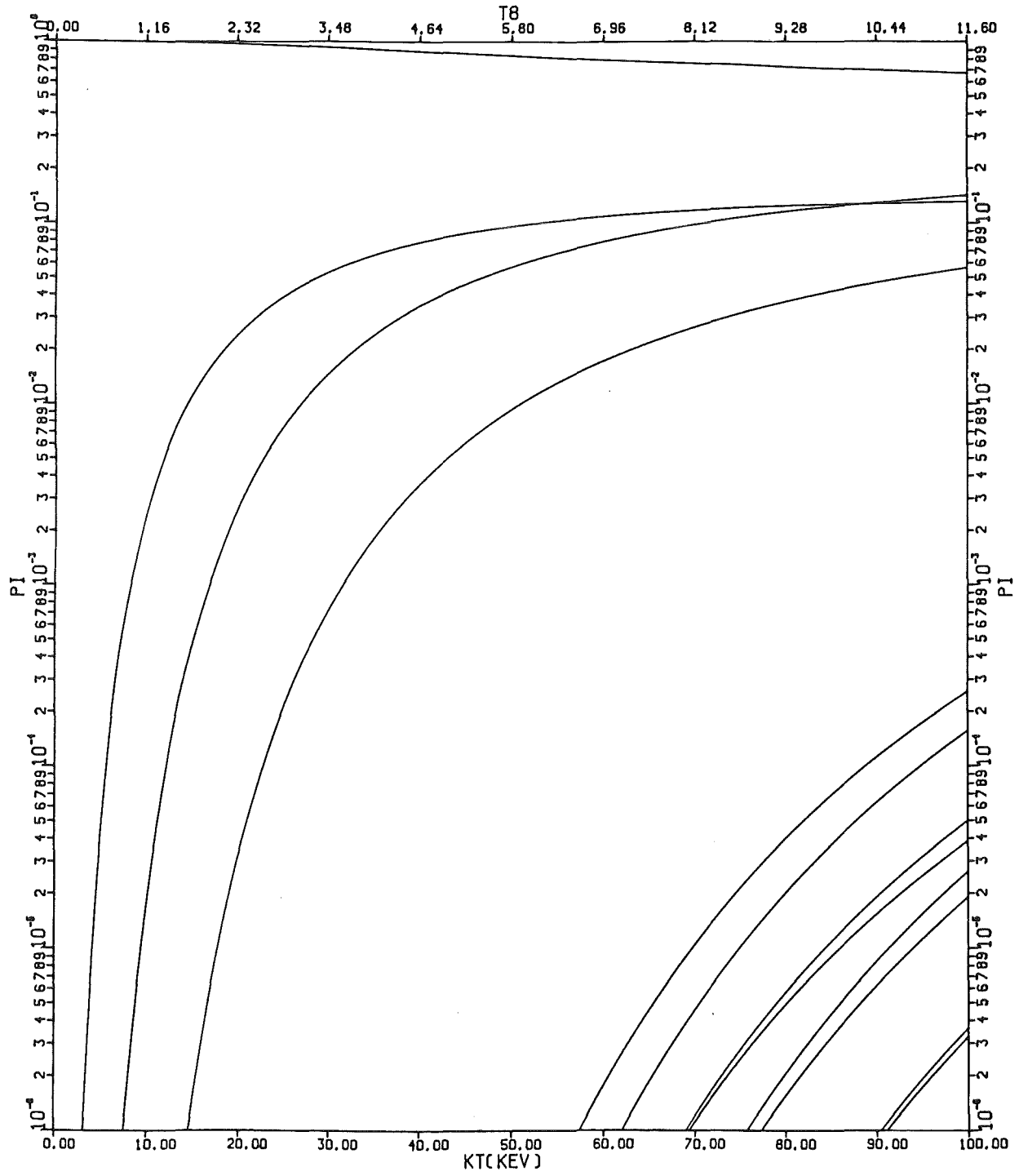
NI-63


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

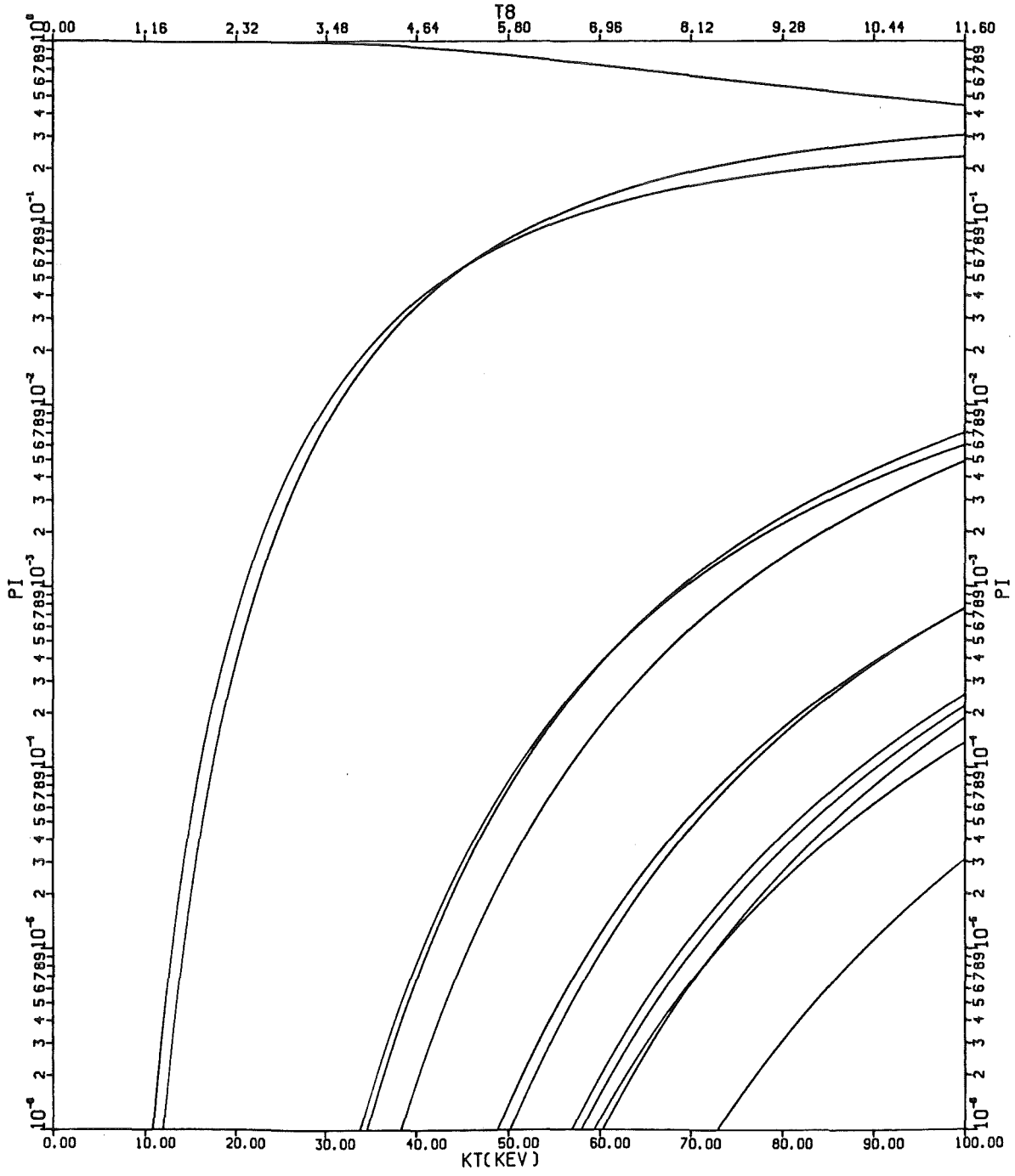
CU-64


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

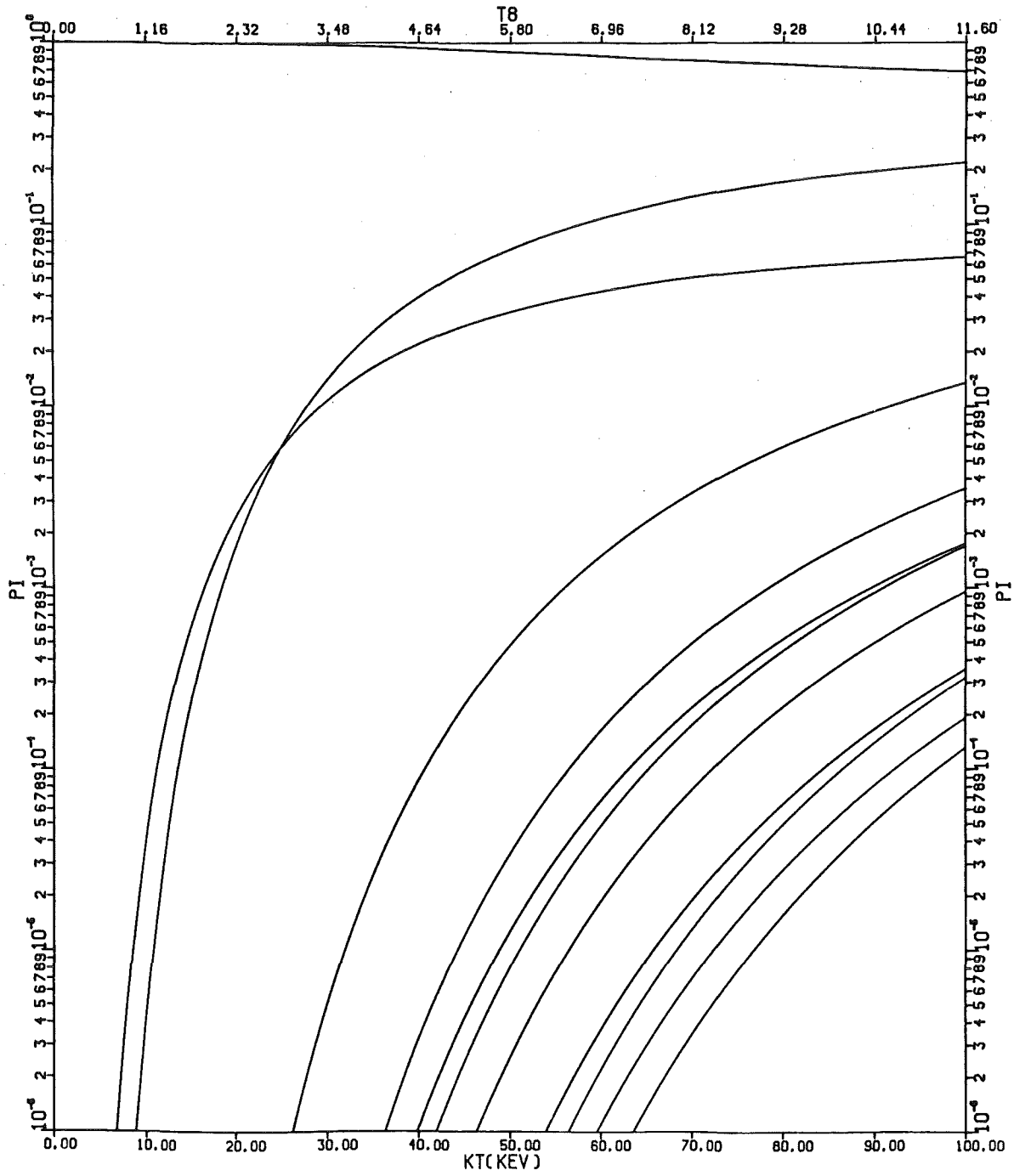
ZN-65


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

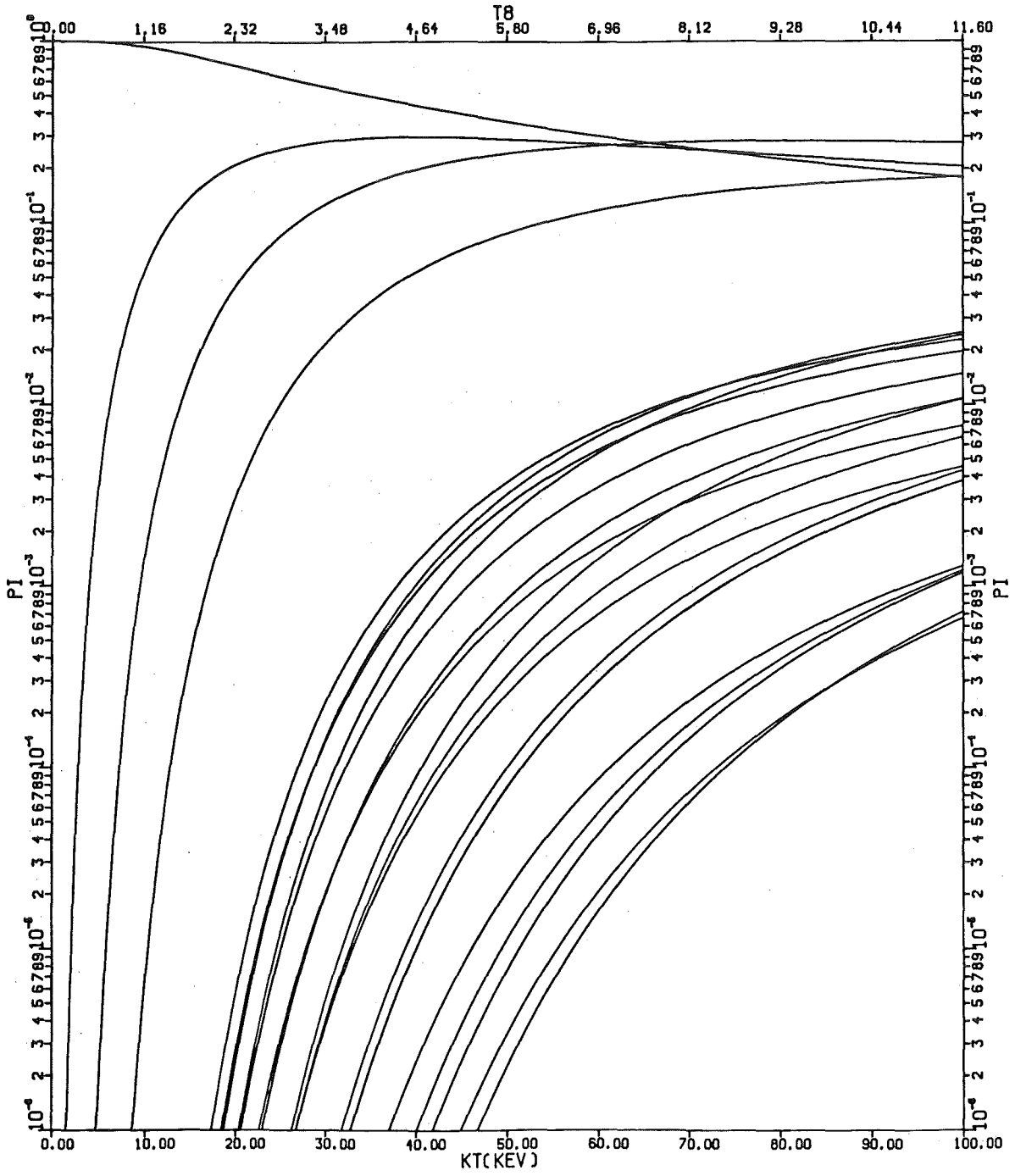
GE-71


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

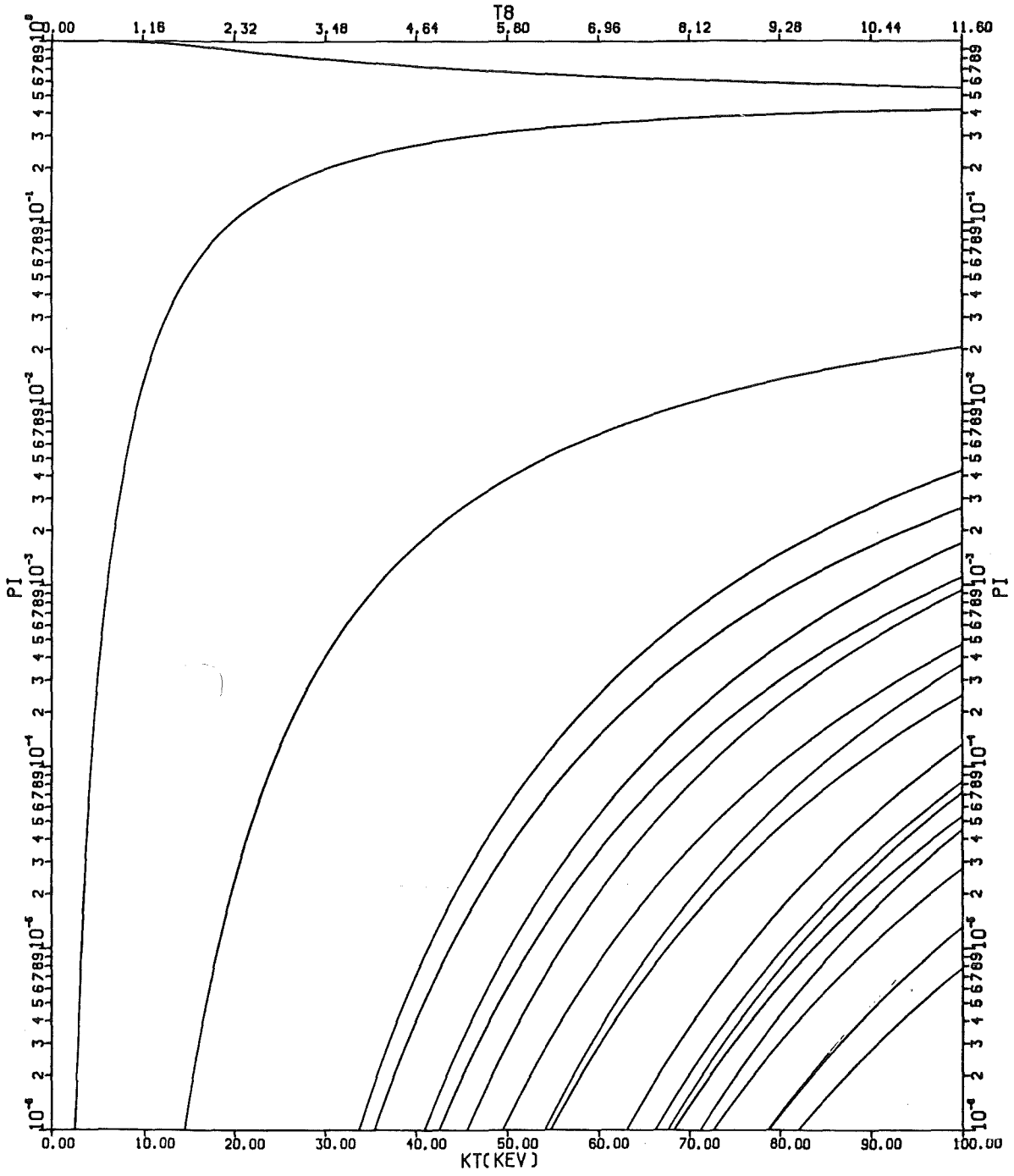
SE-79


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

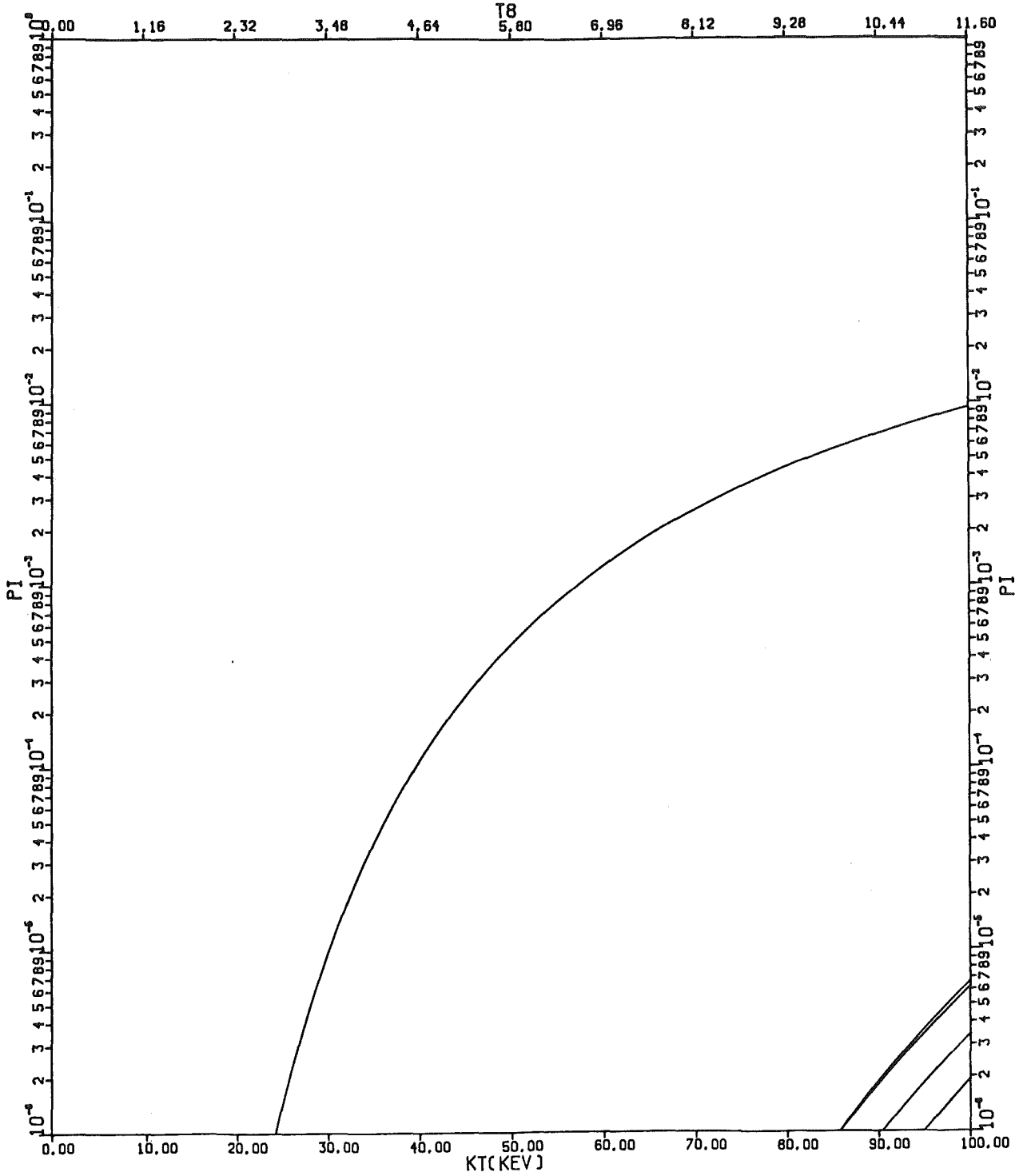
BR-80


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

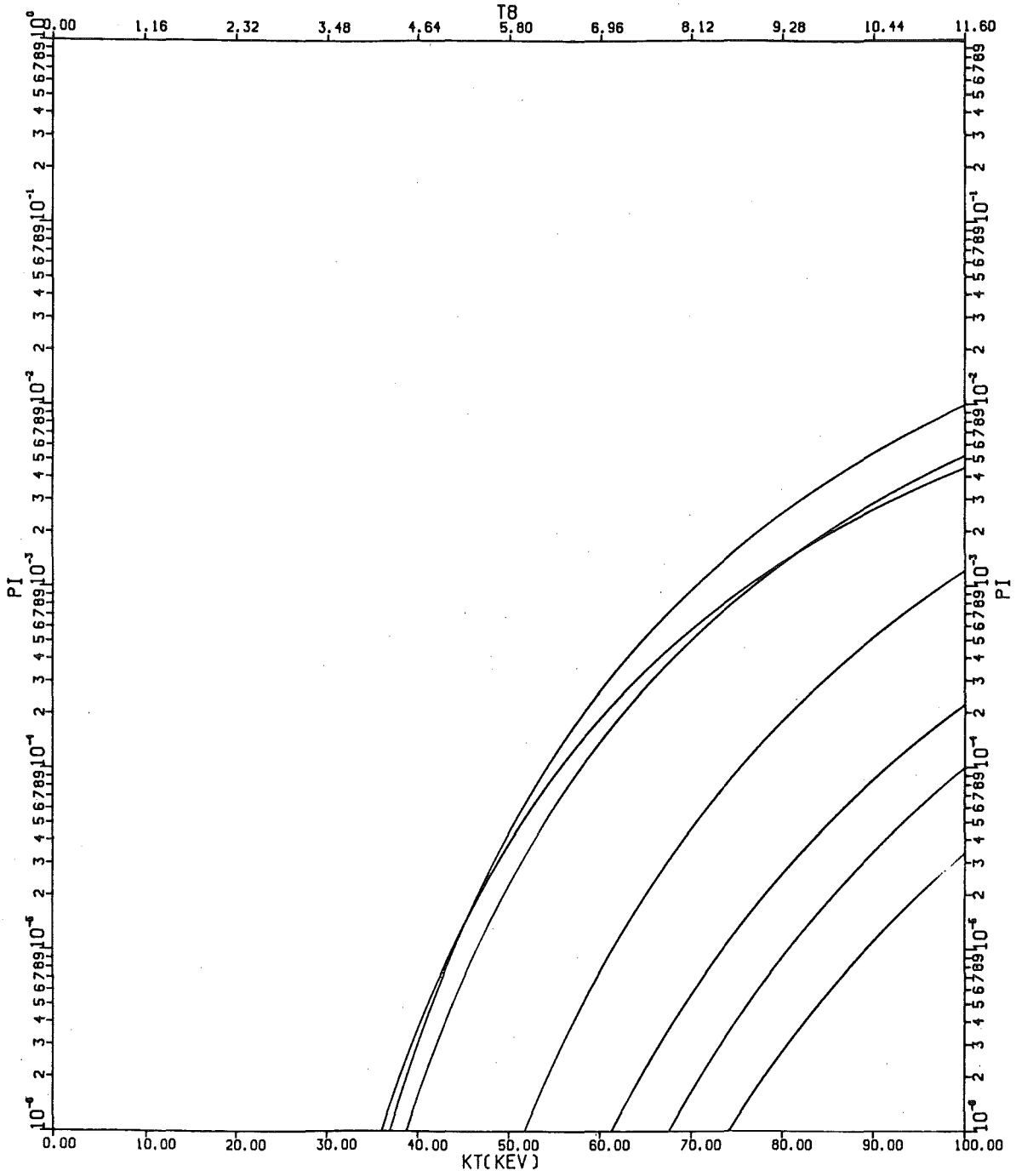
KR-81


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

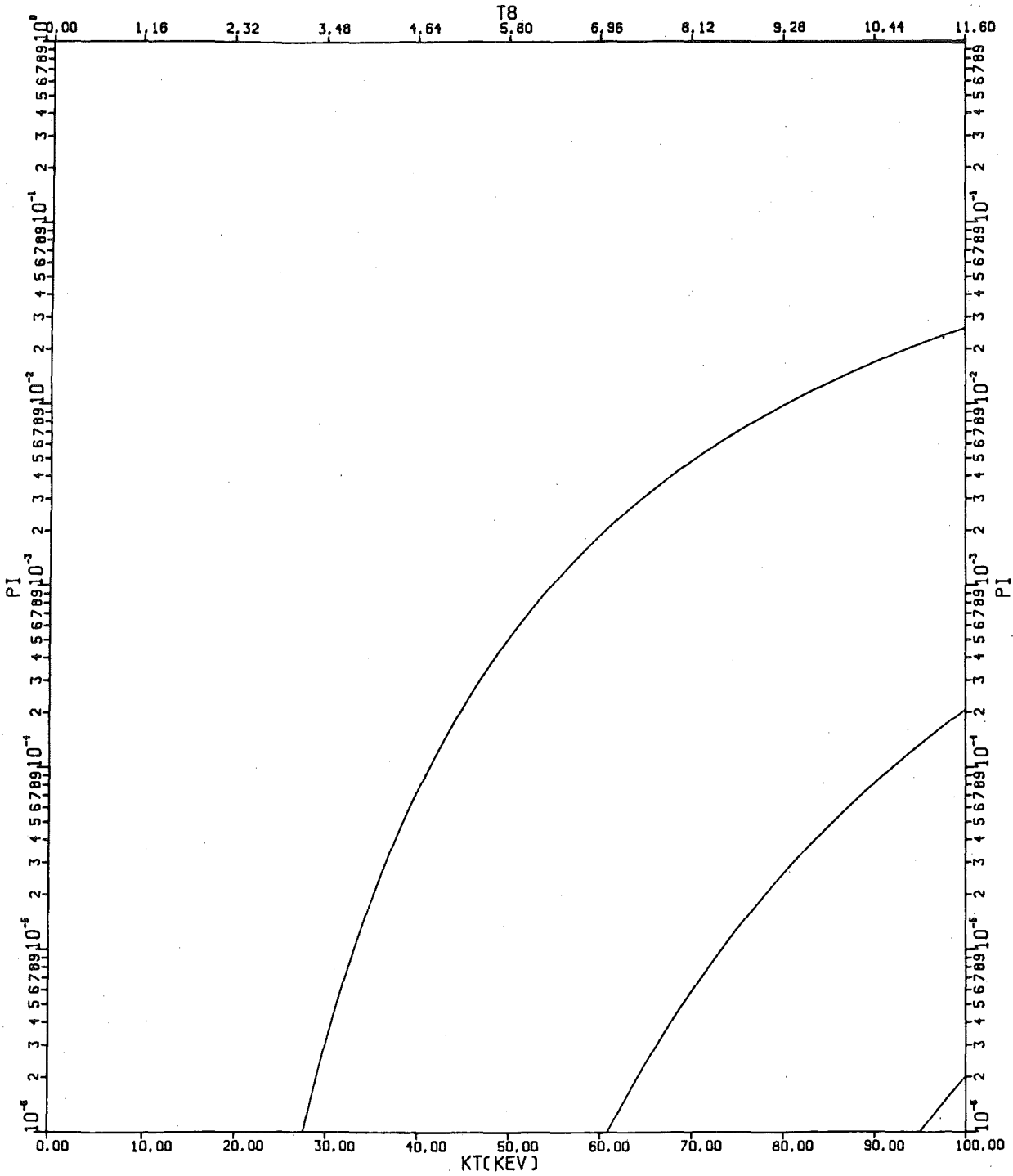
KR-85


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

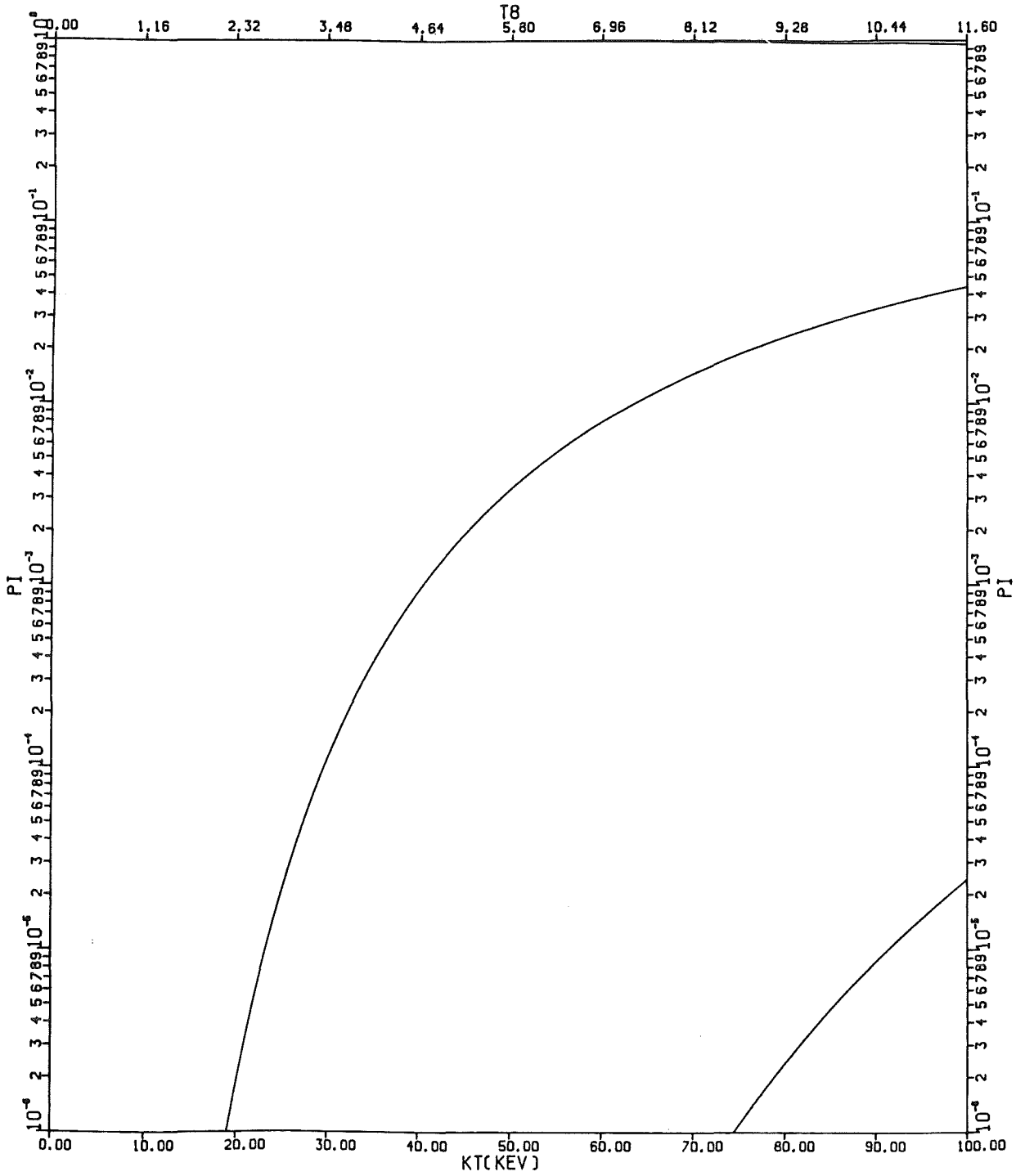
RB-86


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

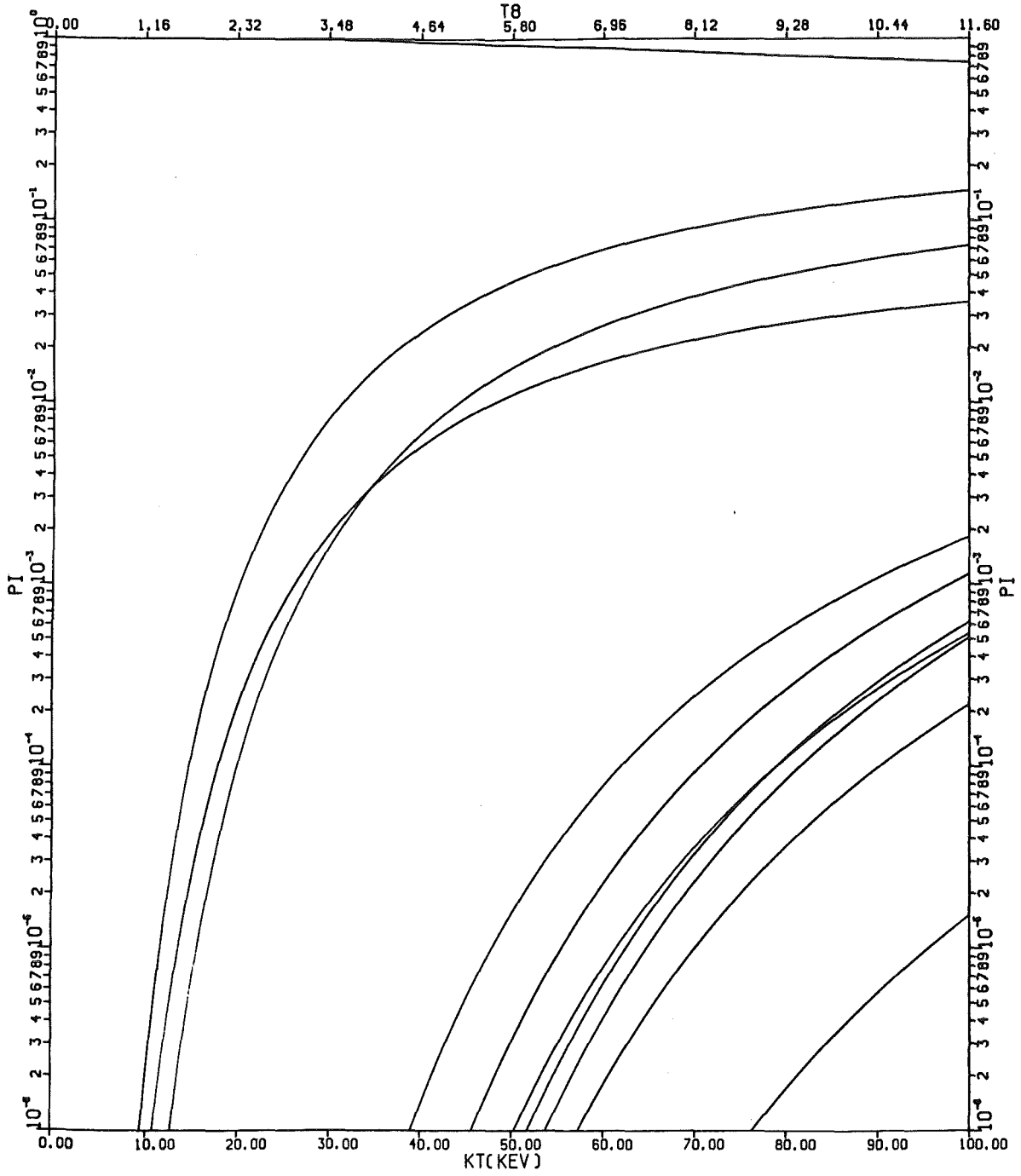
RB-87


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

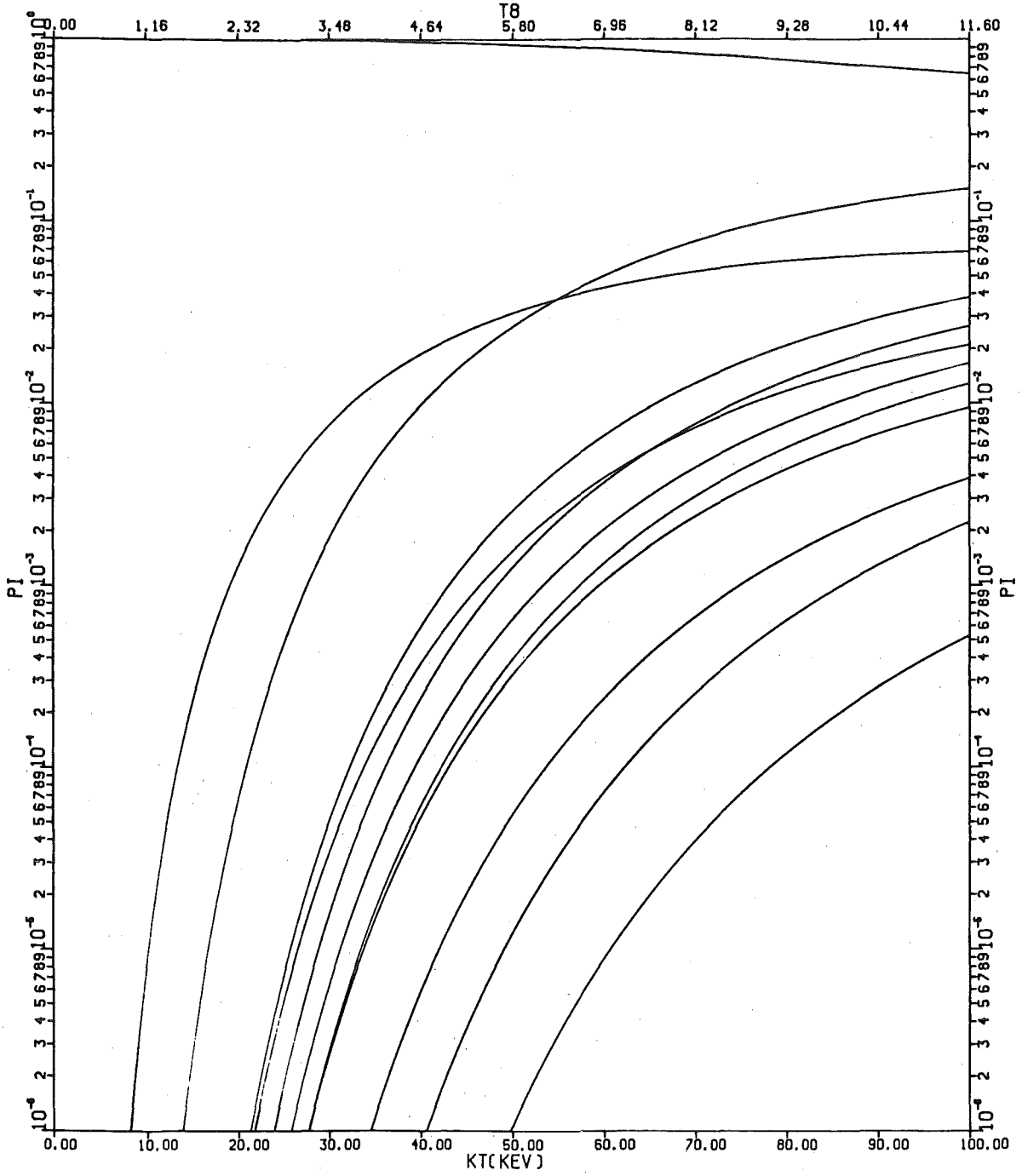
ZR-93


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

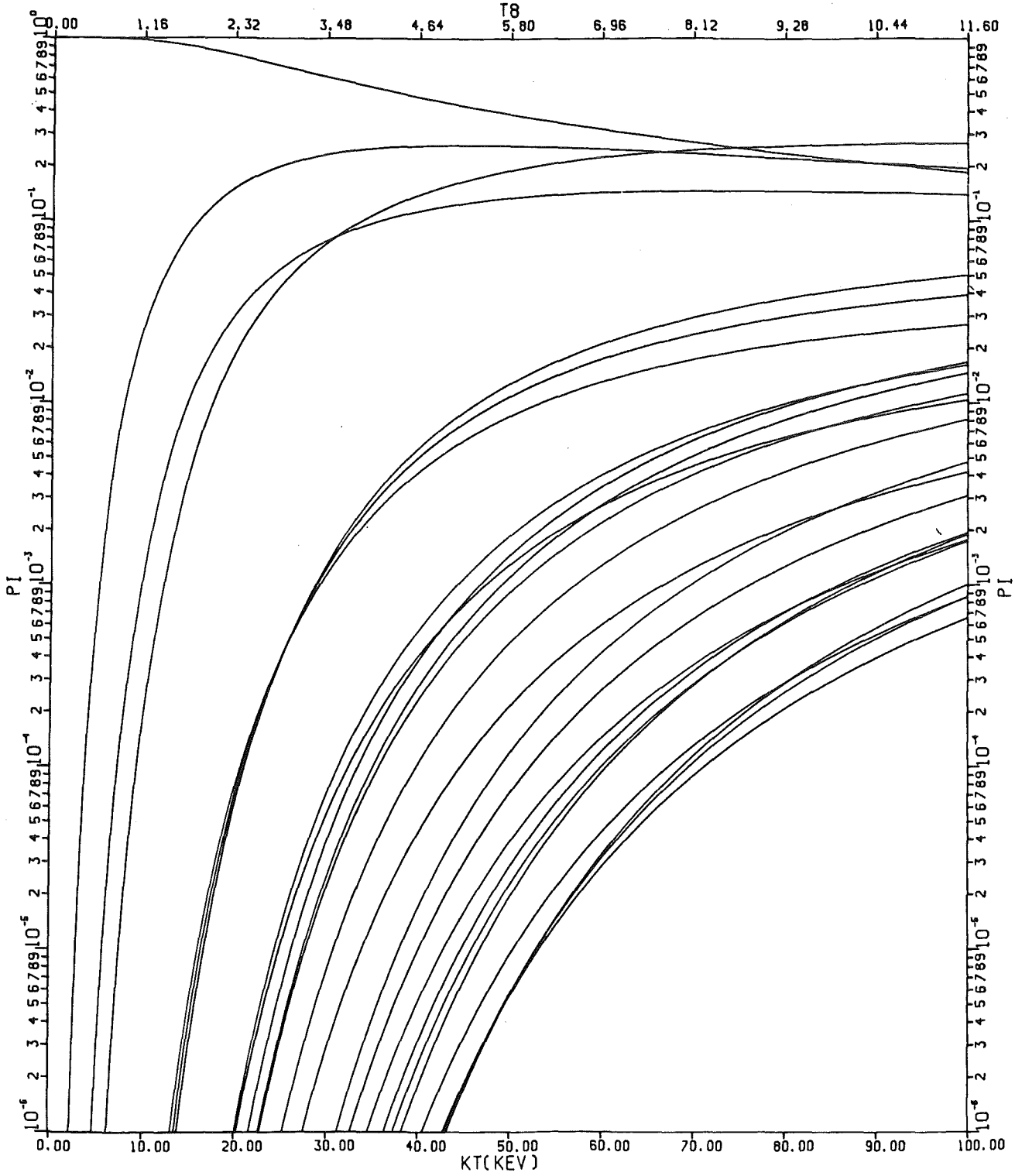
TC-99


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

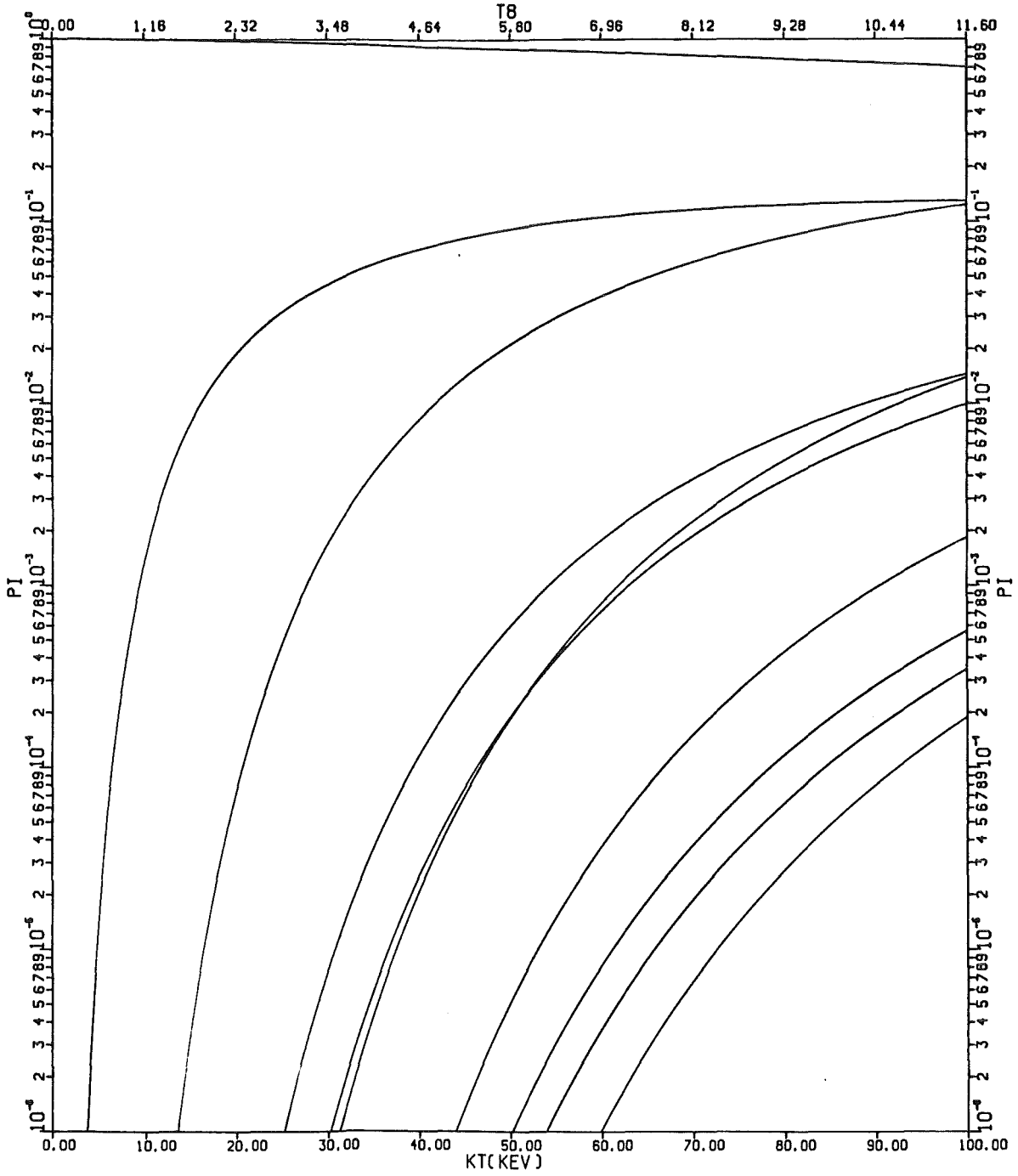
PD-107


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

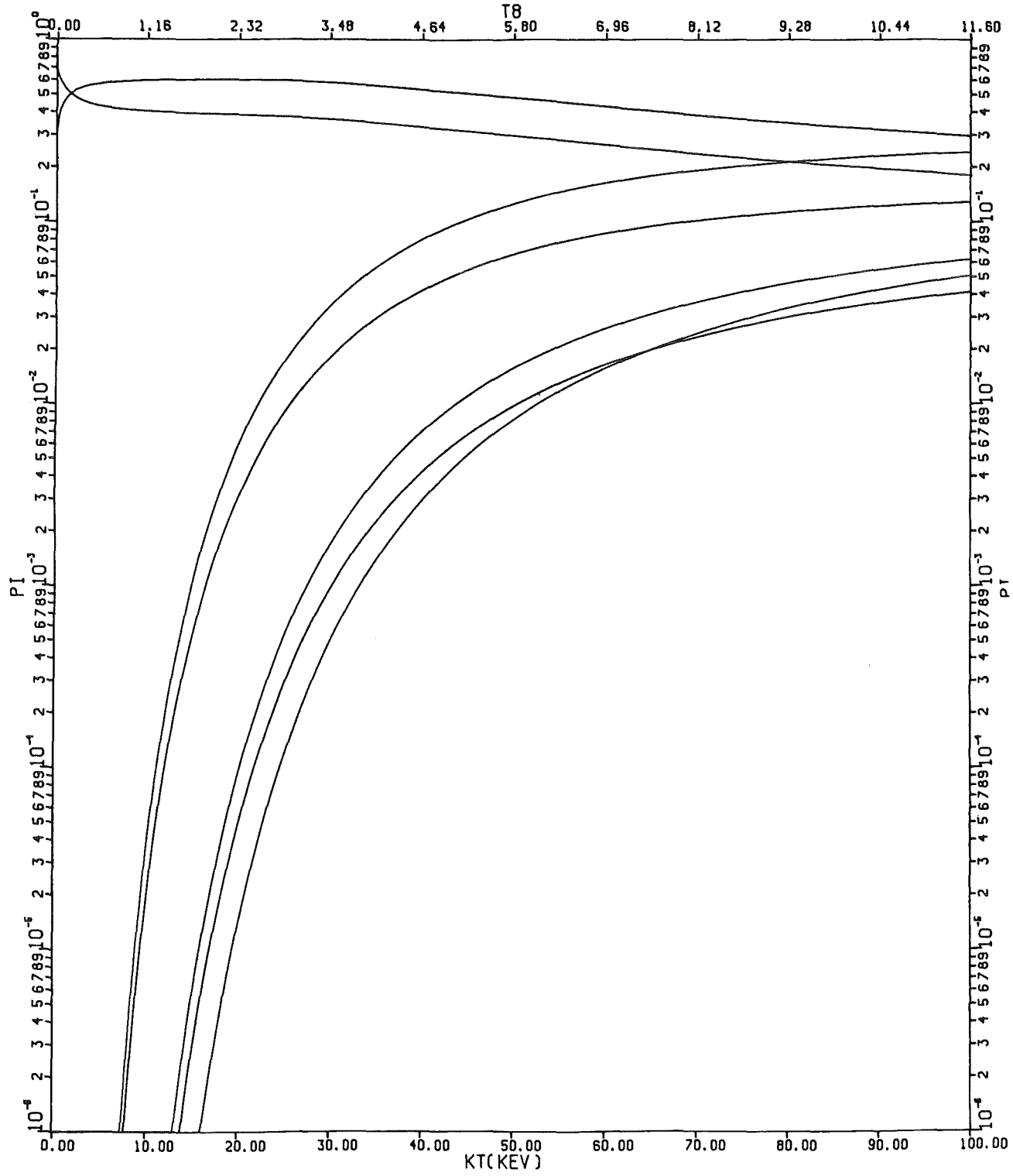
AG-108


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

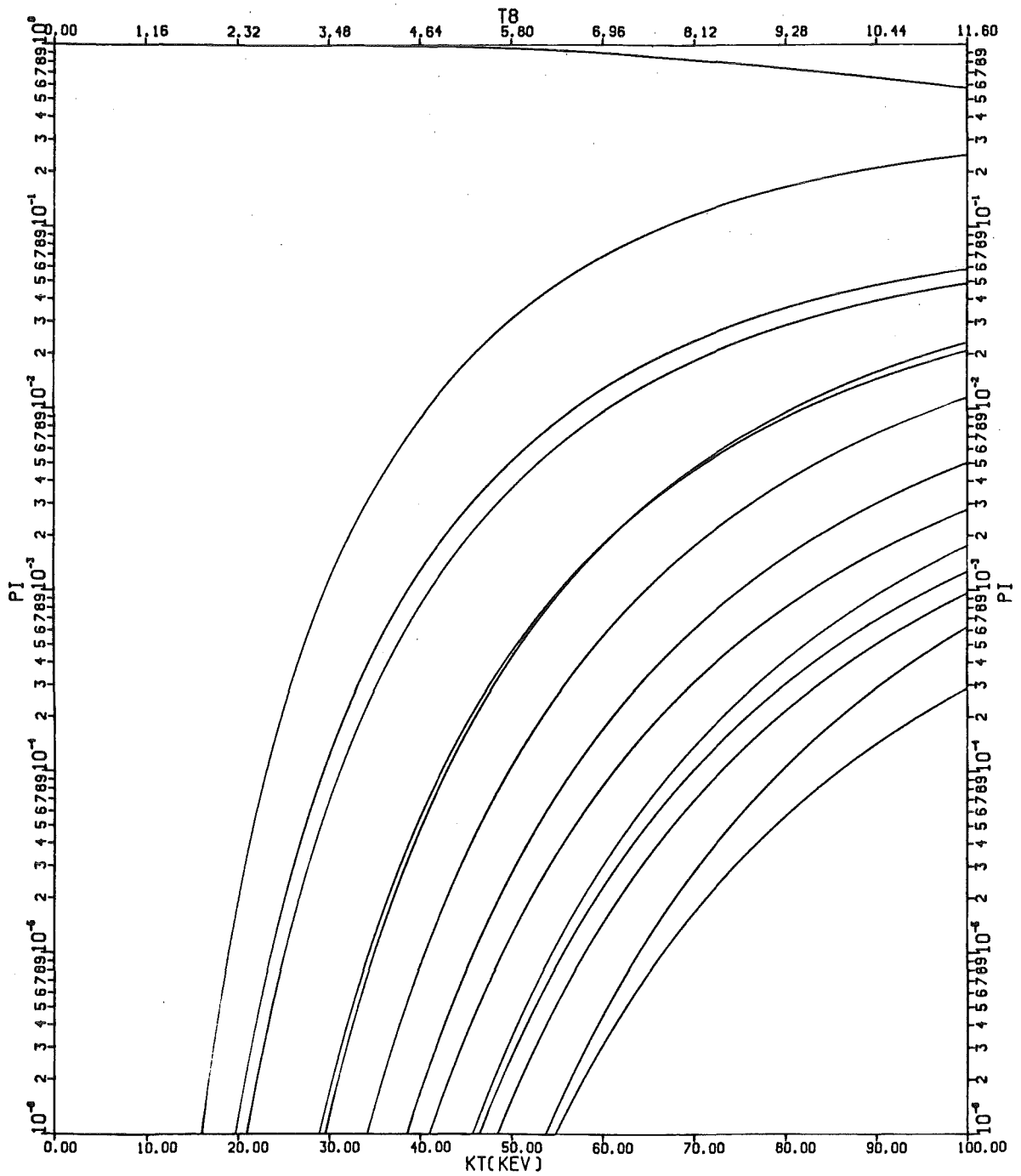
CD-109


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

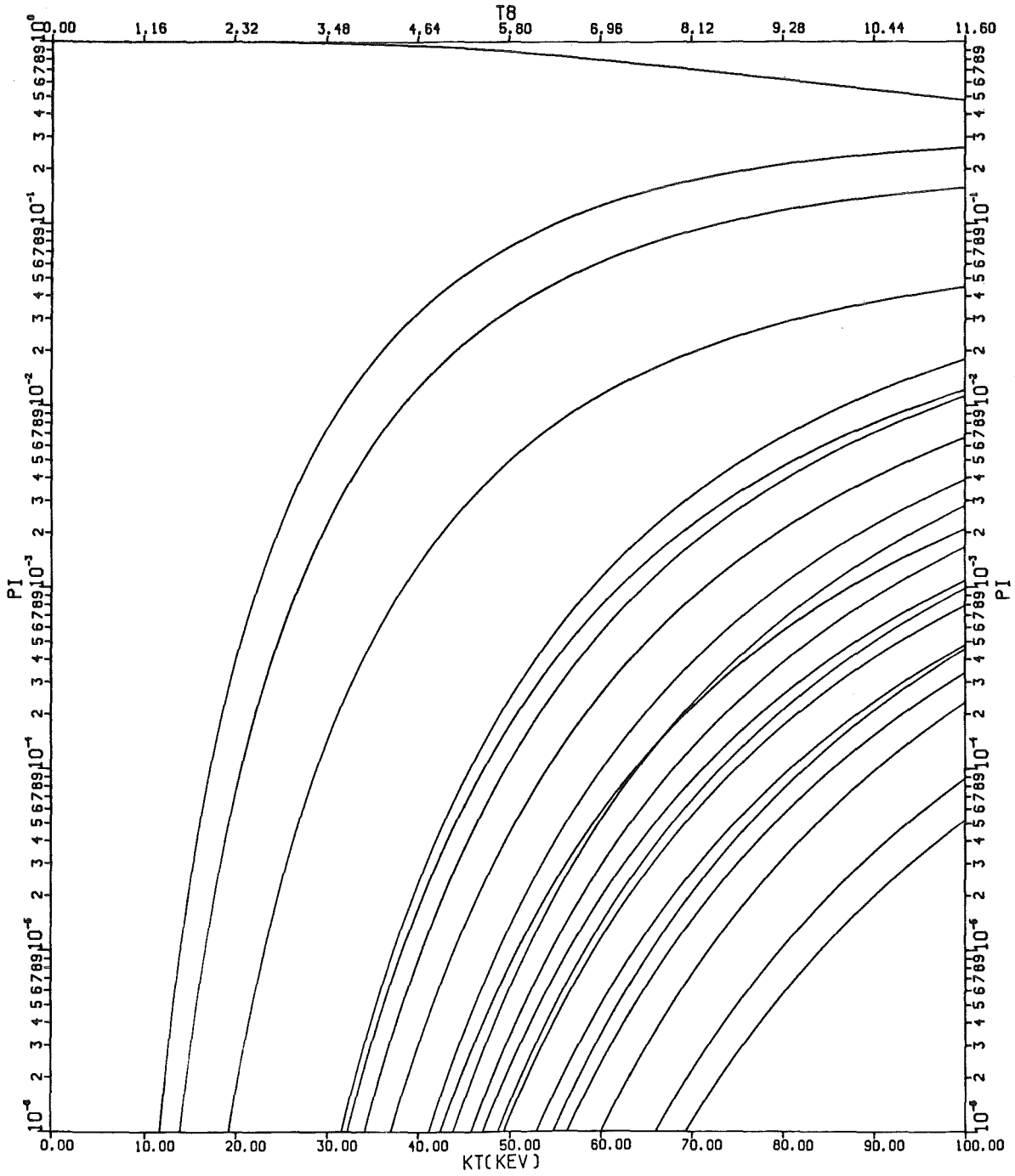
AG-110


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PT
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

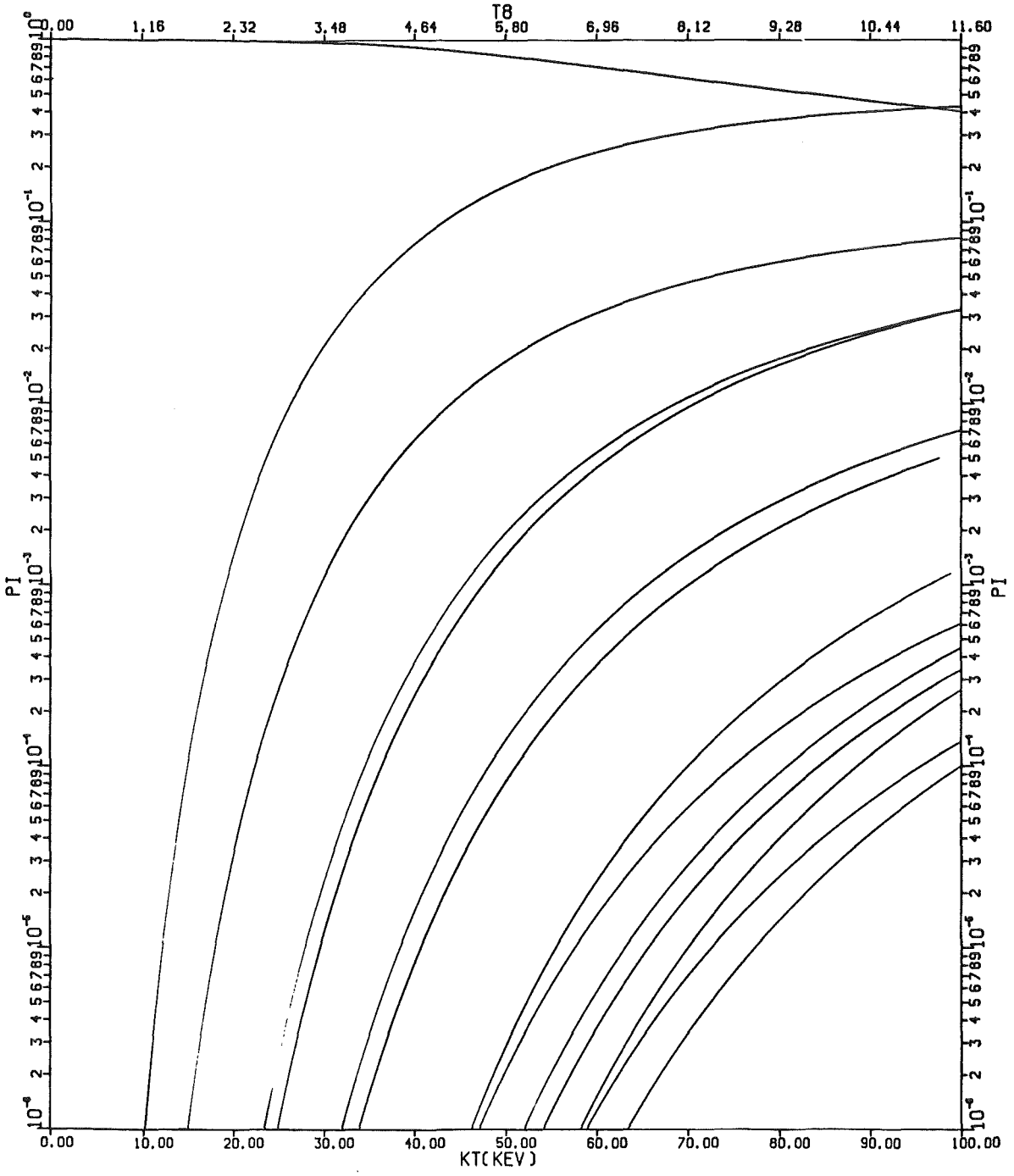
CD-113


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

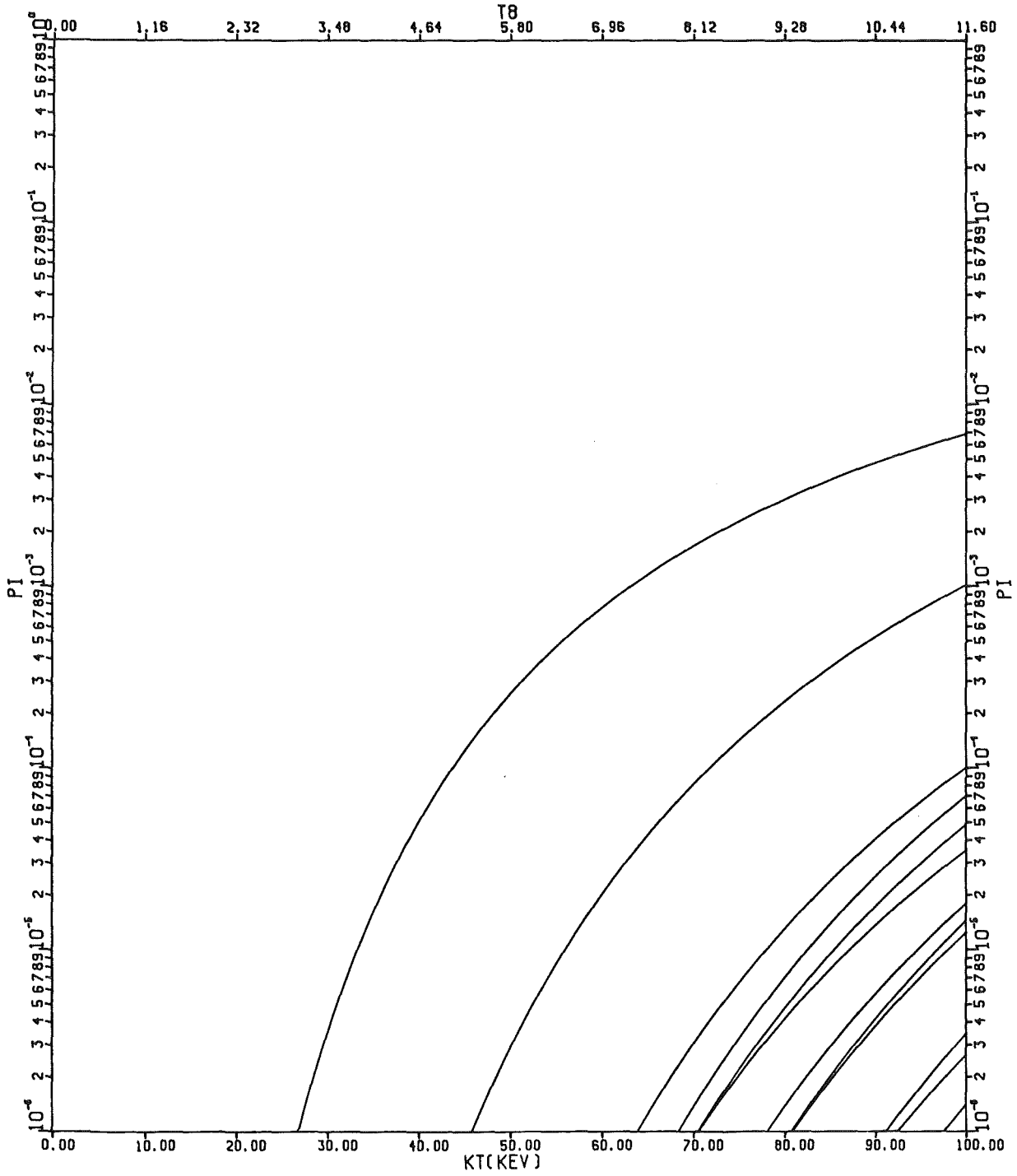
IN-114


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

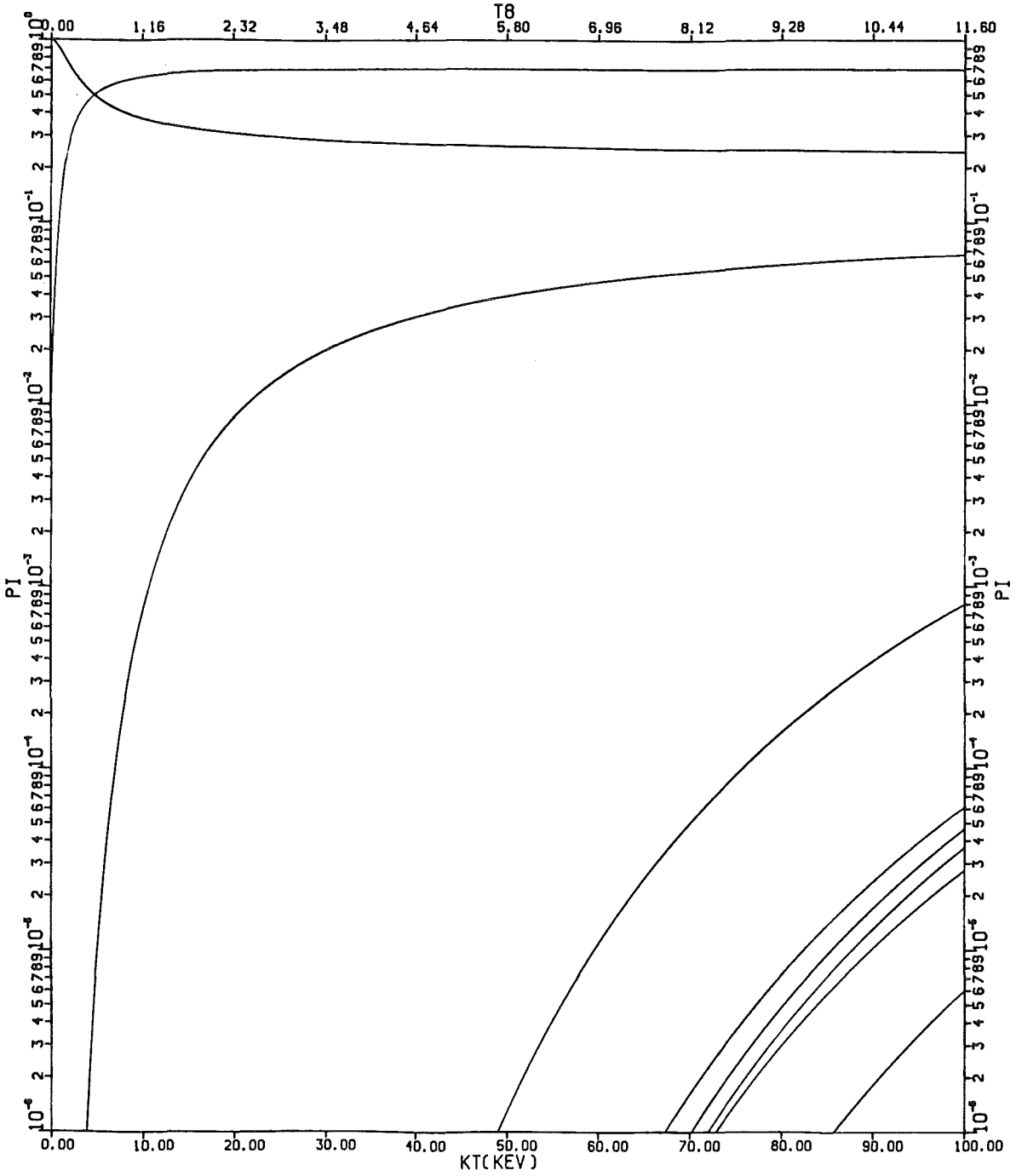
CD-115


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

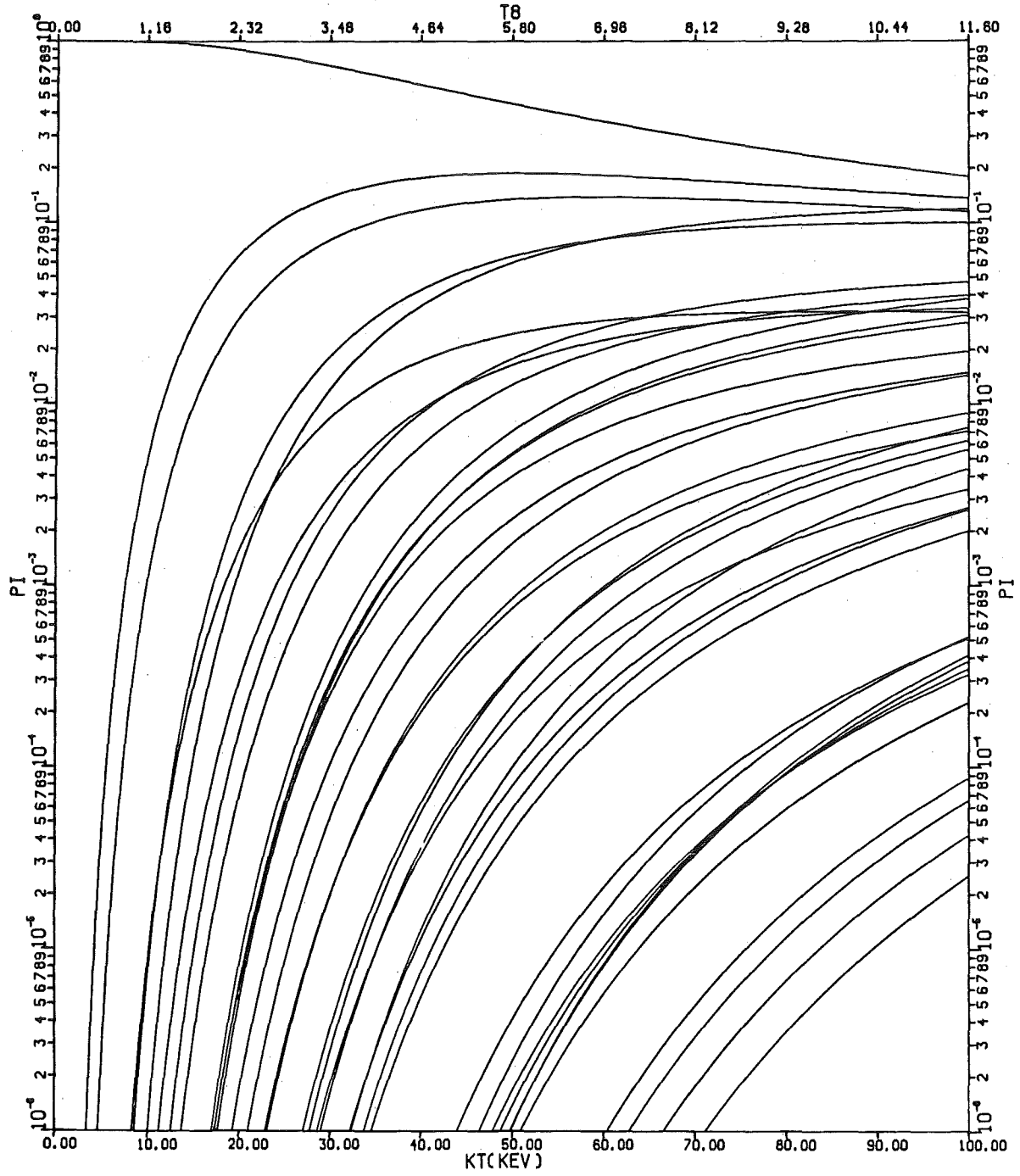
IN-115


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

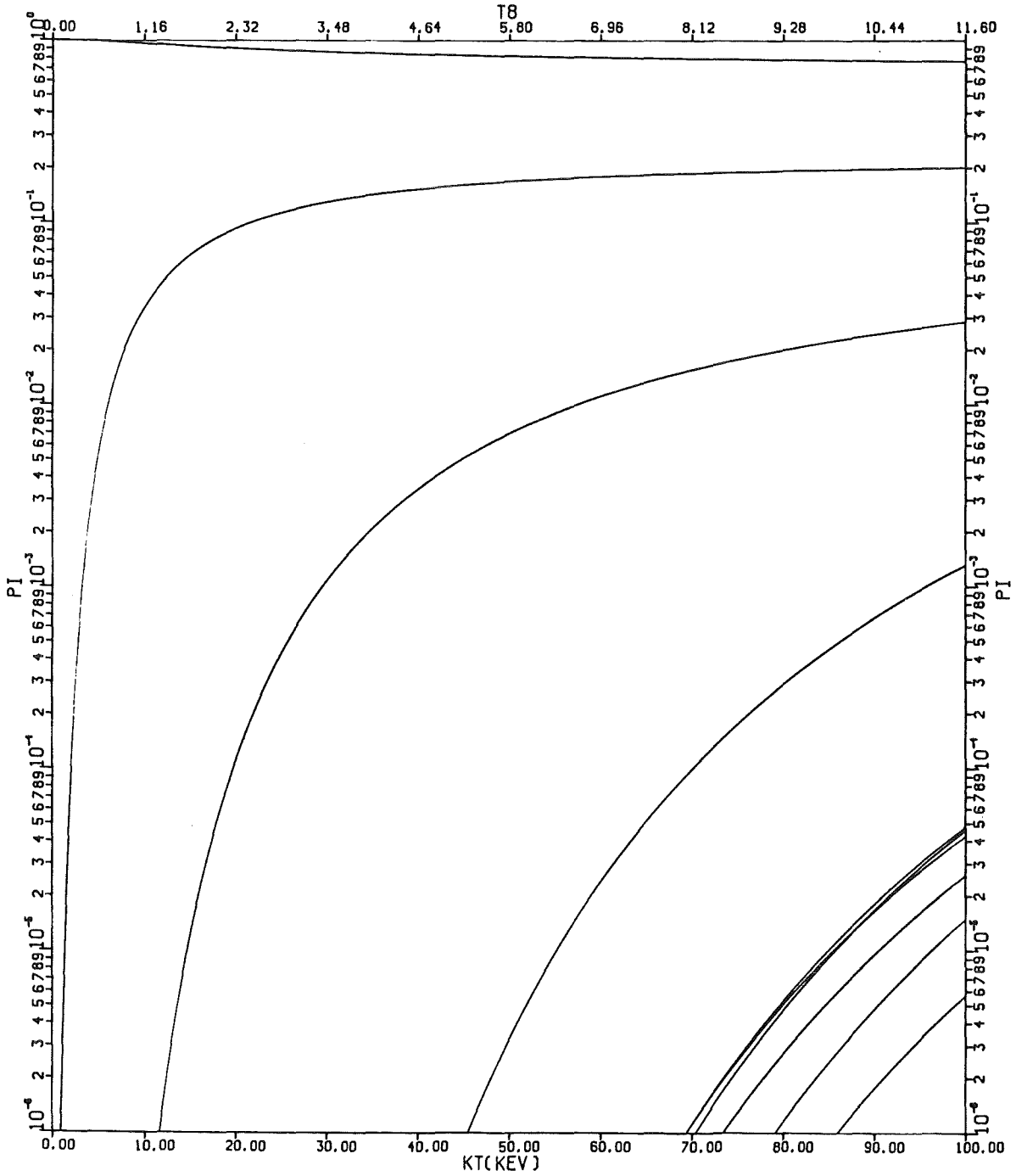
SN-121


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

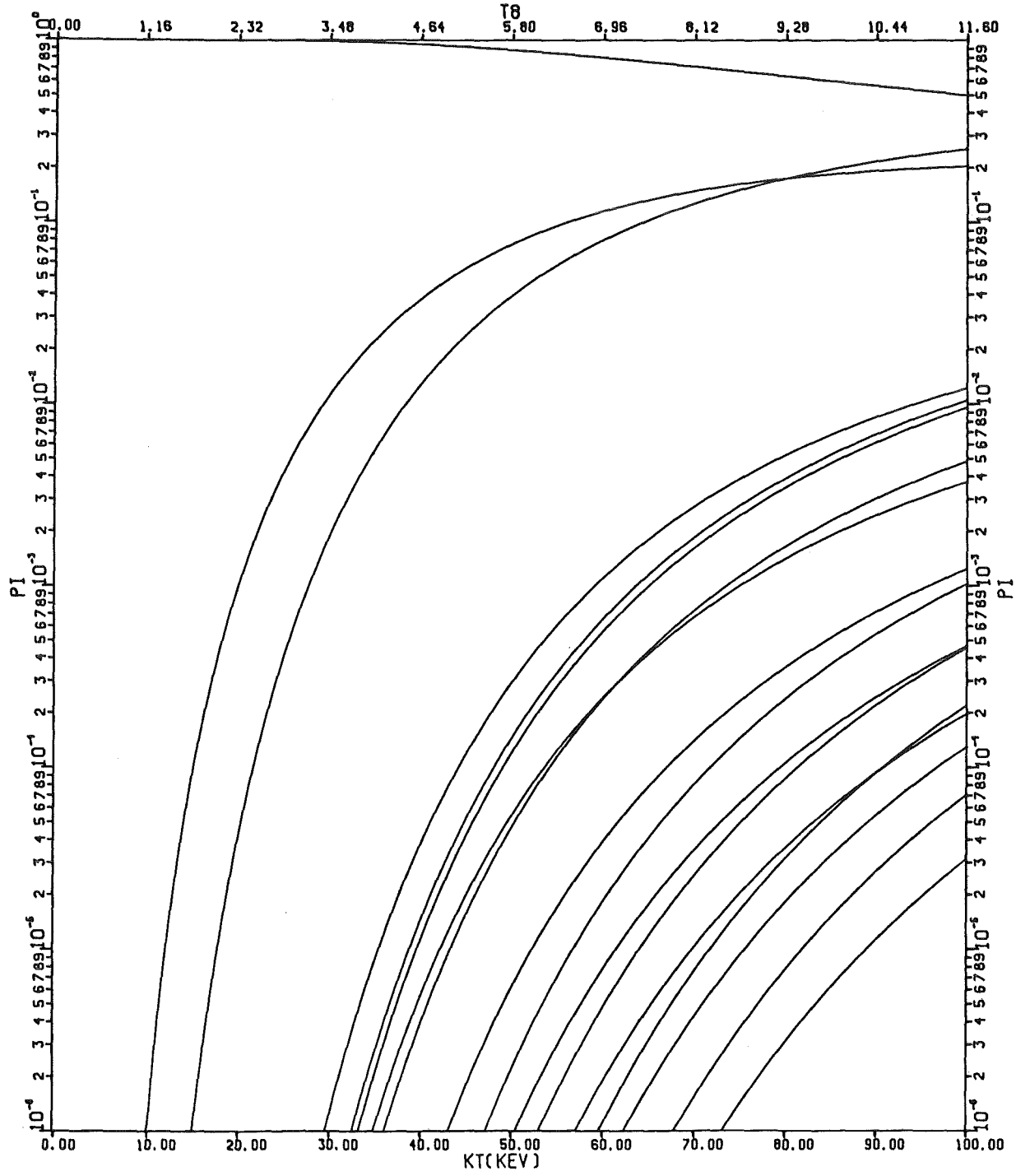
SB-122


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

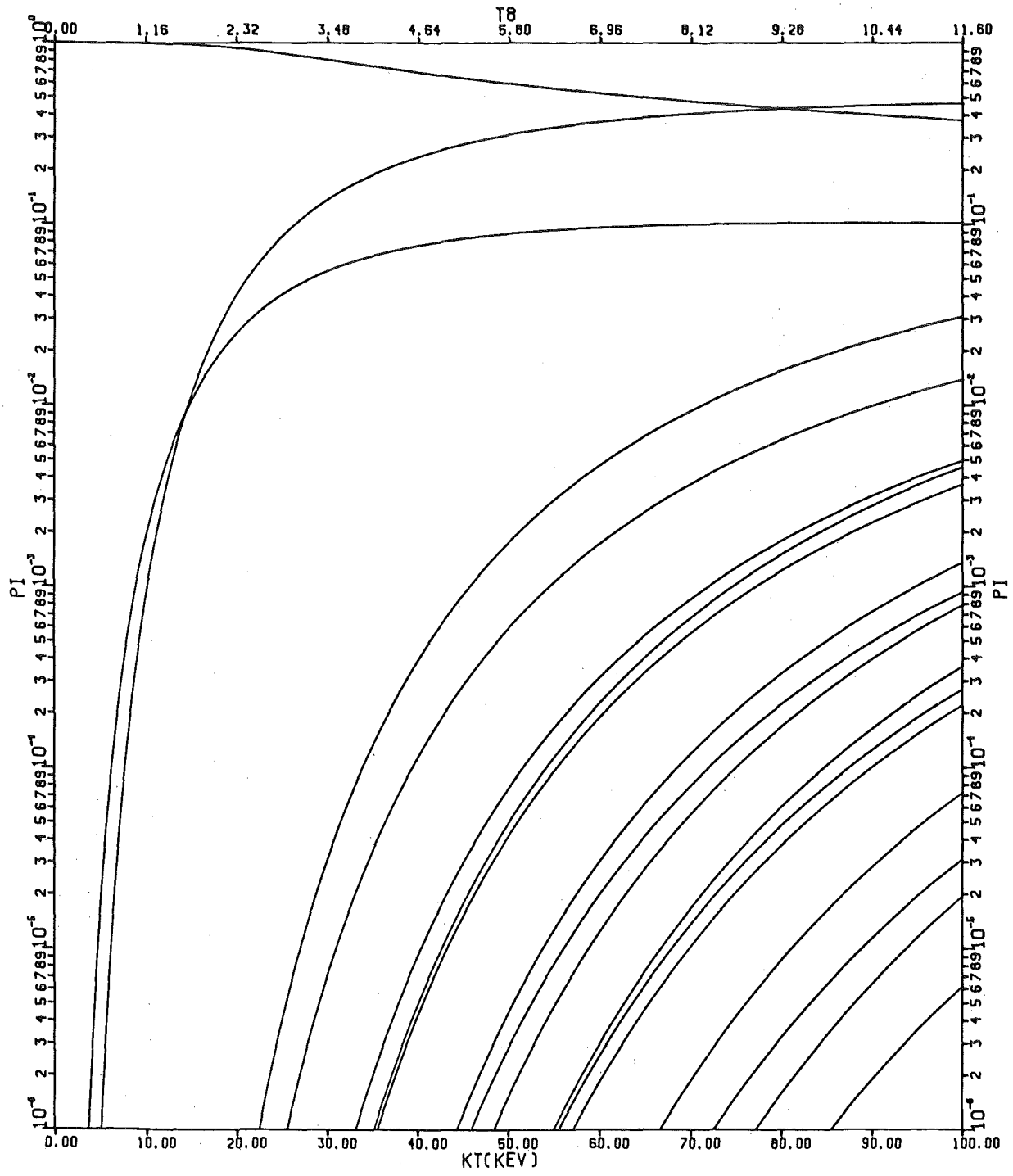
SN-123


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

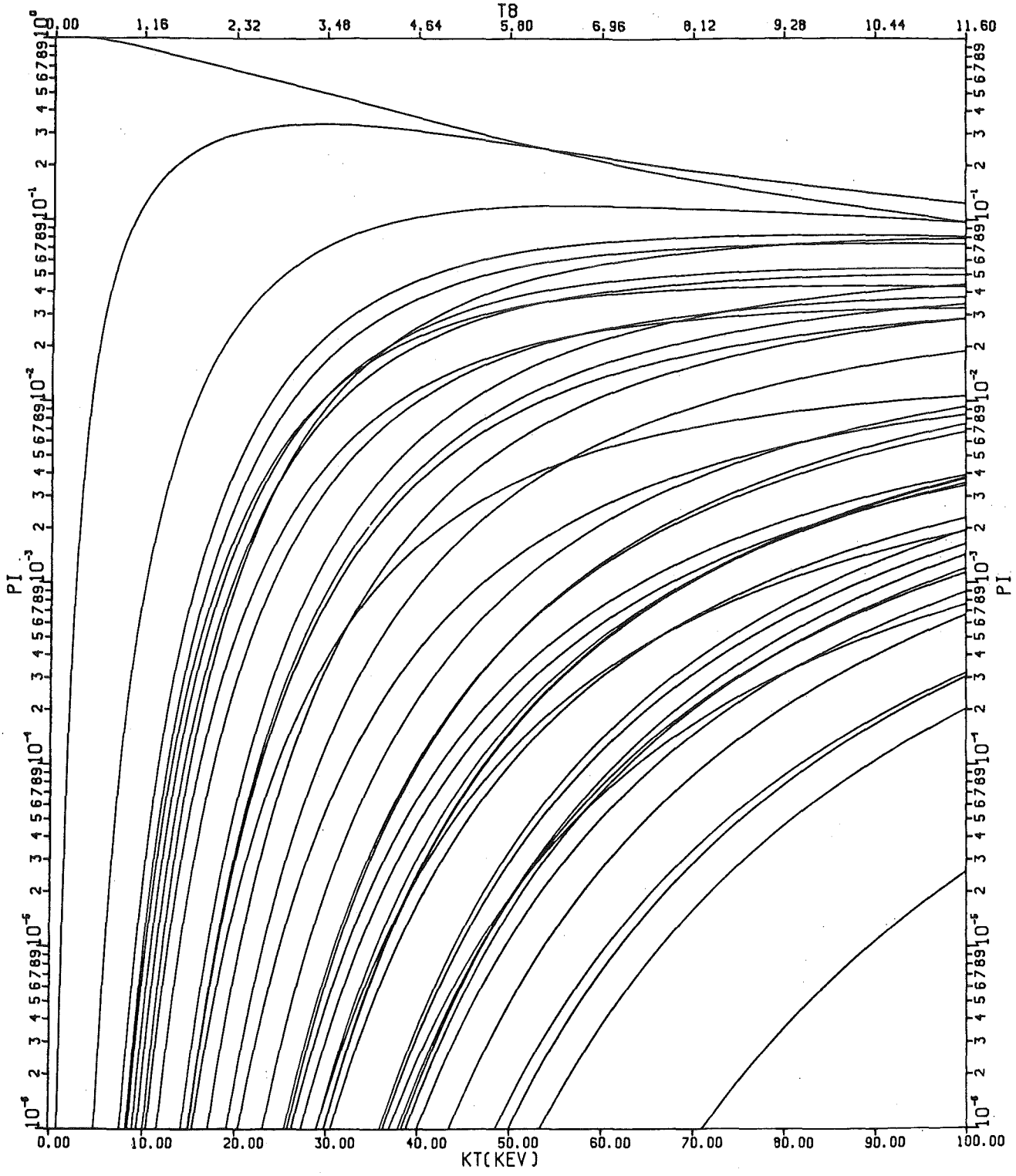
TE-123


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

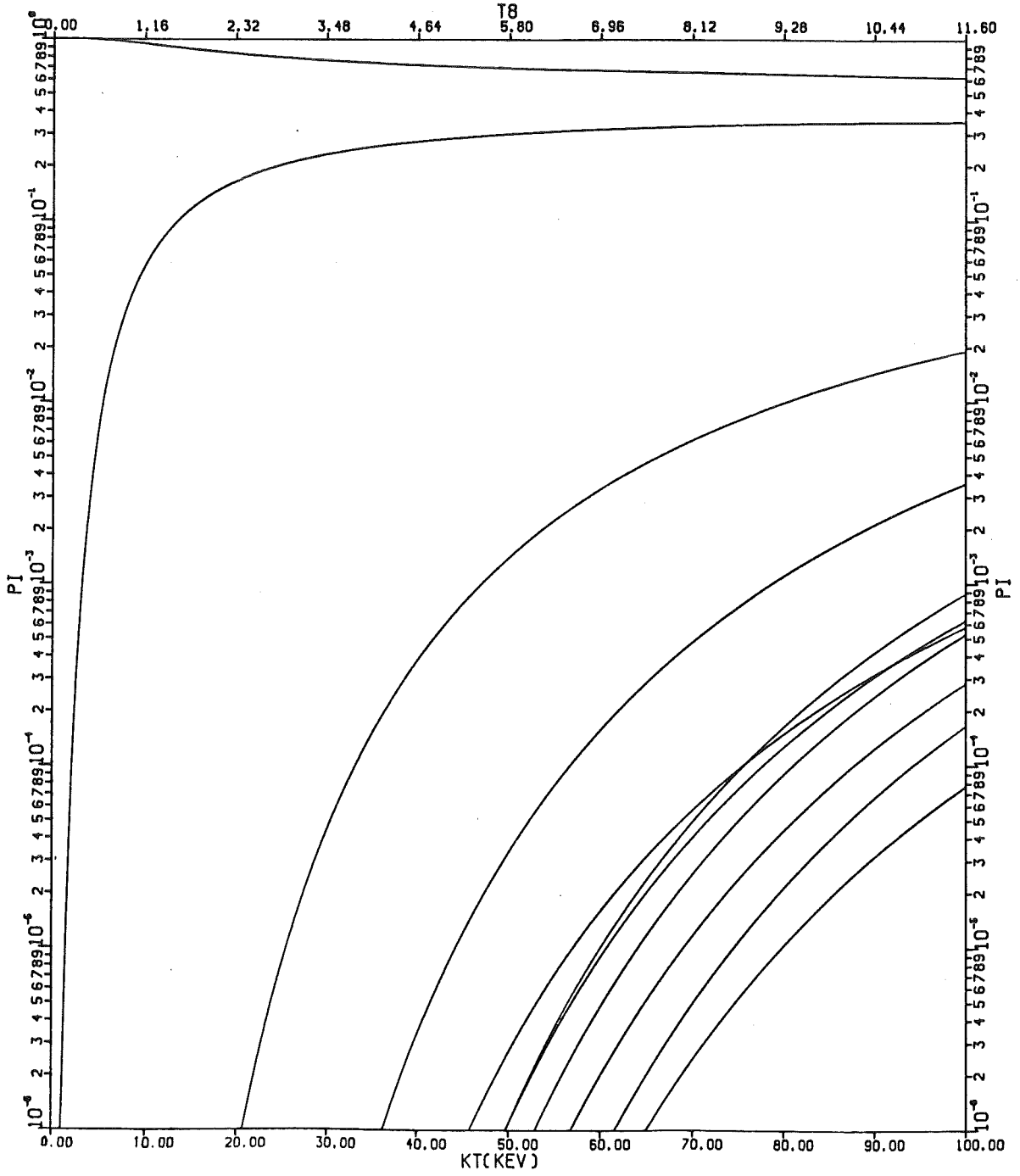
TE-127


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

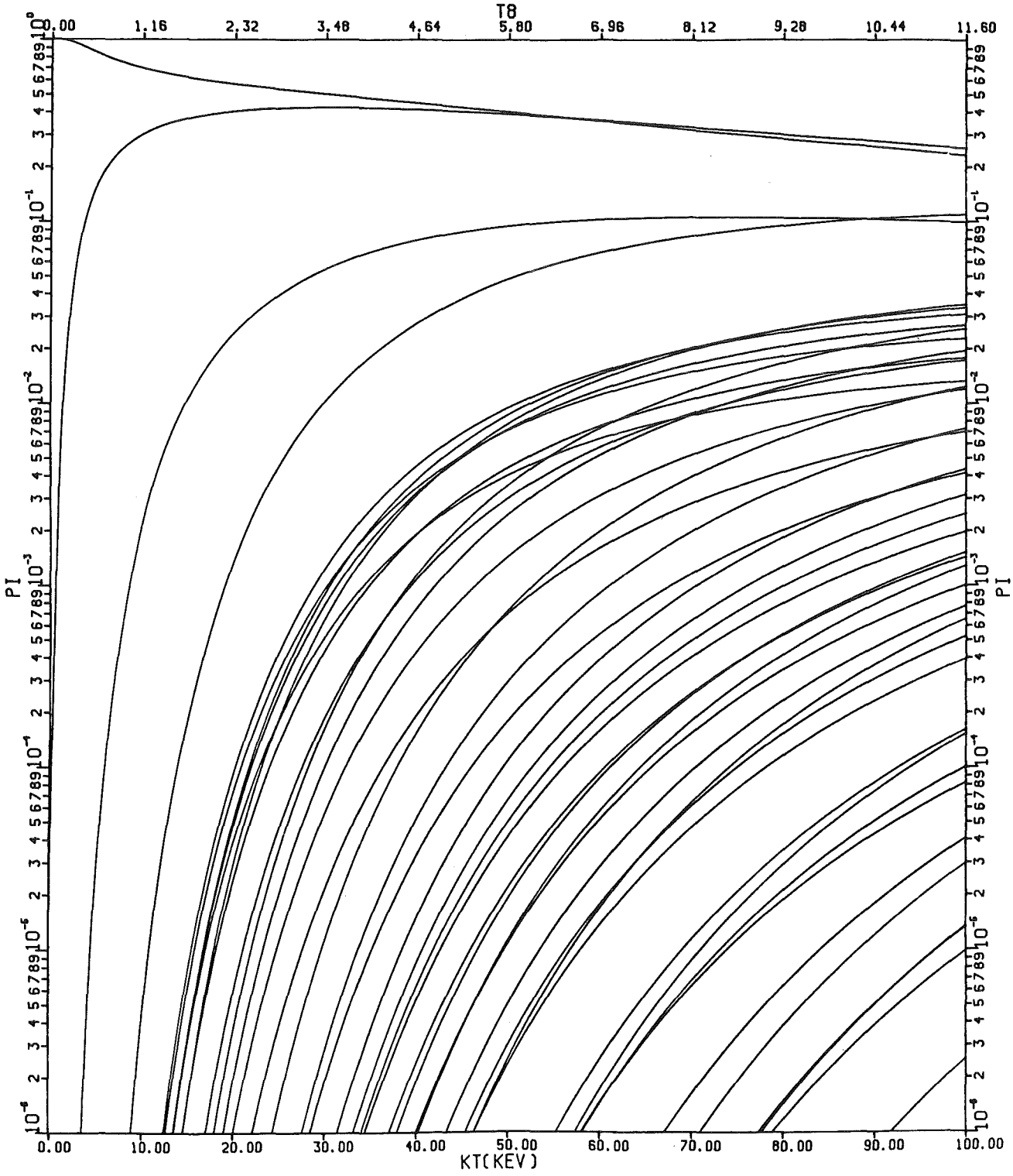
J-128


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

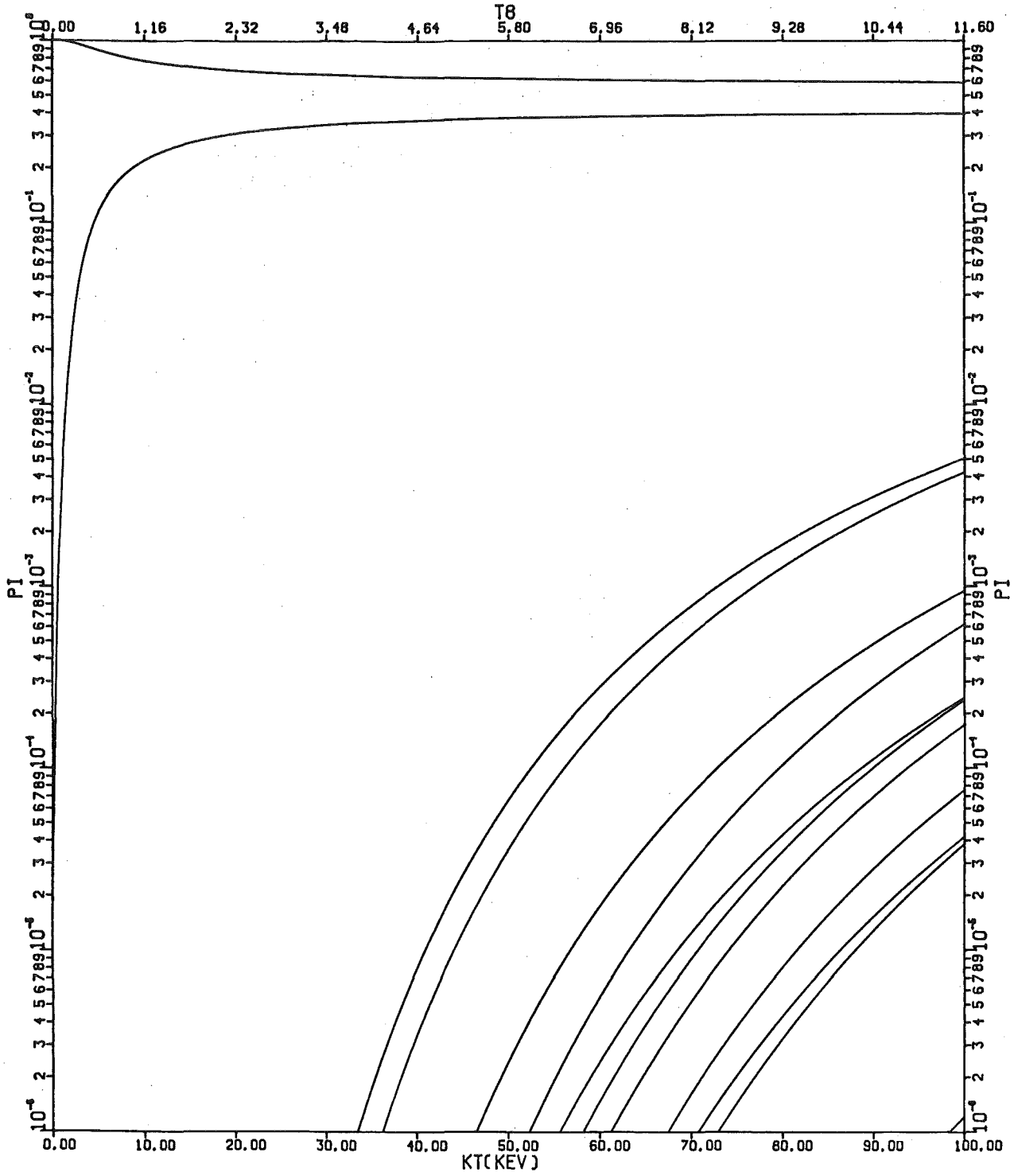
J-129


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

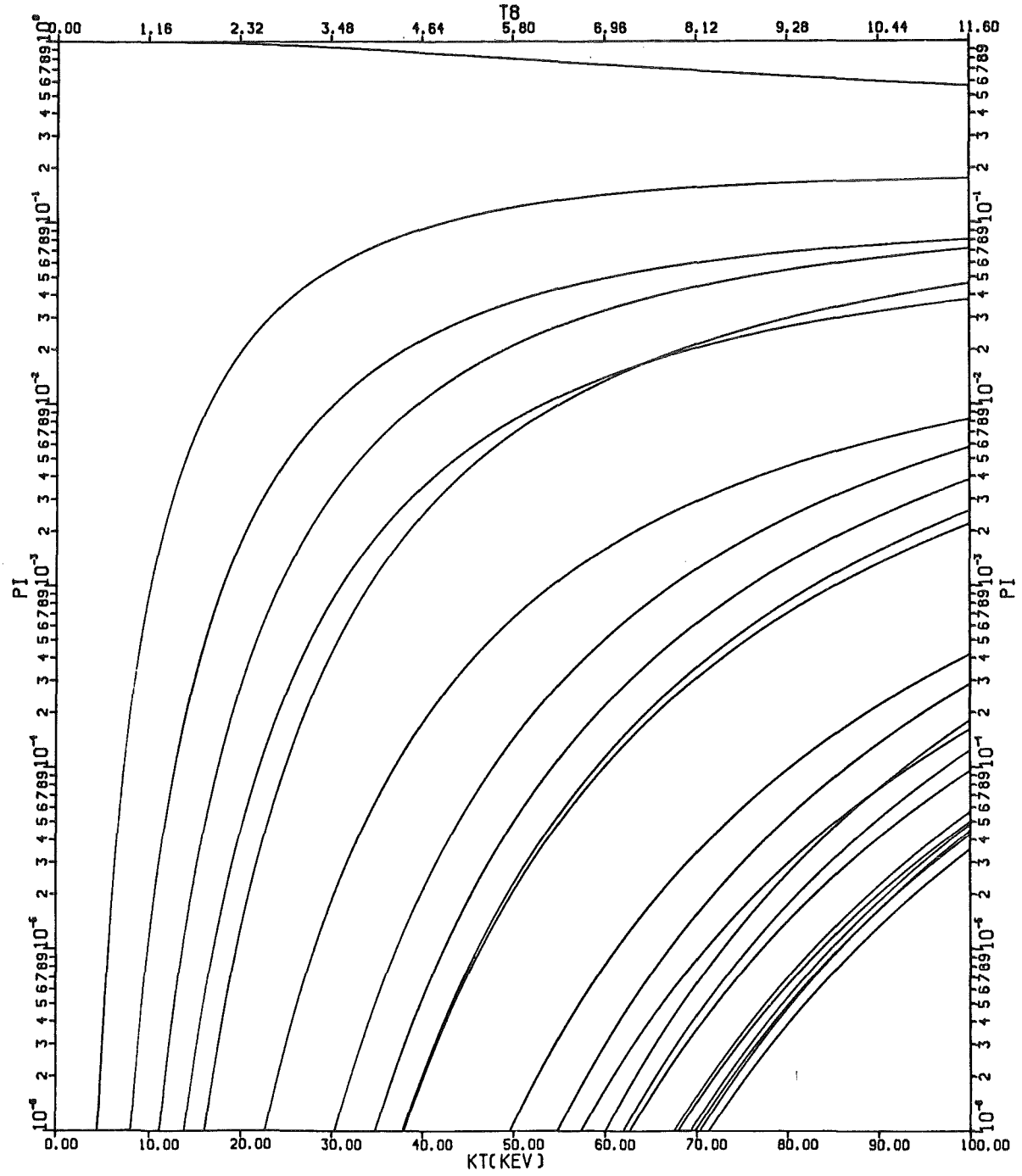
CS-134


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

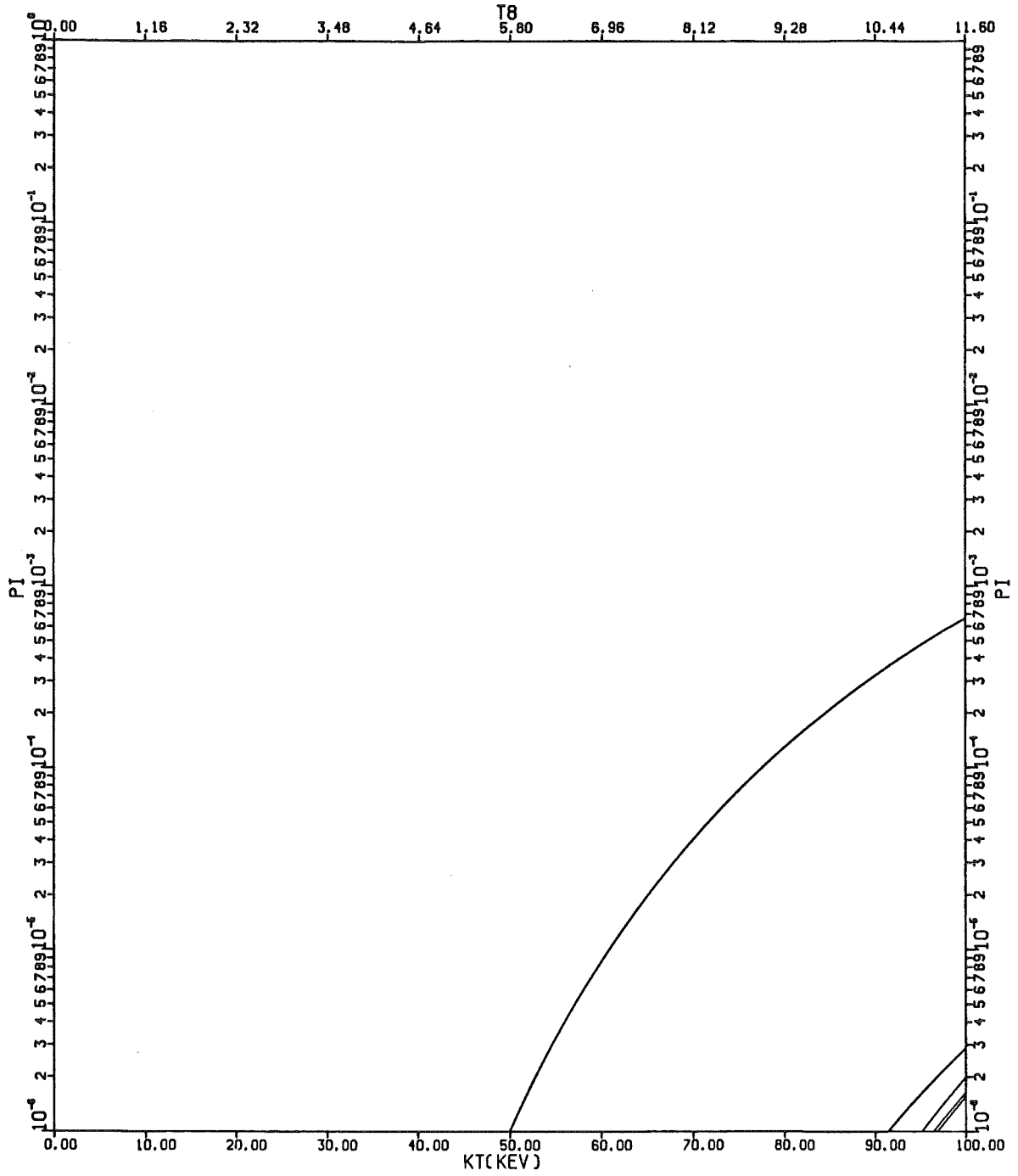
LA-137


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

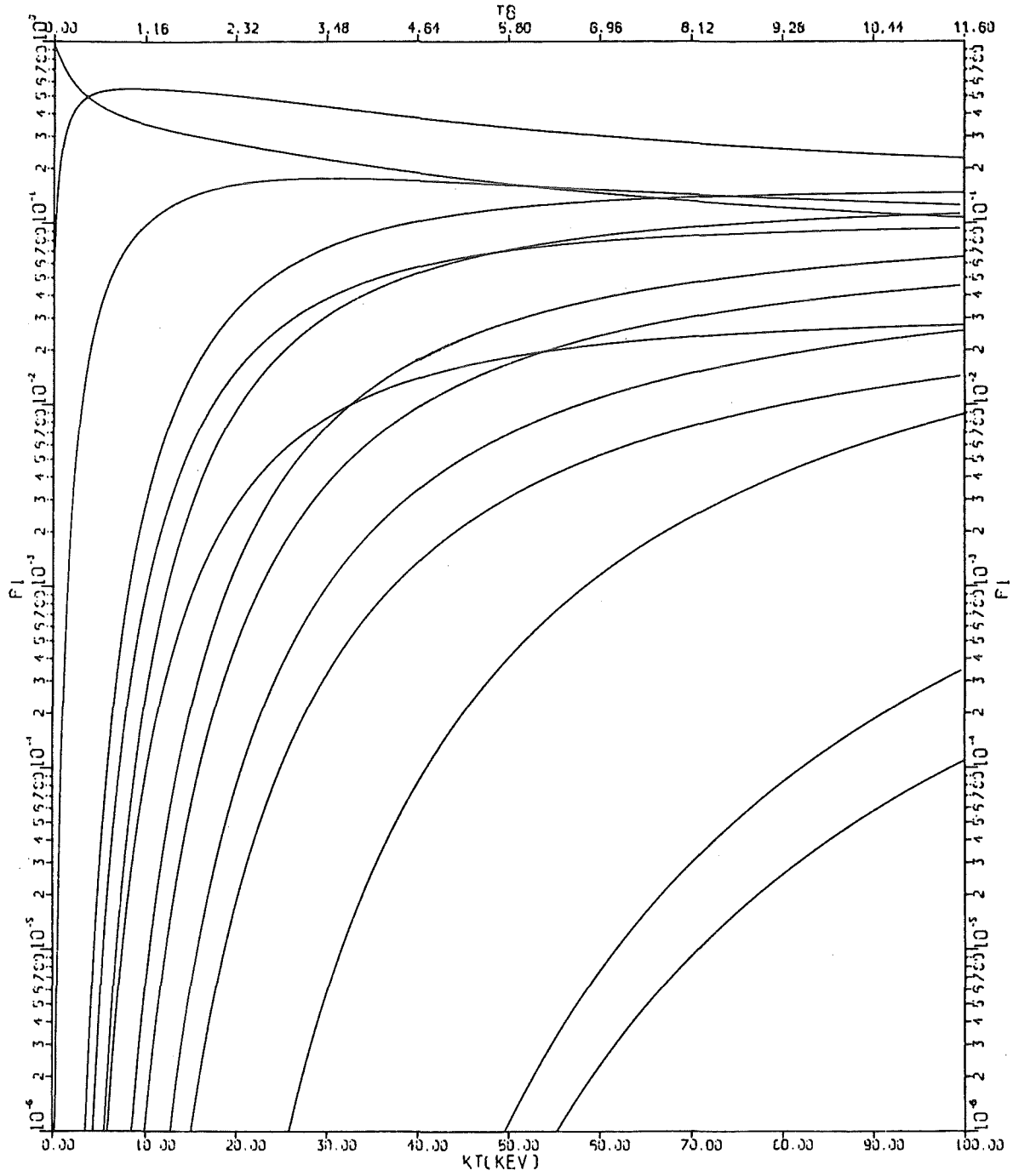
LA-138


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

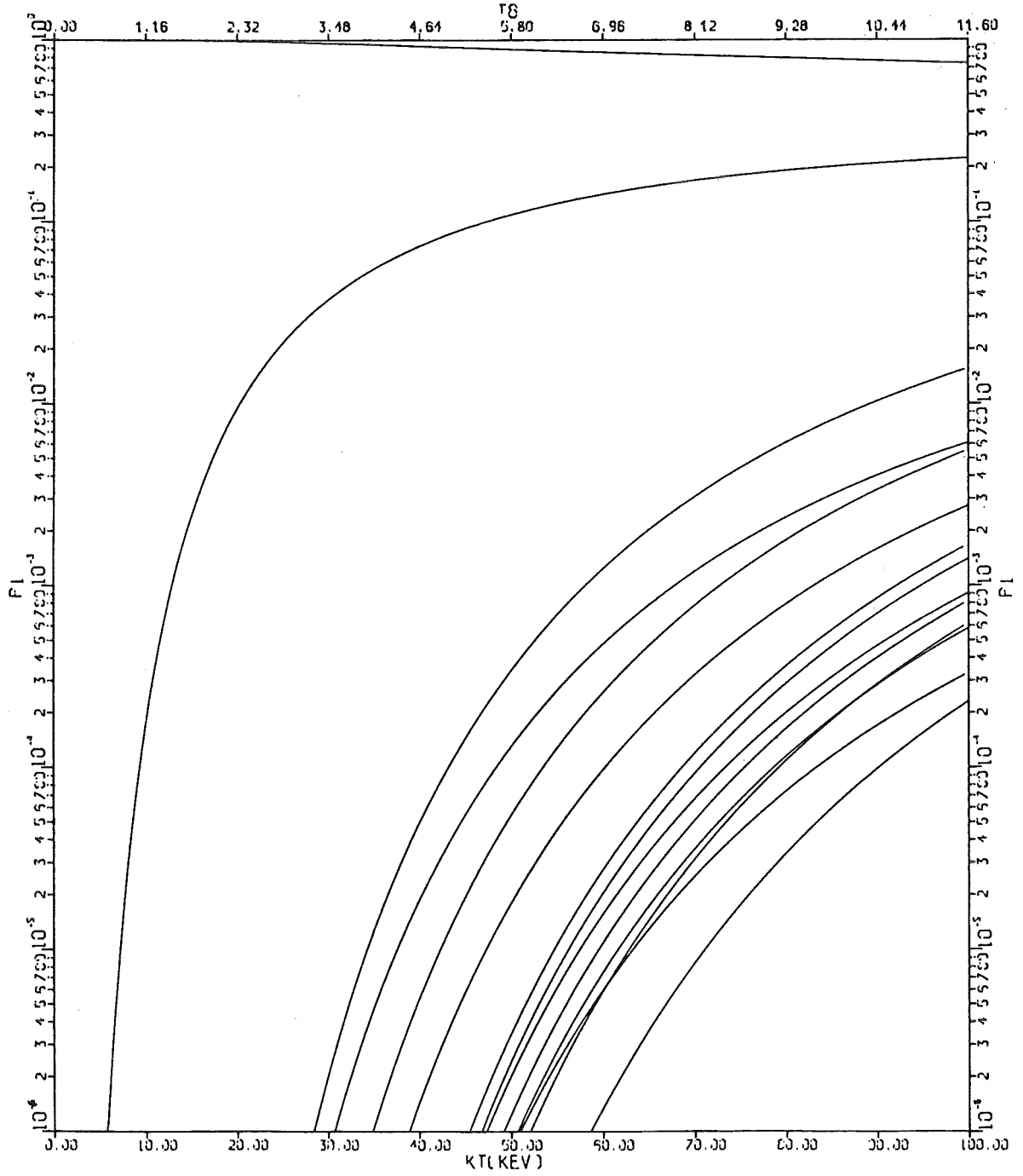
CE-141


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

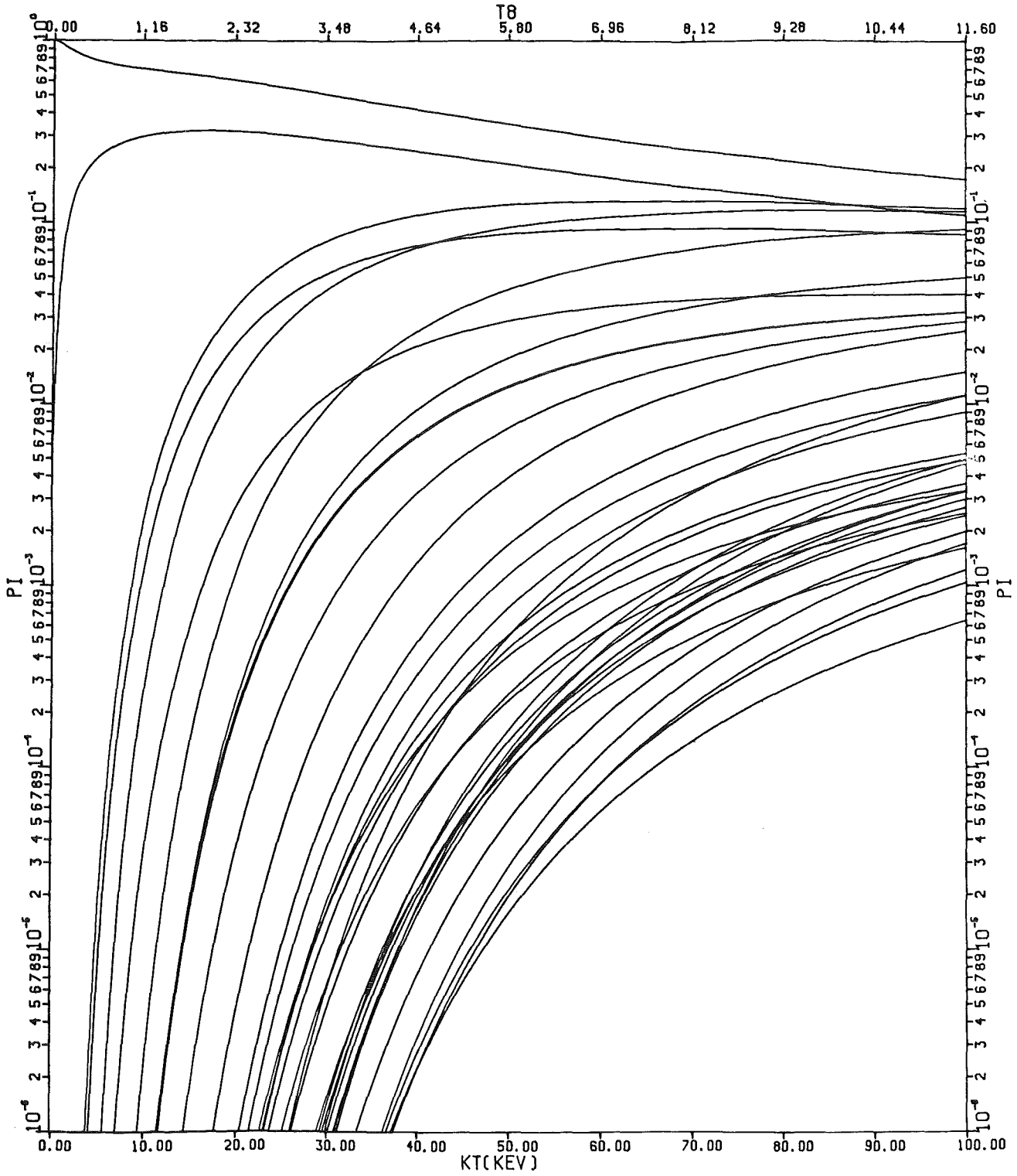
PR-142


TG
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
FI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

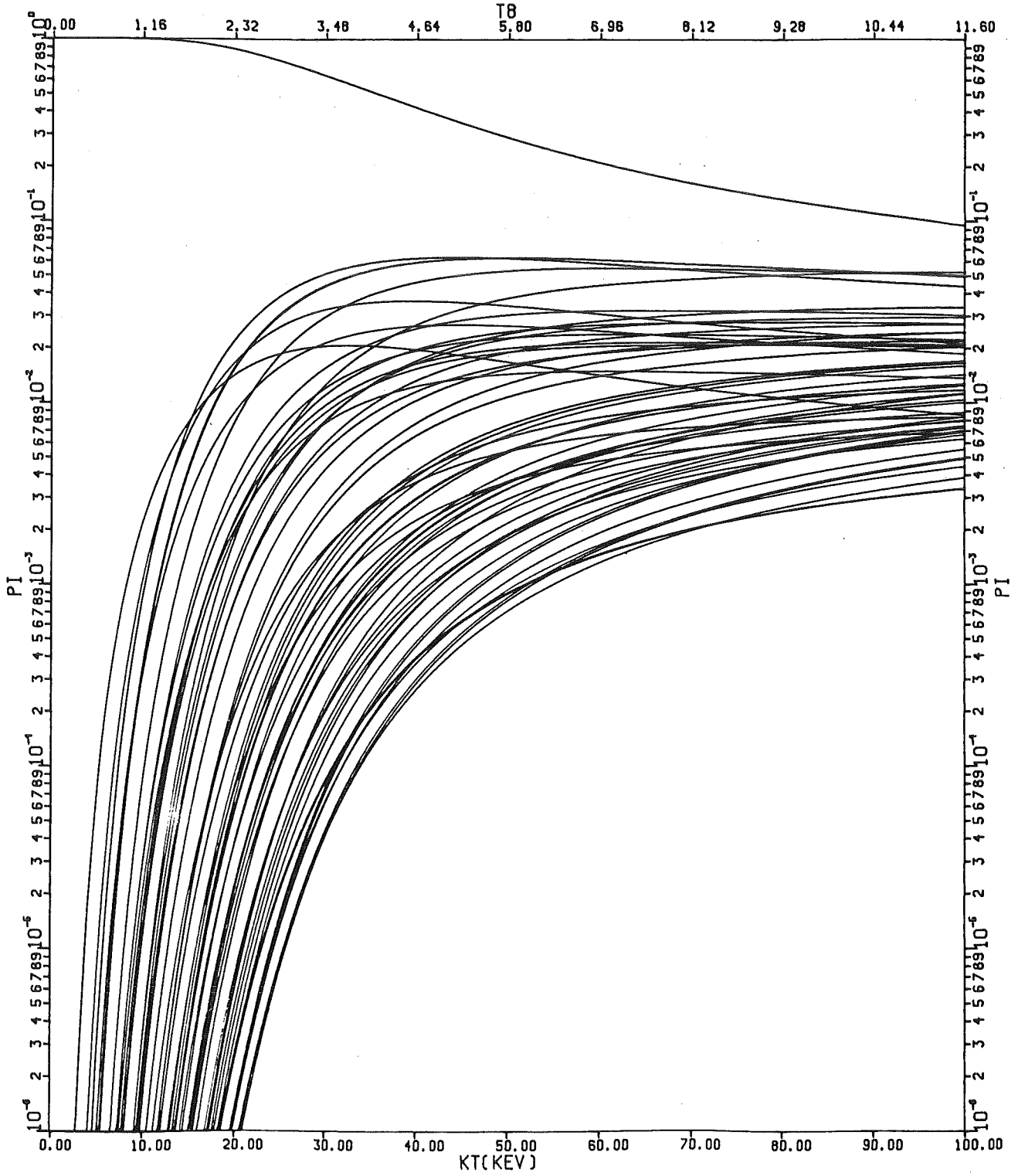
PM-147


τδ
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
FI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

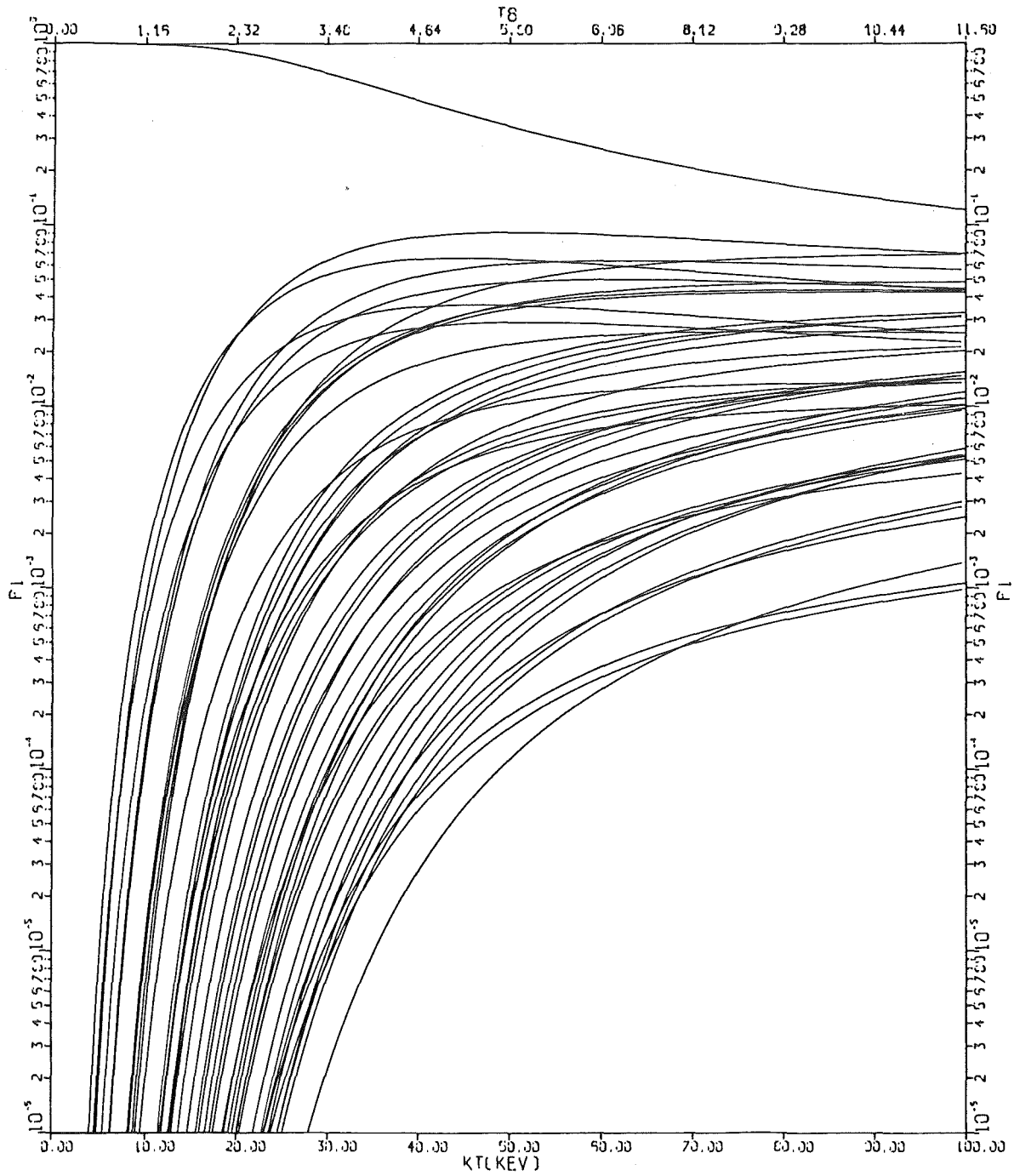
SM-151


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

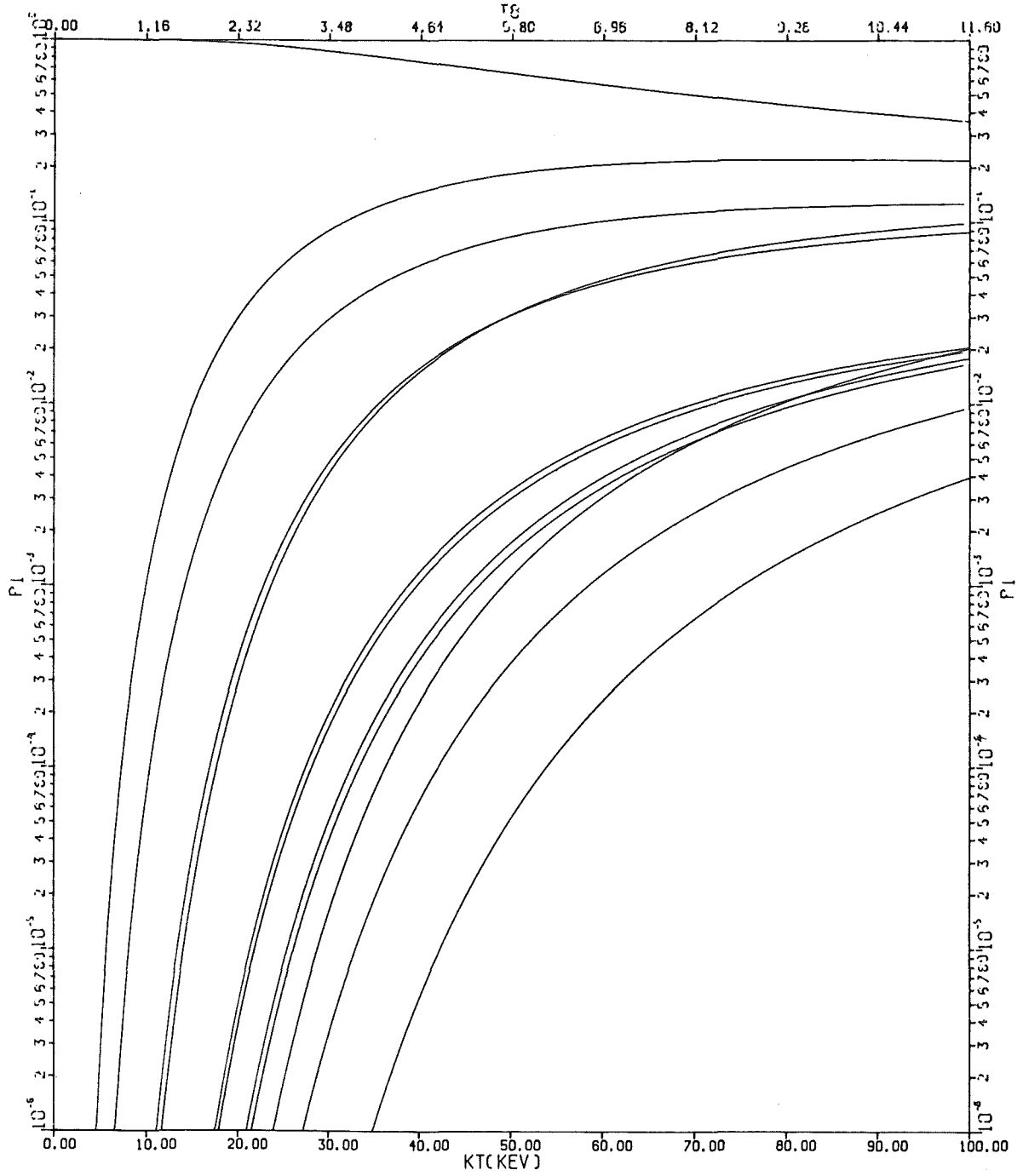
EU-152


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

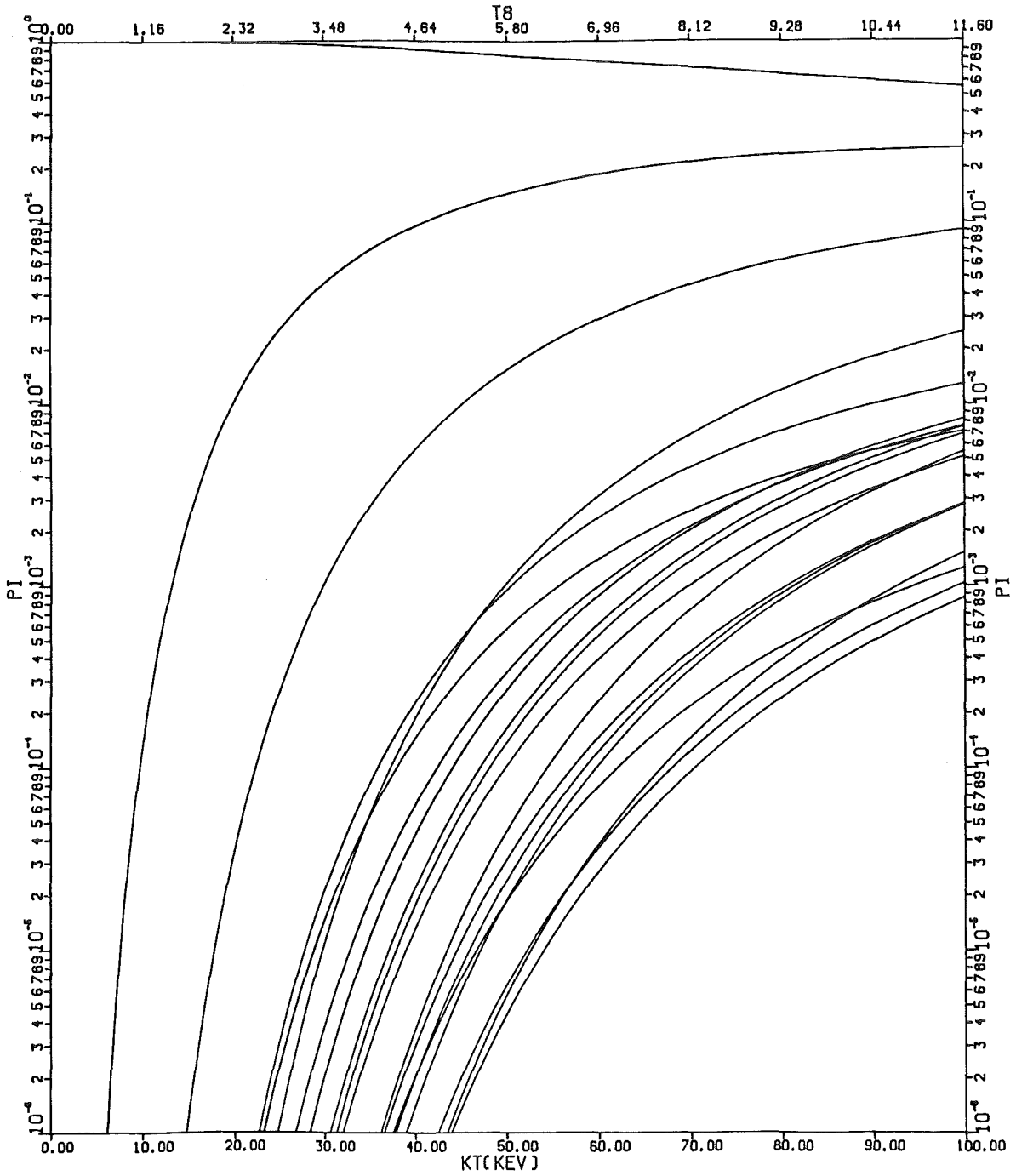
EU-154


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
F1
F1
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

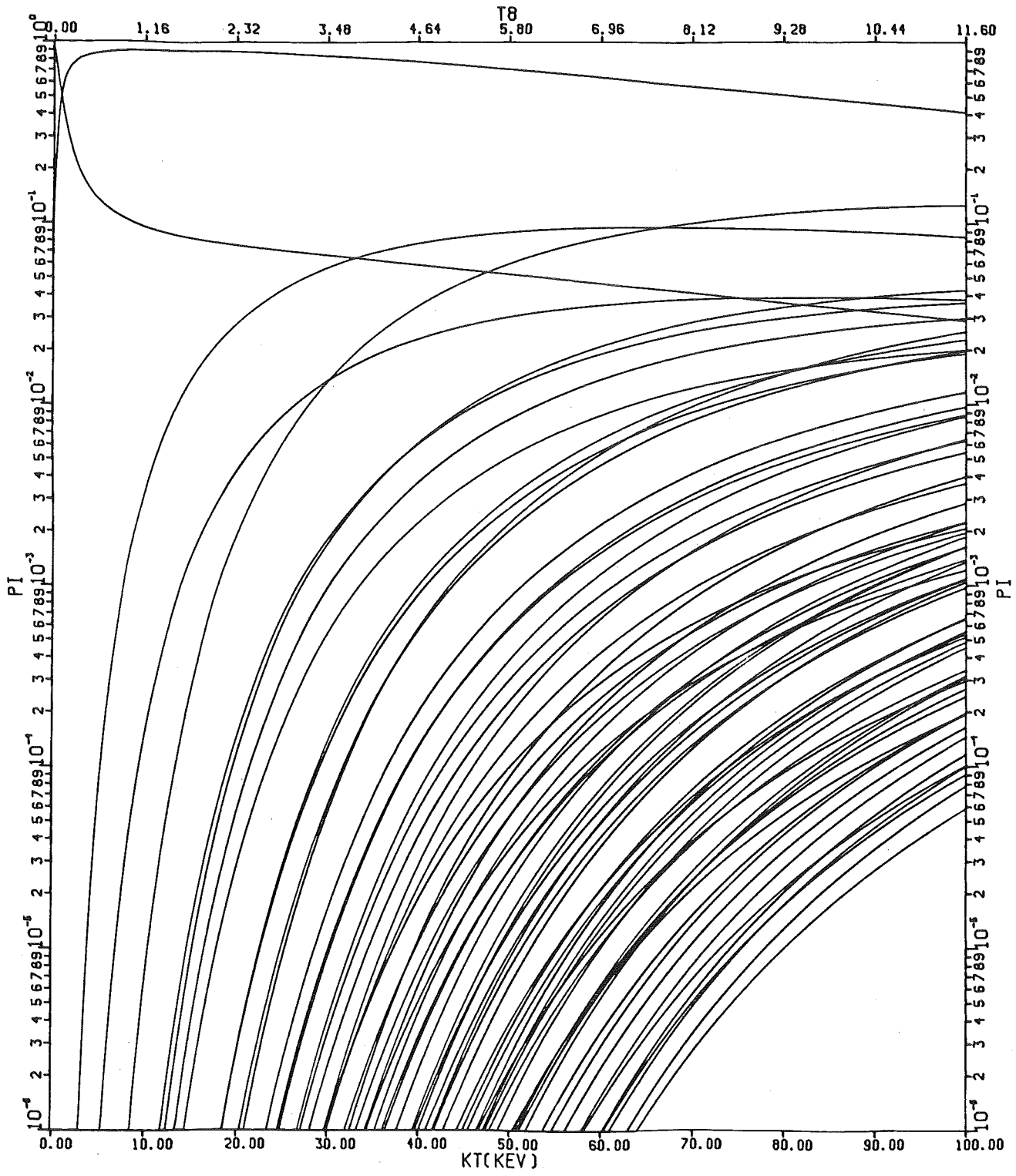
EU-155


τ8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
P1
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

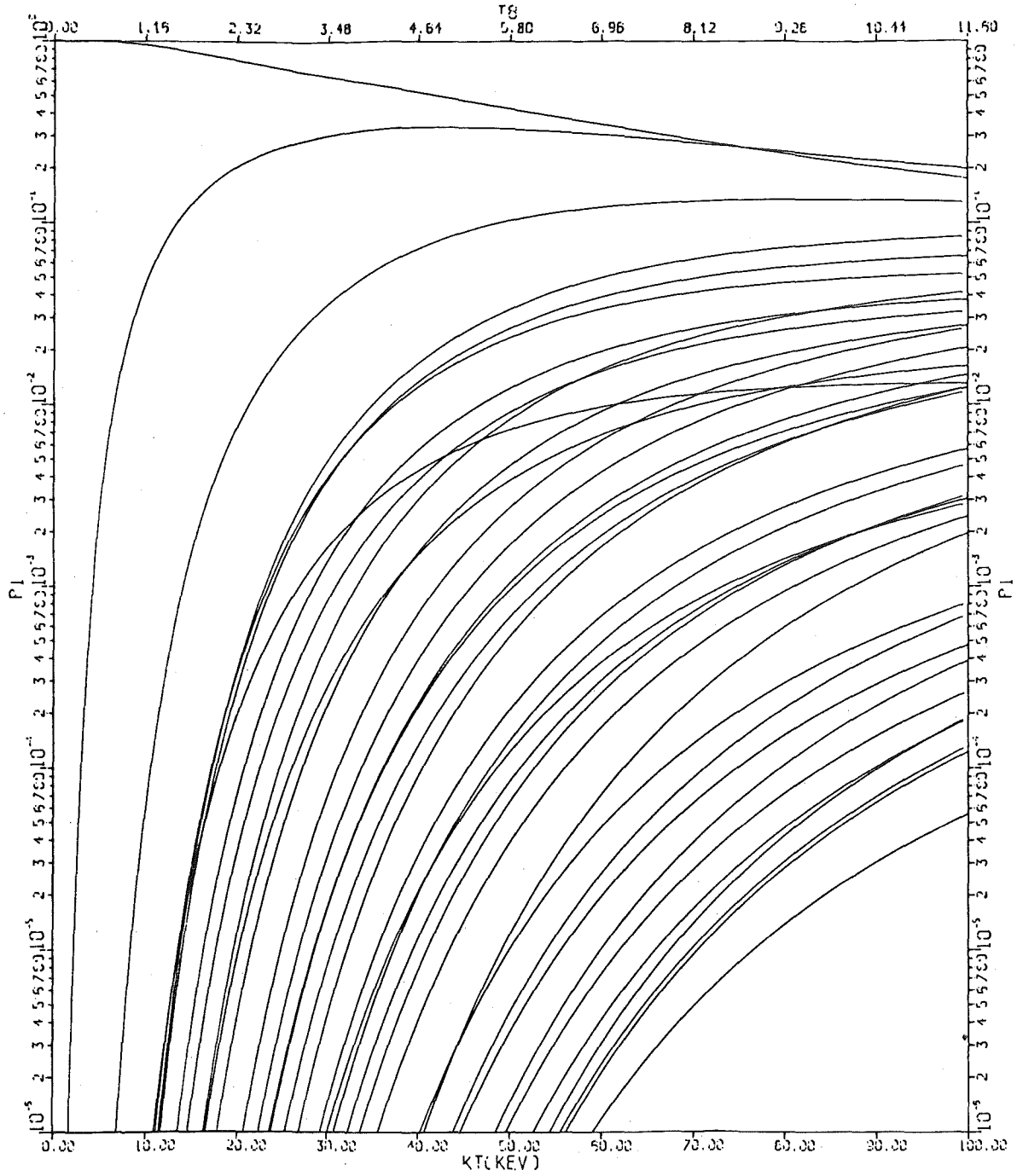
HO-163


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

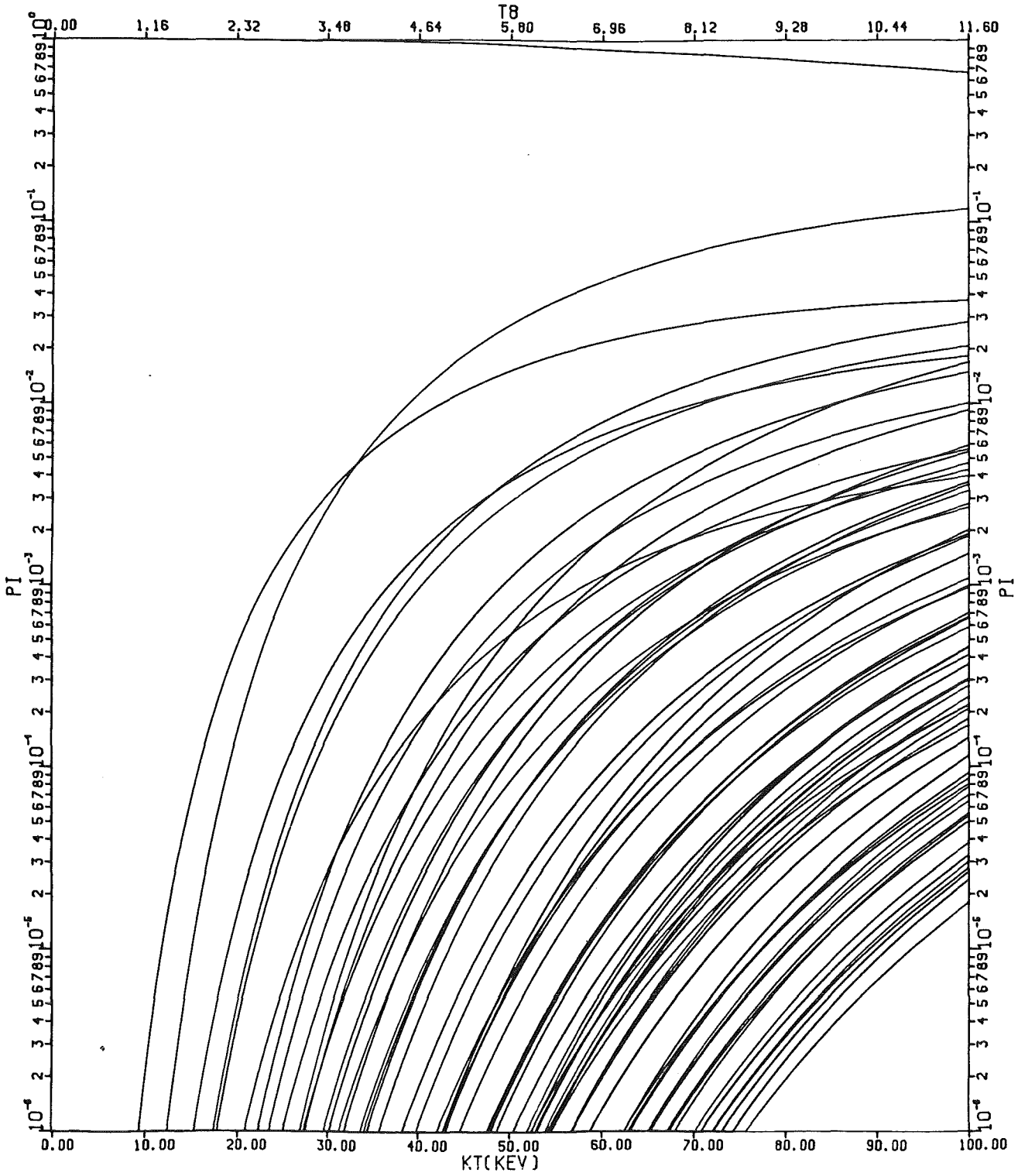
H0-166


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

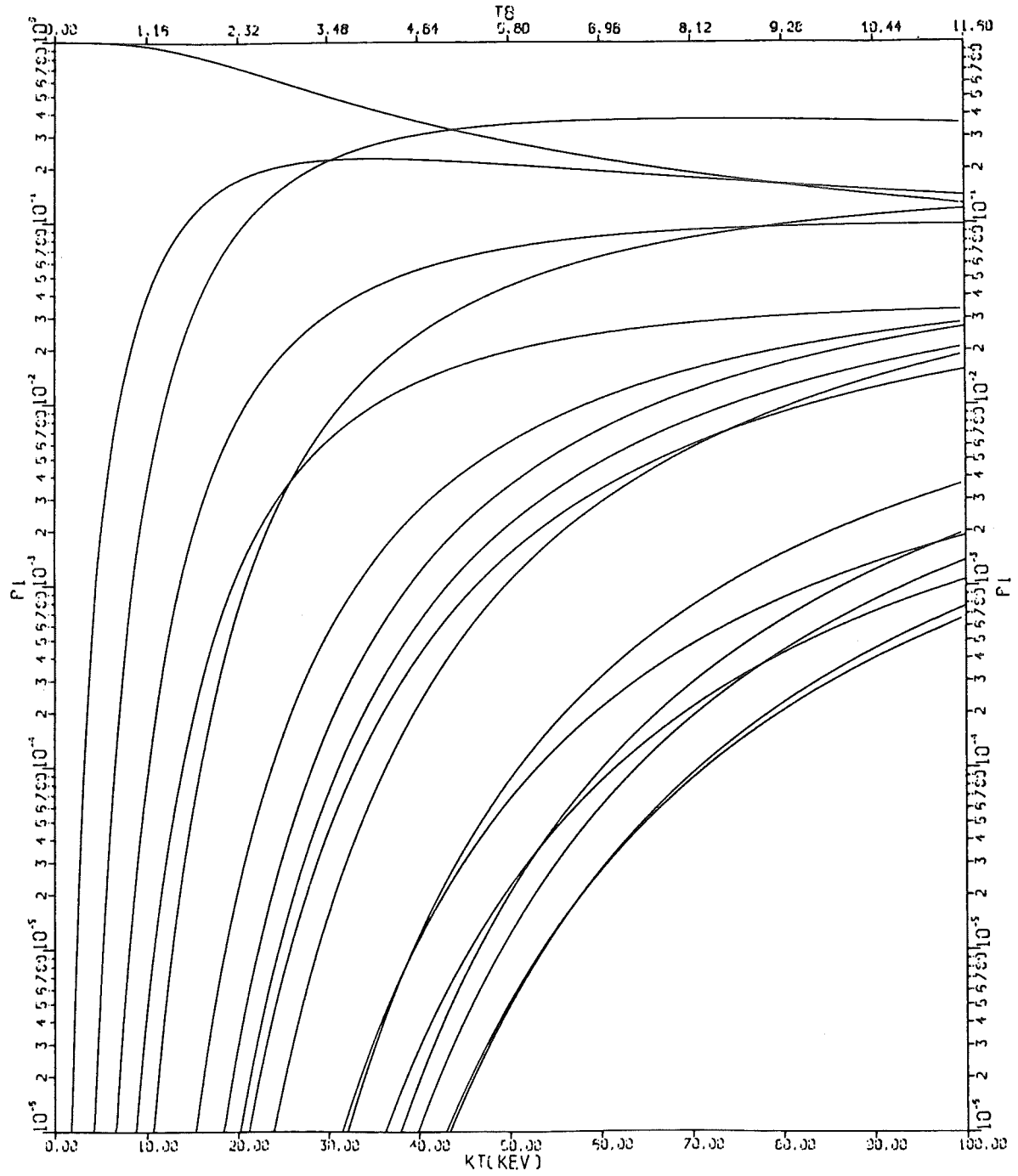
TM-170


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
P1
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

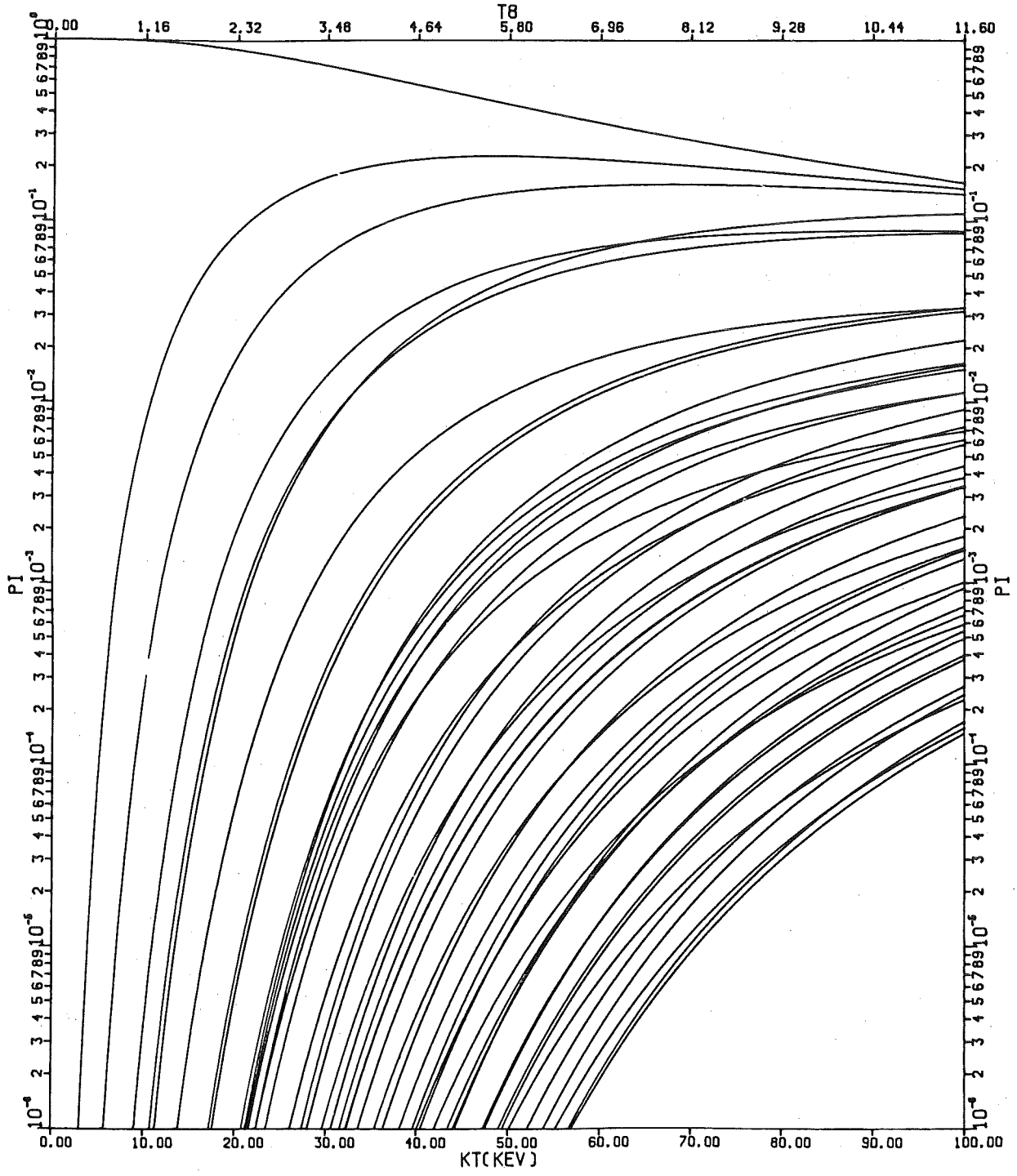
LU-176


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

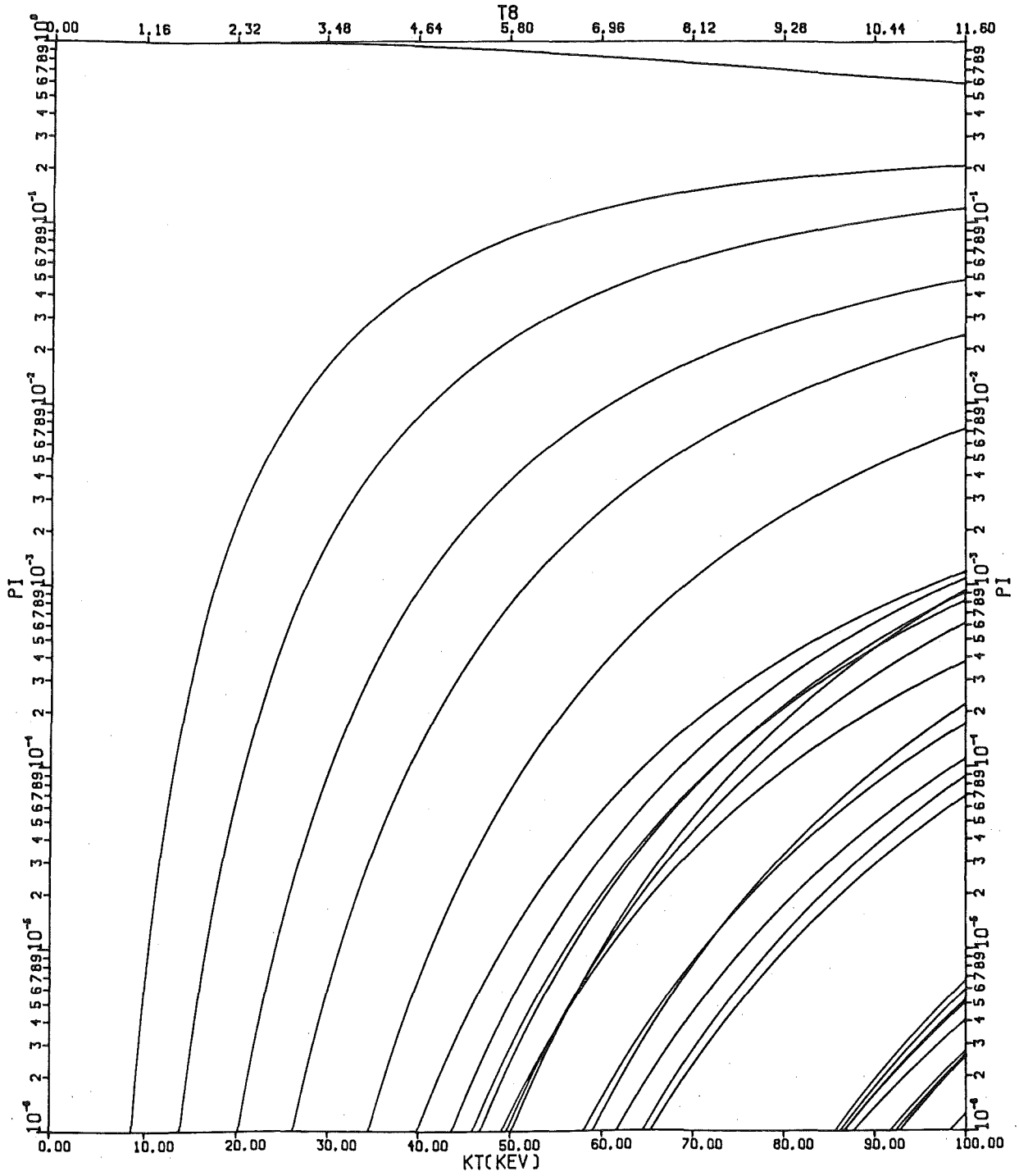
TA-180


TE
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
70.00
80.00
90.00
100.00

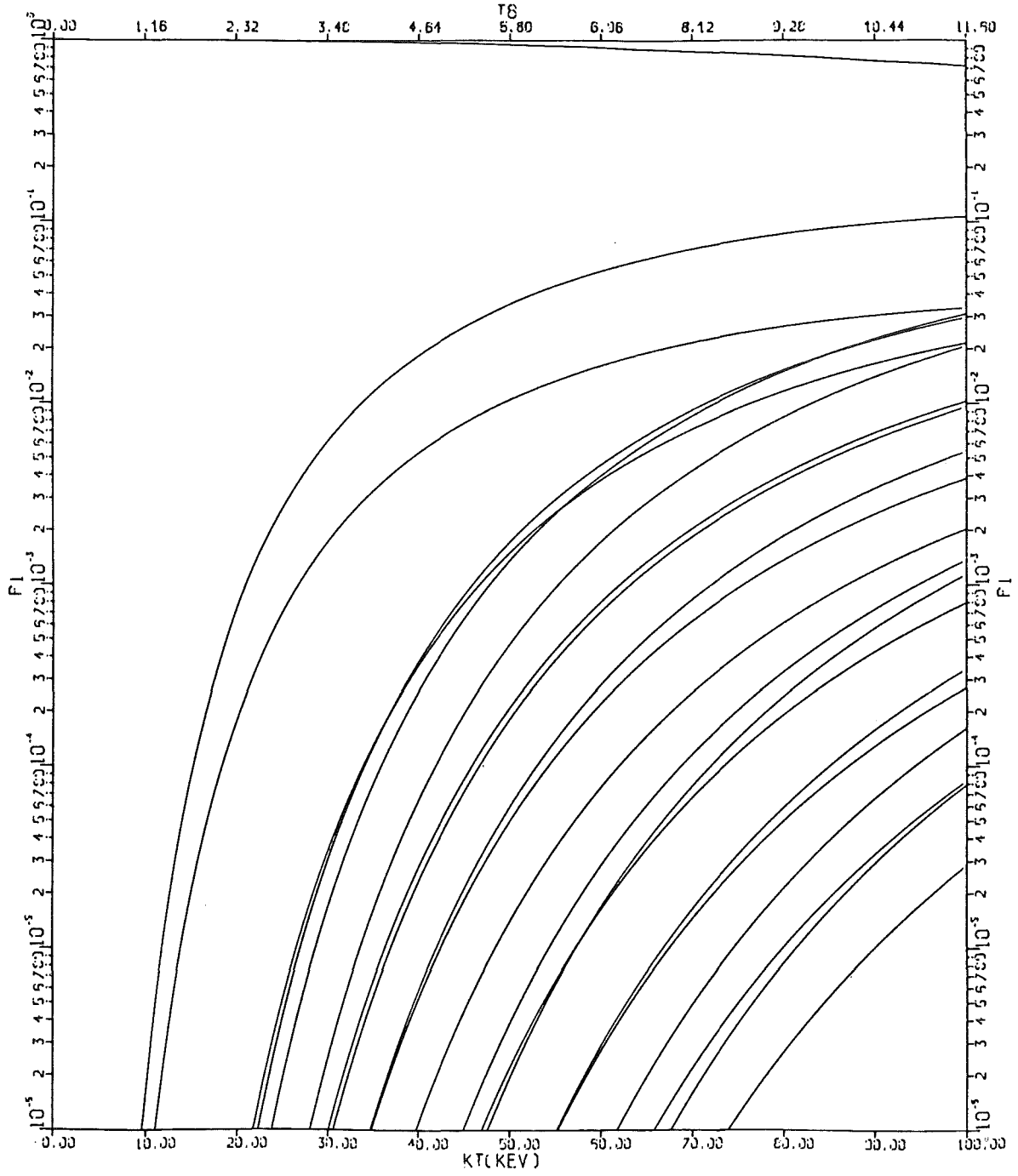
RE-186


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

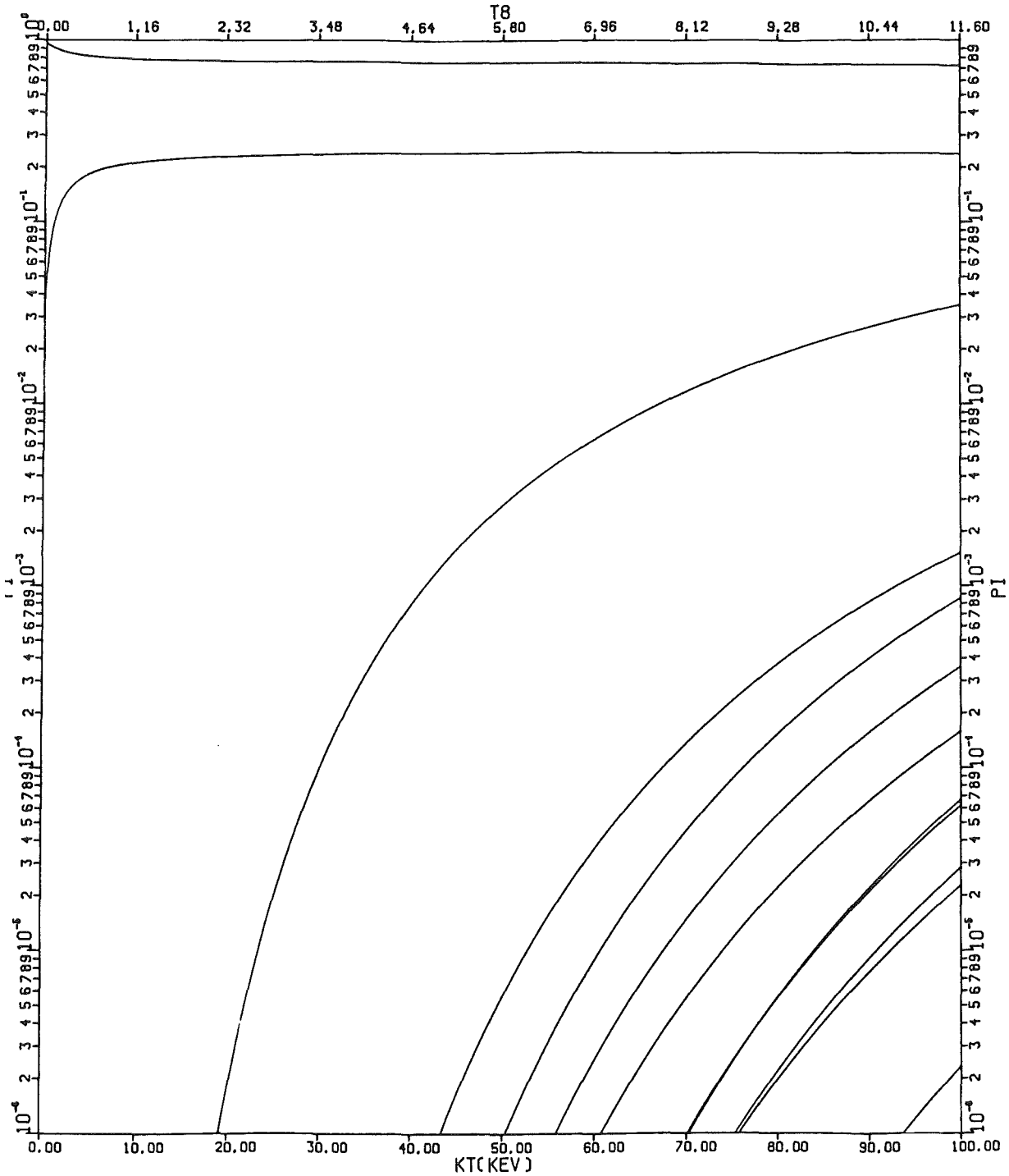
RE-187


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

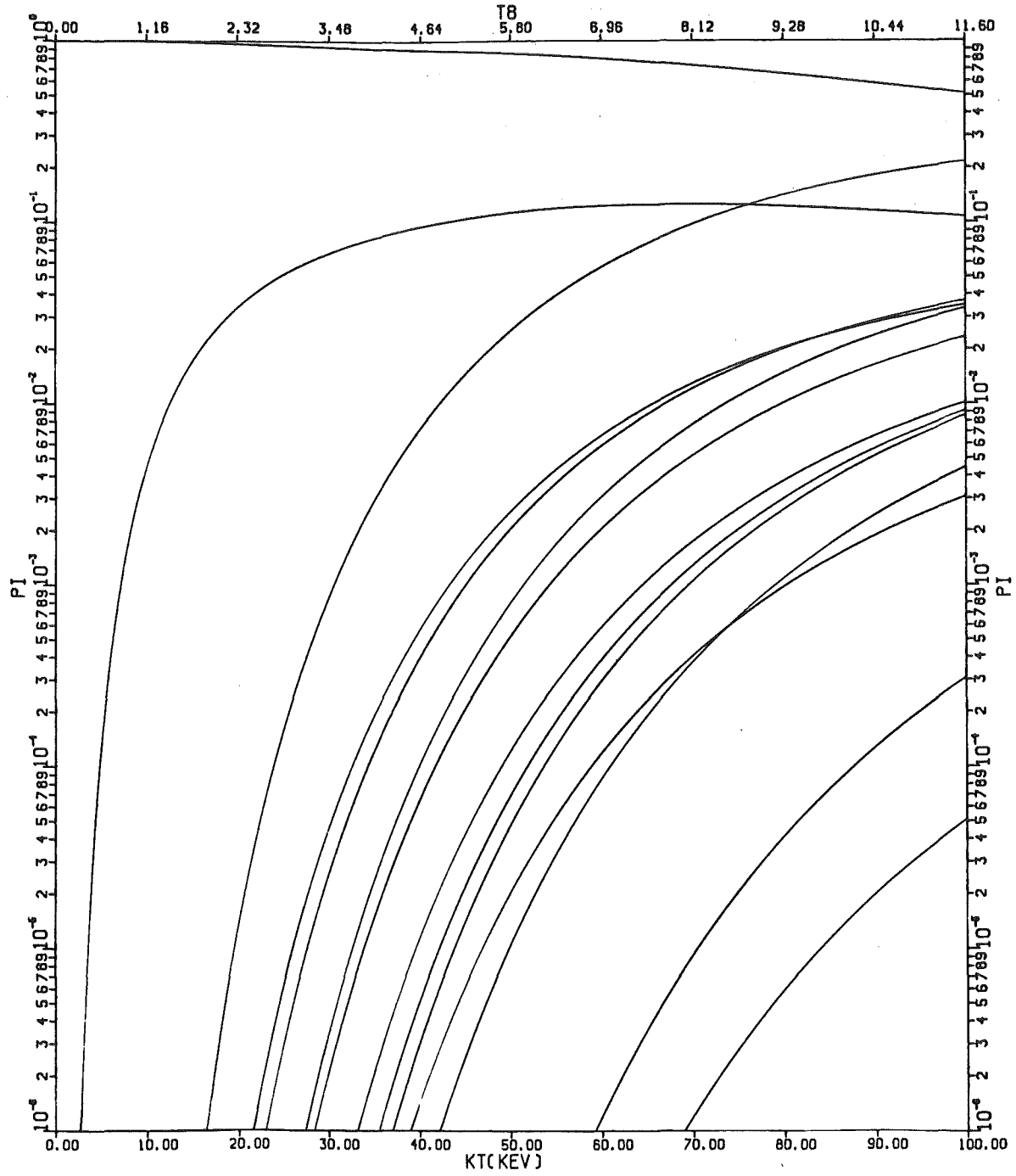
TL-204


TS
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
FI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

PB-205


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
P1
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00
KT(KEV)

BI-210


T8
0.00
1.16
2.32
3.48
4.64
5.80
6.96
8.12
9.28
10.44
11.60
PI
KT(KEV)
0.00
10.00
20.00
30.00
40.00
50.00
60.00
70.00
80.00
90.00
100.00

NUCLEUS: CL-36

| NC | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.0 | 1 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 9.999E-01 | 9.998E-01 | 9.995E-01 |
| 2 | 788.42 | 3.0 | 1 | 8.051E-35 | 1.061E-17 | 5.403E-12 | 3.855E-09 | 1.986E-07 | 2.750E-06 | 1.797E-05 | 7.345E-05 | 2.195E-04 | 5.270E-04 |
| 3 | 1164.75 | 1.0 | 1 | 1.564E-51 | 3.062E-26 | 8.255E-18 | 1.355E-13 | 4.584E-11 | 2.225E-09 | 3.563E-08 | 2.851E-07 | 1.437E-06 | 5.242E-06 |
| 4 | 1600.88 | (1.0) | 1 | 1.793E-70 | 1.037E-35 | 4.010E-24 | 2.494E-18 | 7.466E-15 | 1.551E-12 | 7.014E-11 | 1.223E-09 | 1.130E-08 | 6.690E-08 |
| 5 | 1951.20 | 2.0 | -1 | 0.0 | 4.270E-43 | 5.670E-29 | 6.534E-22 | 1.128E-17 | 7.530E-15 | 7.841E-13 | 2.556E-11 | 3.841E-10 | 3.356E-09 |
| 6 | 1959.20 | 2.0 | 1 | 0.0 | 2.862E-43 | 4.343E-29 | 5.349E-22 | 9.608E-18 | 6.590E-15 | 6.994E-13 | 2.313E-11 | 3.514E-10 | 3.098E-09 |
| 7 | 2467.90 | 3.0 | -1 | 0.0 | 3.603E-54 | 2.629E-36 | 2.245E-27 | 5.132E-22 | 1.918E-18 | 6.836E-16 | 5.606E-14 | 1.727E-12 | 2.679E-11 |
| 8 | 2492.10 | 2.0 | 1 | 0.0 | 7.673E-55 | 8.380E-37 | 8.759E-28 | 2.259E-22 | 9.154E-19 | 3.455E-16 | 2.959E-14 | 9.425E-13 | 1.502E-11 |
| 9 | 2518.20 | 5.0 | -1 | 0.0 | 4.578E-55 | 7.724E-37 | 1.003E-27 | 2.949E-22 | 1.304E-18 | 5.236E-16 | 4.698E-14 | 1.552E-12 | 2.546E-11 |
| 10 | 2676.00 | (1.0) | 1 | 0.0 | 4.675E-59 | 1.094E-39 | 5.296E-30 | 3.426E-24 | 2.562E-20 | 1.499E-17 | 1.782E-15 | 7.329E-14 | 1.433E-12 |
| 11 | 2810.40 | 4.0 | -1 | 0.0 | 1.692E-61 | 3.721E-41 | 5.518E-31 | 6.990E-25 | 8.184E-21 | 6.592E-18 | 9.966E-16 | 4.939E-14 | 1.121E-12 |

REFERENCES : /6/



NUCLEUS: AR-39

| NC | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 3.5 | -1 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 |
| 2 | 1267.20 | 1.5 | -1 | 4.632E-56 | 1.521E-28 | 2.262E-19 | 8.721E-15 | 4.923E-12 | 3.363E-10 | 6.871E-09 | 6.603E-08 | 3.838E-07 | 1.569E-06 |
| 3 | 1517.40 | 1.5 | 1 | 6.306E-67 | 5.613E-34 | 5.400E-23 | 1.675E-17 | 3.304E-14 | 5.196E-12 | 1.926E-10 | 2.854E-09 | 2.381E-08 | 1.285E-07 |
| 4 | 2093.00 | (2.5) | -1 | 0.0 | 2.669E-46 | 3.766E-31 | 1.415E-23 | 4.961E-19 | 5.314E-16 | 7.757E-14 | 3.257E-12 | 5.961E-11 | 6.099E-10 |

REFERENCES : /6/

NUCLEUS: K-40

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 4.0 | -1 | 9.613E-01 | 8.496E-01 | 7.752E-01 | 7.293E-01 | 6.992E-01 | 6.780E-01 | 6.624E-01 | 6.505E-01 | 6.411E-01 | 6.334E-01 |
| 2 | 29.60 | 3.0 | -1 | 3.874E-02 | 1.504E-01 | 2.248E-01 | 2.707E-01 | 3.008E-01 | 3.220E-01 | 3.376E-01 | 3.495E-01 | 3.589E-01 | 3.664E-01 |
| 3 | 800.10 | 2.0 | -1 | 9.550E-36 | 1.996E-18 | 1.126E-12 | 8.331E-10 | 4.363E-08 | 6.091E-07 | 3.998E-06 | 1.639E-05 | 4.906E-05 | 1.179E-04 |
| 4 | 891.60 | 5.0 | -1 | 2.232E-39 | 4.525E-20 | 1.173E-13 | 1.861E-10 | 1.540E-08 | 2.916E-07 | 2.380E-06 | 1.149E-05 | 3.905E-05 | 1.039E-04 |
| 5 | 1643.70 | 0.0 | 1 | 4.409E-73 | 1.917E-37 | 1.381E-25 | 1.155E-19 | 4.106E-16 | 9.539E-14 | 4.667E-12 | 8.628E-11 | 8.337E-10 | 5.116E-09 |
| 6 | 1959.00 | 2.0 | 1 | 0.0 | 1.365E-43 | 1.883E-29 | 2.178E-22 | 3.747E-18 | 2.490E-15 | 2.581E-13 | 8.379E-12 | 1.255E-10 | 1.093E-09 |
| 7 | 2047.40 | 2.0 | -1 | 0.0 | 1.642E-45 | 9.888E-31 | 2.390E-23 | 6.395E-19 | 5.707E-16 | 7.301E-14 | 2.775E-12 | 4.698E-11 | 4.515E-10 |
| 8 | 2069.70 | 3.0 | -1 | 0.0 | 7.539E-46 | 6.583E-31 | 1.916E-23 | 5.732E-19 | 5.510E-16 | 7.433E-14 | 2.940E-12 | 5.134E-11 | 5.057E-10 |
| 9 | 2103.60 | (1.0) | -1 | 0.0 | 5.932E-47 | 9.113E-32 | 3.518E-24 | 1.247E-19 | 1.342E-16 | 1.963E-14 | 8.248E-13 | 1.510E-11 | 1.544E-10 |
| 10 | 2260.50 | 3.0 | 1 | 0.0 | 5.422E-50 | 1.138E-33 | 1.625E-25 | 1.262E-20 | 2.291E-17 | 4.869E-15 | 2.708E-13 | 6.162E-12 | 7.504E-11 |
| 11 | 2289.90 | 1.0 | 1 | 0.0 | 5.343E-51 | 1.831E-34 | 3.339E-26 | 3.004E-21 | 6.016E-18 | 1.371E-15 | 8.035E-14 | 1.905E-12 | 2.397E-11 |
| 12 | 2290.00 | (3.0) | (-1) | 0.0 | 1.240E-50 | 4.258E-34 | 7.771E-26 | 6.995E-21 | 1.401E-17 | 3.194E-15 | 1.873E-13 | 4.440E-12 | 5.587E-11 |

REFERENCES : /6/

NUCLEUS: SC-46

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 4.0 | 1 | 9.921E-01 | 9.029E-01 | 7.946E-01 | 7.107E-01 | 6.476E-01 | 5.982E-01 | 5.577E-01 | 5.236E-01 | 4.942E-01 | 4.685E-01 |
| 2 | 52.01 | (6.0) | 1 | 7.898E-03 | 9.682E-02 | 2.027E-01 | 2.797E-01 | 3.306E-01 | 3.631E-01 | 3.832E-01 | 3.948E-01 | 4.005E-01 | 4.023E-01 |
| 3 | 142.53 | 1.0 | -1 | 2.135E-07 | 2.419E-04 | 2.289E-03 | 6.715E-03 | 1.248E-02 | 1.854E-02 | 2.427E-02 | 2.939E-02 | 3.381E-02 | 3.755E-02 |
| 4 | 227.77 | (3.0) | 1 | 9.899E-11 | 7.954E-06 | 3.117E-04 | 1.860E-03 | 5.294E-03 | 1.045E-02 | 1.676E-02 | 2.362E-02 | 3.059E-02 | 3.735E-02 |
| 5 | 280.72 | (5.0) | 1 | 7.804E-13 | 8.853E-07 | 8.384E-05 | 7.779E-04 | 2.885E-03 | 6.793E-03 | 1.236E-02 | 1.915E-02 | 2.670E-02 | 3.457E-02 |
| 6 | 289.54 | 2.0 | -1 | 1.468E-13 | 2.589E-07 | 2.840E-05 | 2.836E-04 | 1.099E-03 | 2.666E-03 | 4.952E-03 | 7.797E-03 | 1.100E-02 | 1.439E-02 |
| 7 | 444.14 | (2.0) | 1 | 2.836E-20 | 1.138E-10 | 1.642E-07 | 5.946E-06 | 4.992E-05 | 2.027E-04 | 5.440E-04 | 1.129E-03 | 1.974E-03 | 3.066E-03 |
| 8 | 584.79 | 3.0 | -1 | 3.094E-26 | 1.406E-13 | 2.115E-09 | 2.473E-07 | 4.195E-06 | 2.722E-05 | 1.021E-04 | 2.724E-04 | 5.792E-04 | 1.052E-03 |
| 9 | 627.51 | (4.0) | -1 | 5.552E-28 | 2.136E-14 | 6.547E-10 | 1.093E-07 | 2.295E-06 | 1.717E-05 | 7.132E-05 | 2.053E-04 | 4.633E-04 | 8.819E-04 |
| 10 | 773.95 | (5.0) | 1 | 2.964E-34 | 1.725E-17 | 6.071E-12 | 3.434E-09 | 1.500E-07 | 1.828E-06 | 1.076E-05 | 4.024E-05 | 1.113E-04 | 2.492E-04 |
| 11 | 835.25 | (4.0) | 1 | 5.278E-37 | 6.584E-19 | 6.437E-13 | 6.068E-10 | 3.601E-08 | 5.384E-07 | 3.667E-06 | 1.530E-05 | 4.607E-05 | 1.105E-04 |
| 12 | 977.00 | (7.0) | 1 | 6.141E-43 | 9.169E-22 | 9.517E-15 | 2.923E-11 | 3.524E-09 | 8.451E-08 | 8.068E-07 | 4.335E-06 | 1.589E-05 | 4.461E-05 |
| 13 | 991.25 | (1.0) | 1 | 2.954E-44 | 8.993E-23 | 1.184E-15 | 4.095E-12 | 5.301E-10 | 1.333E-08 | 1.316E-07 | 7.256E-07 | 2.713E-06 | 7.738E-06 |
| 14 | 1088.40 | (4.0) | 1 | 5.351E-48 | 2.096E-24 | 1.393E-16 | 1.083E-12 | 2.278E-10 | 7.920E-09 | 9.858E-08 | 6.463E-07 | 2.766E-06 | 8.787E-06 |
| 15 | 1121.00 | (4.0) | 1 | 2.054E-49 | 4.107E-25 | 4.699E-17 | 4.793E-13 | 1.187E-10 | 4.600E-09 | 6.188E-08 | 4.300E-07 | 1.925E-06 | 6.342E-06 |
| 16 | 1124.20 | 4.0 | -1 | 1.492E-49 | 3.500E-25 | 4.224E-17 | 4.424E-13 | 1.113E-10 | 4.361E-09 | 5.911E-08 | 4.131E-07 | 1.858E-06 | 6.142E-06 |
| 17 | 1141.00 | (3.0) | (1) | 2.162E-50 | 1.175E-25 | 1.877E-17 | 2.261E-13 | 6.189E-11 | 2.564E-09 | 3.616E-08 | 2.605E-07 | 1.199E-06 | 4.039E-06 |
| 18 | 1270.60 | (2.0) | (-1) | 3.634E-56 | 1.288E-28 | 1.783E-19 | 6.325E-15 | 3.310E-12 | 2.112E-10 | 4.056E-09 | 3.682E-08 | 2.029E-07 | 7.893E-07 |

REFERENCES : /6/, /7/

NUCLEUS: FE-59

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.5 | -1 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 9.996E-01 | 9.983E-01 | 9.951E-01 | 9.894E-01 | 9.807E-01 | 9.685E-01 | 9.527E-01 |
| 2 | 287.00 | 0.5 | -1 | 1.717E-13 | 2.930E-07 | 3.501E-05 | 3.826E-04 | 1.605E-03 | 4.164E-03 | 8.199E-03 | 1.357E-02 | 1.996E-02 | 2.701E-02 |
| 3 | 470.00 | 2.5 | -1 | 5.814E-21 | 9.337E-11 | 2.356E-07 | 1.183E-05 | 1.239E-04 | 5.916E-04 | 1.801E-03 | 4.132E-03 | 7.838E-03 | 1.300E-02 |
| 4 | 570.00 | 1.5 | -1 | 1.760E-25 | 4.194E-13 | 5.603E-09 | 6.474E-07 | 1.118E-05 | 7.449E-05 | 2.877E-04 | 7.892E-04 | 1.720E-03 | 3.188E-03 |
| 5 | 610.00 | (0.5 | (-1) | 1.612E-27 | 2.838E-14 | 7.385E-10 | 1.191E-07 | 2.511E-06 | 1.912E-05 | 8.125E-05 | 2.393E-04 | 5.514E-04 | 1.068E-03 |
| 6 | 640.00 | (2.5 | (-1) | 2.407E-28 | 1.900E-14 | 8.150E-10 | 1.687E-07 | 4.134E-06 | 3.479E-05 | 1.588E-04 | 4.935E-04 | 1.185E-03 | 2.374E-03 |
| 7 | 728.00 | 1.5 | -1 | 2.419E-32 | 1.555E-16 | 2.892E-11 | 1.246E-08 | 4.742E-07 | 5.351E-06 | 3.011E-05 | 1.095E-04 | 2.972E-04 | 6.566E-04 |

REFERENCES : /6/

NUCLEUS: CO-60

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 5.0 | 1 | 9.987E-01 | 9.763E-01 | 9.393E-01 | 9.039E-01 | 8.725E-01 | 8.436E-01 | 8.160E-01 | 7.888E-01 | 7.618E-01 | 7.350E-01 |
| 2 | 58.60 | 2.0 | 1 | 1.294E-03 | 2.370E-02 | 6.055E-02 | 9.494E-02 | 1.228E-01 | 1.444E-01 | 1.606E-01 | 1.724E-01 | 1.806E-01 | 1.859E-01 |
| 3 | 277.13 | 4.0 | 1 | 7.530E-13 | 7.668E-07 | 7.479E-05 | 7.246E-04 | 2.796E-03 | 6.809E-03 | 1.274E-02 | 2.020E-02 | 2.867E-02 | 3.764E-02 |
| 4 | 288.41 | 3.0 | 1 | 1.896E-13 | 3.393E-07 | 3.994E-05 | 4.251E-04 | 1.735E-03 | 4.388E-03 | 8.434E-03 | 1.365E-02 | 1.967E-02 | 2.615E-02 |
| 5 | 435.70 | 5.0 | 1 | 1.195E-19 | 3.377E-10 | 4.628E-07 | 1.681E-05 | 1.433E-04 | 5.922E-04 | 1.616E-03 | 3.402E-03 | 6.017E-03 | 9.421E-03 |
| 6 | 506.25 | 3.0 | 1 | 6.565E-23 | 6.313E-12 | 2.804E-08 | 1.834E-06 | 2.224E-05 | 1.163E-04 | 3.754E-04 | 8.962E-04 | 1.748E-03 | 2.961E-03 |
| 7 | 542.77 | (2.0) | 1 | 1.216E-24 | 7.263E-13 | 5.930E-09 | 5.256E-07 | 7.654E-06 | 4.519E-05 | 1.592E-04 | 4.055E-04 | 8.323E-04 | 1.468E-03 |
| 8 | 614.46 | 3.0 | 1 | 1.311E-27 | 2.822E-14 | 7.609E-10 | 1.226E-07 | 2.555E-06 | 1.915E-05 | 8.001E-05 | 2.317E-04 | 5.254E-04 | 1.003E-03 |
| 9 | 738.71 | 1.0 | 1 | 2.258E-33 | 2.424E-17 | 5.184E-12 | 2.352E-09 | 9.123E-08 | 1.035E-06 | 5.812E-06 | 2.101E-05 | 5.662E-05 | 1.241E-04 |
| 10 | 785.59 | 4.0 | 1 | 6.236E-35 | 6.977E-18 | 3.259E-12 | 2.186E-09 | 1.072E-07 | 1.421E-06 | 8.924E-06 | 3.508E-05 | 1.009E-04 | 2.330E-04 |
| 11 | 1003.78 | (3.0) | (1) | 1.622E-44 | 9.922E-23 | 1.759E-15 | 7.269E-12 | 1.061E-09 | 2.913E-08 | 3.074E-07 | 1.784E-06 | 6.947E-06 | 2.045E-05 |
| 12 | 1005.68 | (2.0) | (1) | 9.579E-45 | 6.445E-23 | 1.180E-15 | 4.951E-12 | 7.296E-10 | 2.016E-08 | 2.137E-07 | 1.245E-06 | 4.859E-06 | 1.433E-05 |

REFERENCES : /6/, /8/

NUCLEUS: NI-63

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 0.5 | -1 | 9.995E-01 | 9.622E-01 | 8.507E-01 | 7.244E-01 | 6.195E-01 | 5.400E-01 | 4.804E-01 | 4.351E-01 | 3.999E-01 | 3.719E-01 |
| 2 | 87.15 | 2.5 | -1 | 4.921E-04 | 3.698E-02 | 1.397E-01 | 2.460E-01 | 3.252E-01 | 3.790E-01 | 4.149E-01 | 4.391E-01 | 4.555E-01 | 4.668E-01 |
| 3 | 155.56 | 1.5 | -1 | 3.508E-07 | 8.061E-04 | 9.525E-03 | 2.965E-02 | 5.520E-02 | 8.080E-02 | 1.041E-01 | 1.245E-01 | 1.420E-01 | 1.570E-01 |
| 4 | 517.60 | 1.5 | -1 | 6.637E-23 | 1.109E-11 | 5.468E-08 | 3.477E-06 | 3.956E-05 | 1.936E-04 | 5.906E-04 | 1.348E-03 | 2.543E-03 | 4.203E-03 |
| 5 | 1001.10 | 0.5 | -1 | 3.334E-44 | 1.757E-22 | 2.738E-15 | 9.788E-12 | 1.249E-09 | 3.063E-08 | 2.955E-07 | 1.599E-06 | 5.904E-06 | 1.670E-05 |
| 6 | 1069.00 | 2.5 | -1 | 1.125E-46 | 1.768E-23 | 8.543E-16 | 5.378E-12 | 9.638E-10 | 2.964E-08 | 3.360E-07 | 2.053E-06 | 8.329E-06 | 2.541E-05 |
| 7 | 1256.10 | (1.5) | (-1) | 5.619E-55 | 1.020E-27 | 1.114E-18 | 3.335E-14 | 1.523E-11 | 8.739E-10 | 1.547E-08 | 1.320E-07 | 6.945E-07 | 2.608E-06 |
| 8 | 1291.80 | (4.5) | 1 | 3.955E-56 | 4.278E-28 | 8.474E-19 | 3.415E-14 | 1.865E-11 | 1.205E-09 | 2.322E-08 | 2.112E-07 | 1.168E-06 | 4.563E-06 |
| 9 | 1324.00 | 1.5 | -1 | 6.321E-58 | 3.421E-29 | 1.159E-19 | 6.108E-15 | 3.917E-12 | 2.818E-10 | 5.865E-09 | 5.650E-08 | 3.266E-07 | 1.323E-06 |

REFERENCES : /6/, /9/

NUCLEUS: CU-64

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.0 | 1 | 1.000E+00 | 9.994E-01 | 9.916E-01 | 9.679E-01 | 9.276E-01 | 8.753E-01 | 8.167E-01 | 7.566E-01 | 6.982E-01 | 6.434E-01 |
| 2 | 159.28 | 2.0 | 1 | 2.016E-07 | 5.793E-04 | 8.173E-03 | 3.008E-02 | 6.393E-02 | 1.026E-01 | 1.399E-01 | 1.722E-01 | 1.982E-01 | 2.180E-01 |
| 3 | 278.25 | 2.0 | 1 | 1.373E-12 | 1.512E-06 | 1.549E-04 | 1.537E-03 | 5.921E-03 | 1.412E-02 | 2.556E-02 | 3.892E-02 | 5.286E-02 | 6.636E-02 |
| 4 | 342.90 | 1.0 | 1 | 1.283E-15 | 3.579E-08 | 1.077E-05 | 1.832E-04 | 9.749E-04 | 2.885E-03 | 6.090E-03 | 1.041E-02 | 1.546E-02 | 2.086E-02 |
| 5 | 362.23 | 3.0 | 1 | 4.332E-16 | 3.177E-08 | 1.320E-05 | 2.636E-04 | 1.545E-03 | 4.878E-03 | 1.078E-02 | 1.907E-02 | 2.911E-02 | 4.011E-02 |
| 6 | 574.62 | 4.0 | 1 | 3.326E-25 | 9.982E-13 | 1.429E-08 | 1.675E-06 | 2.841E-05 | 1.820E-04 | 6.670E-04 | 1.724E-03 | 3.534E-03 | 6.166E-03 |
| 7 | 608.78 | 2.0 | 1 | 6.069E-27 | 1.005E-13 | 2.542E-09 | 3.962E-07 | 7.969E-06 | 5.721E-05 | 2.275E-04 | 6.249E-04 | 1.343E-03 | 2.434E-03 |
| 8 | 662.94 | 1.0 | 1 | 1.619E-29 | 4.020E-15 | 2.508E-10 | 6.139E-08 | 1.619E-06 | 1.392E-05 | 6.296E-05 | 1.905E-04 | 4.415E-04 | 8.498E-04 |
| 9 | 739.02 | 2.0 | 1 | 1.339E-32 | 1.493E-16 | 3.310E-11 | 1.527E-08 | 5.891E-07 | 6.528E-06 | 3.539E-05 | 1.227E-04 | 3.160E-04 | 6.619E-04 |
| 10 | 746.23 | 3.0 | 1 | 9.119E-33 | 1.458E-16 | 3.644E-11 | 1.785E-08 | 7.140E-07 | 8.105E-06 | 4.470E-05 | 1.570E-04 | 4.083E-04 | 8.622E-04 |
| 11 | 878.80 | (0.0) | (1) | 2.278E-39 | 2.753E-20 | 6.271E-14 | 9.275E-11 | 7.196E-09 | 1.271E-07 | 9.609E-07 | 4.276E-06 | 1.337E-05 | 3.272E-05 |
| 12 | 895.80 | 3.0 | 1 | 2.913E-39 | 8.237E-20 | 2.491E-13 | 4.244E-10 | 3.585E-08 | 6.701E-07 | 5.276E-06 | 2.420E-05 | 7.749E-05 | 1.932E-04 |
| 13 | 927.08 | 1.0 | 1 | 5.468E-41 | 7.388E-21 | 3.763E-14 | 8.322E-11 | 8.220E-09 | 1.705E-07 | 1.446E-06 | 7.015E-06 | 2.346E-05 | 6.056E-05 |
| 14 | 1241.12 | (2.0) | 1 | 2.095E-54 | 1.867E-27 | 1.783E-18 | 5.401E-14 | 2.564E-11 | 1.515E-09 | 2.715E-08 | 2.307E-07 | 1.193E-06 | 4.367E-06 |
| 15 | 1288.00 | (4.0) | (1) | 3.472E-56 | 3.224E-28 | 6.727E-19 | 3.011E-14 | 1.807E-11 | 1.249E-09 | 2.501E-08 | 2.311E-07 | 1.276E-06 | 4.919E-06 |
| 16 | 1297.50 | (1.0) | (1) | 4.476E-57 | 6.684E-29 | 1.634E-19 | 7.915E-15 | 4.982E-12 | 3.553E-10 | 7.280E-09 | 6.841E-08 | 3.827E-07 | 1.491E-06 |
| 17 | 1320.10 | (2.0) | (1) | 7.784E-58 | 3.598E-29 | 1.282E-19 | 7.498E-15 | 5.284E-12 | 4.063E-10 | 8.785E-09 | 8.596E-08 | 4.962E-07 | 1.982E-06 |
| 18 | 1354.20 | (3.0) | (1) | 3.601E-59 | 9.158E-30 | 5.759E-20 | 4.475E-15 | 3.740E-12 | 3.222E-10 | 7.556E-09 | 7.858E-08 | 4.756E-07 | 1.973E-06 |

REFERENCES : /6/, /10/

NUCLEUS: ZN-65

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.5 | -1 | 9.985E-01 | 9.760E-01 | 9.343E-01 | 8.866E-01 | 8.399E-01 | 7.970E-01 | 7.589E-01 | 7.255E-01 | 6.965E-01 | 6.710E-01 |
| 2 | 53.93 | 0.5 | -1 | 1.514E-03 | 2.194E-02 | 5.160E-02 | 7.675E-02 | 9.520E-02 | 1.081E-01 | 1.171E-01 | 1.232E-01 | 1.275E-01 | 1.304E-01 |
| 3 | 115.12 | 1.5 | -1 | 6.663E-06 | 2.059E-03 | 1.342E-02 | 3.325E-02 | 5.600E-02 | 7.800E-02 | 9.769E-02 | 1.147E-01 | 1.292E-01 | 1.415E-01 |
| 4 | 206.90 | 1.5 | -1 | 6.883E-10 | 2.092E-05 | 6.299E-04 | 3.352E-03 | 8.933E-03 | 1.690E-02 | 2.633E-02 | 3.642E-02 | 4.660E-02 | 5.651E-02 |
| 5 | 786.90 | 2.5 | -1 | 6.684E-35 | 7.984E-18 | 3.793E-12 | 2.536E-09 | 1.228E-07 | 1.606E-06 | 9.956E-06 | 3.880E-05 | 1.111E-04 | 2.566E-04 |
| 6 | 864.60 | 3.5 | -1 | 3.763E-38 | 2.187E-19 | 3.794E-13 | 4.847E-10 | 3.462E-08 | 5.864E-07 | 4.375E-06 | 1.959E-05 | 6.248E-05 | 1.573E-04 |
| 7 | 867.00 | 0.5 | -1 | 7.401E-39 | 4.850E-20 | 8.756E-14 | 1.141E-10 | 8.250E-09 | 1.409E-07 | 1.057E-06 | 4.752E-06 | 1.521E-05 | 3.840E-05 |
| 8 | 909.80 | 1.5 | -1 | 2.049E-40 | 1.141E-20 | 4.205E-14 | 7.828E-11 | 7.010E-09 | 1.380E-07 | 1.147E-06 | 5.566E-06 | 1.890E-05 | 5.005E-05 |
| 9 | 1047.50 | 2.5 | -1 | 3.217E-46 | 1.751E-23 | 6.404E-16 | 3.756E-12 | 6.695E-10 | 2.086E-08 | 2.406E-07 | 1.493E-06 | 6.140E-06 | 1.895E-05 |
| 10 | 1065.50 | 4.5 | 1 | 8.863E-47 | 1.187E-23 | 5.857E-16 | 3.991E-12 | 7.785E-10 | 2.576E-08 | 3.101E-07 | 1.987E-06 | 8.379E-06 | 2.637E-05 |
| 11 | 1252.90 | 3.5 | -1 | 5.153E-55 | 8.093E-28 | 9.076E-19 | 2.948E-14 | 1.468E-11 | 9.070E-10 | 1.706E-08 | 1.528E-07 | 8.356E-07 | 3.239E-06 |
| 12 | 1263.40 | 4.5 | -1 | 2.254E-55 | 5.985E-28 | 7.995E-19 | 2.834E-14 | 1.487E-11 | 9.517E-10 | 1.835E-08 | 1.675E-07 | 9.294E-07 | 3.645E-06 |
| 13 | 1343.90 | 2.5 | -1 | 4.316E-59 | 6.414E-30 | 3.278E-20 | 2.273E-15 | 1.783E-12 | 1.493E-10 | 3.486E-09 | 3.673E-08 | 2.280E-07 | 9.778E-07 |
| 14 | 1369.50 | 2.5 | 1 | 3.337E-60 | 1.783E-30 | 1.396E-20 | 1.198E-15 | 1.069E-12 | 9.743E-11 | 2.418E-09 | 2.667E-08 | 1.715E-07 | 7.570E-07 |
| 15 | 1469.90 | 1.5 | -1 | 9.704E-65 | 7.853E-33 | 3.277E-22 | 6.493E-17 | 9.567E-14 | 1.219E-11 | 3.842E-10 | 5.070E-09 | 3.748E-08 | 1.849E-07 |

REFERENCES : /6/

NUCLEUS: GE-71

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 0.5 | -1 | 1.000E+00 | 9.993E-01 | 9.847E-01 | 9.320E-01 | 8.435E-01 | 7.424E-01 | 6.474E-01 | 5.659E-01 | 4.986E-01 | 4.435E-01 |
| 2 | 174.93 | 2.5 | -1 | 7.587E-08 | 4.767E-04 | 8.671E-03 | 3.526E-02 | 7.653E-02 | 1.207E-01 | 1.596E-01 | 1.907E-01 | 2.142E-01 | 2.314E-01 |
| 3 | 198.40 | 4.5 | 1 | 1.210E-08 | 2.457E-04 | 6.609E-03 | 3.268E-02 | 7.976E-02 | 1.360E-01 | 1.902E-01 | 2.370E-01 | 2.750E-01 | 3.050E-01 |
| 4 | 499.87 | 1.5 | -1 | 3.910E-22 | 2.794E-11 | 1.143E-07 | 6.970E-06 | 7.679E-05 | 3.577E-04 | 1.025E-03 | 2.189E-03 | 3.861E-03 | 5.984E-03 |
| 5 | 525.02 | 2.5 | 1 | 4.743E-23 | 1.192E-11 | 7.413E-08 | 5.575E-06 | 6.966E-05 | 3.528E-04 | 1.074E-03 | 2.397E-03 | 4.379E-03 | 6.981E-03 |
| 6 | 589.74 | 3.5 | 1 | 9.778E-26 | 6.248E-13 | 1.143E-08 | 1.474E-06 | 2.545E-05 | 1.600E-04 | 5.680E-04 | 1.423E-03 | 2.845E-03 | 4.873E-03 |
| 7 | 708.24 | 1.5 | -1 | 3.490E-31 | 8.347E-16 | 1.100E-10 | 3.810E-08 | 1.190E-06 | 1.110E-05 | 5.226E-05 | 1.618E-04 | 3.812E-04 | 7.449E-04 |
| 8 | 747.25 | 2.5 | -1 | 1.059E-32 | 1.781E-16 | 4.497E-11 | 2.155E-08 | 8.179E-07 | 8.690E-06 | 4.490E-05 | 1.490E-04 | 3.707E-04 | 7.564E-04 |
| 9 | 808.18 | 0.5 | 1 | 7.972E-36 | 2.821E-18 | 1.967E-12 | 1.566E-09 | 8.060E-08 | 1.049E-06 | 6.267E-06 | 2.320E-05 | 6.279E-05 | 1.371E-04 |
| 10 | (817.00) | (1.5) | (-1) | 6.600E-36 | 3.630E-18 | 2.932E-12 | 2.512E-09 | 1.351E-07 | 1.812E-06 | 1.105E-05 | 4.155E-05 | 1.139E-04 | 2.510E-04 |
| 11 | 831.25 | 1.5 | -1 | 1.587E-36 | 1.780E-18 | 1.823E-12 | 1.759E-09 | 1.016E-07 | 1.429E-06 | 9.015E-06 | 3.477E-05 | 9.719E-05 | 2.177E-04 |
| 12 | (886.90) | (2.5) | (-1) | 9.119E-39 | 1.652E-19 | 4.278E-13 | 6.564E-10 | 5.009E-08 | 8.476E-07 | 6.107E-06 | 2.601E-05 | 7.855E-05 | 1.872E-04 |
| 13 | 1026.53 | 1.5 | -1 | 5.246E-45 | 1.023E-22 | 2.715E-15 | 1.334E-11 | 2.046E-09 | 5.514E-08 | 5.539E-07 | 3.028E-06 | 1.110E-05 | 3.089E-05 |

REFERENCES : /6/, /11/



NUCLEUS: SE-79

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 3.5 | 1 | 1.000E+00 | 9.966E-01 | 9.773E-01 | 9.403E-01 | 8.945E-01 | 8.475E-01 | 8.030E-01 | 7.623E-01 | 7.253E-01 | 6.917E-01 |
| 2 | 95.73 | 0.5 | -1 | 1.740E-05 | 2.078E-03 | 1.005E-02 | 2.147E-02 | 3.296E-02 | 4.297E-02 | 5.114E-02 | 5.759E-02 | 6.259E-02 | 6.639E-02 |
| 3 | 137.10 | 4.5 | 1 | 1.389E-06 | 1.313E-03 | 1.265E-02 | 3.816E-02 | 7.205E-02 | 1.078E-01 | 1.416E-01 | 1.717E-01 | 1.976E-01 | 2.195E-01 |
| 4 | 364.90 | 2.5 | -1 | 1.066E-16 | 8.911E-09 | 3.825E-06 | 7.700E-05 | 4.541E-04 | 1.452E-03 | 3.280E-03 | 5.974E-03 | 9.436E-03 | 1.350E-02 |
| 5 | 499.00 | (2.5) | (1) | 1.599E-22 | 1.091E-11 | 4.379E-08 | 2.695E-06 | 3.107E-05 | 1.554E-04 | 4.829E-04 | 1.118E-03 | 2.127E-03 | 3.531E-03 |
| 6 | 528.20 | (1.5) | (-1) | 5.751E-24 | 1.690E-12 | 1.103E-08 | 8.657E-07 | 1.155E-05 | 6.366E-05 | 2.121E-04 | 5.172E-04 | 1.025E-03 | 1.758E-03 |
| 7 | 572.20 | (2.5) | (-1) | 1.059E-25 | 2.809E-13 | 3.817E-09 | 4.323E-07 | 7.187E-06 | 4.586E-05 | 1.697E-04 | 4.476E-04 | 9.428E-04 | 1.698E-03 |
| 8 | 629.90 | (2.5) | (1) | 3.305E-28 | 1.569E-14 | 5.577E-10 | 1.022E-07 | 2.267E-06 | 1.753E-05 | 7.443E-05 | 2.176E-04 | 4.966E-04 | 9.536E-04 |
| 9 | 728.60 | (2.5) | (1) | 1.709E-32 | 1.128E-16 | 2.078E-11 | 8.663E-09 | 3.148E-07 | 3.384E-06 | 1.817E-05 | 6.336E-05 | 1.659E-04 | 3.554E-04 |
| 10 | 790.30 | (4.5) | (-1) | 5.956E-35 | 8.597E-18 | 4.428E-12 | 3.088E-09 | 1.528E-07 | 2.017E-06 | 1.254E-05 | 4.884E-05 | 1.393E-04 | 3.196E-04 |
| 11 | 818.70 | (3.5) | (-1) | 2.784E-36 | 1.663E-18 | 1.375E-12 | 1.214E-09 | 6.925E-08 | 1.005E-06 | 6.689E-06 | 2.739E-05 | 8.126E-05 | 1.925E-04 |
| 12 | 897.10 | (5.5) | (1) | 1.644E-39 | 4.948E-20 | 1.511E-13 | 2.566E-10 | 2.166E-08 | 4.081E-07 | 3.274E-06 | 1.542E-05 | 5.101E-05 | 1.318E-04 |

REFERENCES : /6/, /34/, /35/, /38/

NUCLEUS: BR-80

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.0 | 1 | 9.600E-01 | 7.607E-01 | 5.782E-01 | 4.517E-01 | 3.658E-01 | 3.052E-01 | 2.604E-01 | 2.261E-01 | 1.991E-01 | 1.774E-01 |
| 2 | 37.05 | 2.0 | -1 | 3.936E-02 | 1.989E-01 | 2.803E-01 | 2.982E-01 | 2.906E-01 | 2.743E-01 | 2.556E-01 | 2.371E-01 | 2.198E-01 | 2.041E-01 |
| 3 | 85.84 | 5.0 | -1 | 6.585E-04 | 3.815E-02 | 1.213E-01 | 1.937E-01 | 2.410E-01 | 2.676E-01 | 2.801E-01 | 2.835E-01 | 2.812E-01 | 2.756E-01 |
| 4 | 145.31 | ( 6.0 ) | -1 | 2.034E-06 | 2.305E-03 | 1.974E-02 | 5.176E-02 | 8.669E-02 | 1.174E-01 | 1.415E-01 | 1.593E-01 | 1.716E-01 | 1.797E-01 |
| 5 | 256.43 | 2.0 | 1 | 1.168E-11 | 3.426E-06 | 1.870E-04 | 1.238E-03 | 3.613E-03 | 7.084E-03 | 1.113E-02 | 1.528E-02 | 1.921E-02 | 2.275E-02 |
| 6 | 271.37 | 2.0 | 1 | 2.623E-12 | 1.623E-06 | 1.136E-04 | 8.519E-04 | 2.680E-03 | 5.523E-03 | 8.991E-03 | 1.267E-02 | 1.627E-02 | 1.960E-02 |
| 7 | 281.29 | 3.0 | -1 | 1.362E-12 | 1.384E-06 | 1.143E-04 | 9.307E-04 | 3.076E-03 | 6.554E-03 | 1.092E-02 | 1.567E-02 | 2.040E-02 | 2.484E-02 |
| 8 | 299.98 | ( 2.0 ) | 1 | 1.501E-13 | 3.882E-07 | 4.378E-05 | 4.166E-04 | 1.512E-03 | 3.428E-03 | 5.974E-03 | 8.863E-03 | 1.184E-02 | 1.472E-02 |
| 9 | 309.50 | 4.0 | -1 | 1.043E-13 | 4.342E-07 | 5.738E-05 | 5.911E-04 | 2.250E-03 | 5.265E-03 | 9.387E-03 | 1.416E-02 | 1.917E-02 | 2.409E-02 |
| 10 | 314.98 | 1.0 | 1 | 2.009E-14 | 1.100E-07 | 1.593E-05 | 1.718E-04 | 6.721E-04 | 1.602E-03 | 2.893E-03 | 4.409E-03 | 6.012E-03 | 7.602E-03 |
| 11 | 331.40 | ( 2.0 ) | 1 | 6.483E-15 | 8.069E-08 | 1.536E-05 | 1.899E-04 | 8.066E-04 | 2.031E-03 | 3.814E-03 | 5.984E-03 | 8.350E-03 | 1.075E-02 |
| 12 | 366.40 | ( 1.0 ) | -1 | 1.175E-16 | 8.413E-09 | 2.870E-06 | 4.751E-05 | 2.403E-04 | 6.799E-04 | 1.388E-03 | 2.318E-03 | 3.396E-03 | 4.546E-03 |
| 13 | 380.50 | ( 2.0 ) | (-1) | 4.779E-17 | 6.929E-09 | 2.990E-06 | 5.566E-05 | 3.021E-04 | 8.959E-04 | 1.891E-03 | 3.239E-03 | 4.839E-03 | 6.580E-03 |
| 14 | 390.51 | ( 4.0 ) | 1 | 3.162E-17 | 7.561E-09 | 3.855E-06 | 7.800E-05 | 4.451E-04 | 1.365E-03 | 2.951E-03 | 5.145E-03 | 7.793E-03 | 1.072E-02 |
| 15 | 456.37 | ( 3.0 ) | (-1) | 3.393E-20 | 2.184E-10 | 3.338E-07 | 1.169E-05 | 9.275E-05 | 3.542E-04 | 8.957E-04 | 1.757E-03 | 2.916E-03 | 4.314E-03 |
| 16 | 468.98 | ( 3.0 ) | (-1) | 9.614E-21 | 1.163E-10 | 2.192E-07 | 8.531E-06 | 7.207E-05 | 2.870E-04 | 7.480E-04 | 1.501E-03 | 2.535E-03 | 3.803E-03 |
| 17 | 469.27 | ( 3.0 ) | (1) | 9.339E-21 | 1.146E-10 | 2.171E-07 | 8.469E-06 | 7.166E-05 | 2.856E-04 | 7.449E-04 | 1.495E-03 | 2.526E-03 | 3.792E-03 |
| 18 | 492.88 | ( 1.0 ) | (-1) | 3.776E-22 | 1.508E-11 | 4.236E-08 | 2.012E-06 | 1.915E-05 | 8.260E-05 | 2.279E-04 | 4.770E-04 | 8.329E-04 | 1.283E-03 |
| 19 | 549.55 | ( 2.0 ) | (-1) | 2.176E-24 | 1.478E-12 | 1.068E-08 | 8.130E-07 | 1.028E-05 | 5.353E-05 | 1.690E-04 | 3.915E-04 | 7.396E-04 | 1.214E-03 |
| 20 | 586.11 | ( 3.0 ) | -1 | 7.871E-26 | 3.327E-13 | 4.418E-09 | 4.563E-07 | 6.925E-06 | 4.075E-05 | 1.404E-04 | 3.471E-04 | 6.898E-04 | 1.179E-03 |
| 21 | 610.00 | ( 2.0 ) | (1) | 5.157E-27 | 7.197E-14 | 1.423E-09 | 1.794E-07 | 3.067E-06 | 1.955E-05 | 7.126E-05 | 1.839E-04 | 3.778E-04 | 6.630E-04 |
| 22 | 660.50 | ( 4.0 ) | (-1) | 5.950E-29 | 1.037E-14 | 4.759E-10 | 9.136E-08 | 2.011E-06 | 1.516E-05 | 6.235E-05 | 1.761E-04 | 3.880E-04 | 7.203E-04 |

REFERENCES : /6/, /33/

NUCLEUS: KR-81

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 3.5 | 1 | 9.913E-01 | 9.051E-01 | 8.065E-01 | 7.330E-01 | 6.805E-01 | 6.417E-01 | 6.117E-01 | 5.876E-01 | 5.671E-01 | 5.492E-01 |
| 2 | 49.57 | 4.5 | 1 | 8.716E-03 | 9.489E-02 | 1.932E-01 | 2.654E-01 | 3.156E-01 | 3.511E-01 | 3.766E-01 | 3.952E-01 | 4.087E-01 | 4.182E-01 |
| 3 | 190.30 | 0.5 | -1 | 1.348E-09 | 1.669E-05 | 3.545E-04 | 1.574E-03 | 3.783E-03 | 6.727E-03 | 1.009E-02 | 1.361E-02 | 1.711E-02 | 2.047E-02 |
| 4 | 456.71 | 2.5 | -1 | 1.088E-20 | 8.212E-11 | 1.480E-07 | 6.047E-06 | 5.508E-05 | 2.380E-04 | 6.731E-04 | 1.461E-03 | 2.660E-03 | 4.279E-03 |
| 5 | 464.00 | (1.5) | 1 | 3.500E-21 | 3.803E-11 | 7.736E-08 | 3.360E-06 | 3.174E-05 | 1.405E-04 | 4.044E-04 | 8.894E-04 | 1.635E-03 | 2.652E-03 |
| 6 | 549.04 | 2.5 | 1 | 1.064E-24 | 8.120E-13 | 6.816E-09 | 6.013E-07 | 8.689E-06 | 5.109E-05 | 1.800E-04 | 4.608E-04 | 9.536E-04 | 1.699E-03 |
| 7 | 552.00 | (1.5) | (1) | 5.277E-25 | 4.669E-13 | 4.117E-09 | 3.723E-07 | 5.460E-06 | 3.242E-05 | 1.150E-04 | 2.961E-04 | 6.152E-04 | 1.100E-03 |
| 8 | 608.40 | (2.5) | (1) | 2.812E-27 | 4.174E-14 | 9.423E-10 | 1.363E-07 | 2.651E-06 | 1.900E-05 | 7.709E-05 | 2.194E-04 | 4.931E-04 | 9.387E-04 |
| 9 | 637.20 | 1.5 | -1 | 1.052E-28 | 6.593E-15 | 2.405E-10 | 4.424E-08 | 9.935E-07 | 7.836E-06 | 3.406E-05 | 1.021E-04 | 2.387E-04 | 4.692E-04 |
| 10 | 701.50 | 1.5 | -1 | 1.697E-31 | 2.648E-16 | 2.821E-11 | 8.865E-09 | 2.746E-07 | 2.683E-06 | 1.359E-05 | 4.569E-05 | 1.168E-04 | 2.467E-04 |
| 11 | 731.80 | 3.5 | 1 | 1.640E-32 | 1.164E-16 | 2.055E-11 | 8.313E-09 | 2.996E-07 | 3.239E-06 | 1.763E-05 | 6.257E-05 | 1.669E-04 | 3.644E-04 |
| 12 | 873.30 | (5.5) | (1) | 1.761E-38 | 1.477E-19 | 2.757E-13 | 3.627E-10 | 2.652E-08 | 4.595E-07 | 3.504E-06 | 1.601E-05 | 5.196E-05 | 1.328E-04 |
| 13 | 895.00 | (2.5) | (-1) | 1.005E-39 | 2.496E-20 | 6.687E-14 | 1.054E-10 | 8.591E-09 | 1.600E-07 | 1.285E-06 | 6.102E-06 | 2.041E-05 | 5.344E-05 |
| 14 | 902.60 | (4.5) | (-1) | 7.836E-40 | 2.844E-20 | 8.651E-14 | 1.453E-10 | 1.230E-08 | 2.350E-07 | 1.921E-06 | 9.248E-06 | 3.127E-05 | 8.254E-05 |
| 15 | 920.40 | (1.5) | (-1) | 5.286E-41 | 4.672E-21 | 1.912E-14 | 3.724E-11 | 3.446E-09 | 6.986E-08 | 5.959E-07 | 2.961E-06 | 1.026E-05 | 2.763E-05 |
| 16 | 933.90 | 5.5 | -1 | 4.111E-41 | 7.137E-21 | 3.657E-14 | 7.972E-11 | 7.892E-09 | 1.674E-07 | 1.474E-06 | 7.504E-06 | 2.650E-05 | 7.243E-05 |
| 17 | 977.20 | 0.5 | 1 | 9.022E-44 | 1.365E-22 | 1.439E-15 | 4.501E-12 | 5.533E-10 | 1.355E-08 | 1.324E-07 | 7.279E-07 | 2.730E-06 | 7.829E-06 |
| 18 | 981.30 | 5.5 | 1 | 3.592E-43 | 6.672E-22 | 7.533E-15 | 2.437E-11 | 3.058E-09 | 7.595E-08 | 7.490E-07 | 4.149E-06 | 1.565E-05 | 4.509E-05 |
| 19 | 994.80 | 1.5 | 1 | 3.104E-44 | 1.132E-22 | 1.601E-15 | 5.797E-12 | 7.782E-10 | 2.022E-08 | 2.059E-07 | 1.168E-06 | 4.490E-06 | 1.313E-05 |
| 20 | 1015.00 | (1.5) | (-1) | 4.118E-45 | 4.124E-23 | 8.166E-16 | 3.499E-12 | 5.196E-10 | 1.444E-08 | 1.543E-07 | 9.076E-07 | 3.587E-06 | 1.073E-05 |
| 21 | 1025.90 | (2.5) | (-1) | 2.077E-45 | 3.587E-23 | 8.517E-16 | 3.996E-12 | 6.267E-10 | 1.806E-08 | 1.980E-07 | 1.188E-06 | 4.767E-06 | 1.443E-05 |



REFERENCES : /6/, /39/

NUCLEUS: KR-85

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 4.5 | 1 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 9.999E-01 | 9.996E-01 | 9.988E-01 | 9.974E-01 | 9.956E-01 | 9.933E-01 | 9.906E-01 |
| 2 | 304.87 | 0.5 | -1 | 1.150E-14 | 4.796E-08 | 7.720E-06 | 9.793E-05 | 4.495E-04 | 1.241E-03 | 2.561E-03 | 4.406E-03 | 6.714E-03 | 9.395E-03 |
| 3 | 1107.30 | (1.5) | (-1) | 3.259E-49 | 3.610E-25 | 3.735E-17 | 3.799E-13 | 9.638E-11 | 3.860E-09 | 5.383E-08 | 3.881E-07 | 1.802E-06 | 6.152E-06 |
| 4 | 1140.80 | 2.5 | 1 | 1.715E-50 | 1.014E-25 | 1.834E-17 | 2.466E-13 | 7.398E-11 | 3.313E-09 | 5.004E-08 | 3.830E-07 | 1.863E-06 | 6.601E-06 |
| 5 | 1166.68 | (1.5) | (-1) | 8.596E-52 | 1.854E-26 | 5.160E-18 | 8.610E-14 | 2.939E-11 | 1.435E-09 | 2.305E-08 | 1.848E-07 | 9.318E-07 | 3.397E-06 |
| 6 | 1223.97 | (1.5) | (-1) | 2.794E-54 | 1.057E-27 | 7.644E-19 | 2.056E-14 | 9.346E-12 | 5.523E-10 | 1.017E-08 | 9.028E-08 | 4.930E-07 | 1.916E-06 |
| 7 | 1342.70 | (1.5) | (1) | 1.949E-59 | 2.791E-30 | 1.461E-20 | 1.057E-15 | 8.697E-13 | 7.634E-11 | 1.865E-09 | 2.047E-08 | 1.318E-07 | 5.844E-07 |

REFERENCES :/6/, /12/

NUCLEUS: RB-86

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.0 | -1 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 9.999E-01 | 9.994E-01 | 9.980E-01 | 9.946E-01 | 9.885E-01 | 9.789E-01 |
| 2 | 487.90 | 1.0 | 1 | 3.883E-22 | 1.526E-11 | 5.189E-08 | 3.026E-06 | 3.470E-05 | 1.764E-04 | 5.627E-04 | 1.340E-03 | 2.623E-03 | 4.466E-03 |
| 3 | 555.30 | (6.0) | (-1) | 1.990E-24 | 2.274E-12 | 2.378E-08 | 2.432E-06 | 3.905E-05 | 2.485E-04 | 9.309E-04 | 2.501E-03 | 5.375E-03 | 9.864E-03 |
| 4 | 557.00 | (3.0) | (-1) | 9.040E-25 | 1.125E-12 | 1.210E-08 | 1.255E-06 | 2.033E-05 | 1.301E-04 | 4.892E-04 | 1.318E-03 | 2.840E-03 | 5.222E-03 |
| 5 | 779.00 | (7.0) | (-1) | 4.425E-34 | 3.643E-17 | 1.585E-11 | 1.045E-08 | 5.138E-07 | 6.891E-06 | 4.397E-05 | 1.761E-04 | 5.165E-04 | 1.215E-03 |
| 6 | 873.00 | (3.0) | (-1) | 1.708E-38 | 1.546E-19 | 3.223E-13 | 4.652E-10 | 3.659E-08 | 6.713E-07 | 5.358E-06 | 2.538E-05 | 8.481E-05 | 2.215E-04 |
| 7 | 978.00 | (4.0) | (-1) | 6.049E-43 | 1.043E-21 | 1.251E-14 | 4.333E-11 | 5.760E-09 | 1.500E-07 | 1.537E-06 | 8.784E-06 | 3.396E-05 | 9.968E-05 |
| 8 | 1027.00 | 2.0 | 1 | 2.503E-45 | 5.001E-23 | 1.357E-15 | 7.072E-12 | 1.201E-09 | 3.682E-08 | 4.240E-07 | 2.645E-06 | 1.094E-05 | 3.393E-05 |

REFERENCES : /6/, /13/

NUCLEUS: RB-87

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.5 | -1 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 9.999E-01 | 9.995E-01 | 9.982E-01 | 9.952E-01 | 9.903E-01 | 9.831E-01 | 9.737E-01 |
| 2 | 402.58 | 2.5 | -1 | 4.925E-18 | 2.718E-09 | 2.229E-06 | 6.384E-05 | 4.777E-04 | 1.825E-03 | 4.746E-03 | 9.691E-03 | 1.683E-02 | 2.607E-02 |
| 3 | 845.44 | (1.5) | -1 | 1.920E-37 | 4.381E-19 | 5.768E-13 | 6.618E-10 | 4.533E-08 | 7.581E-07 | 5.658E-06 | 2.548E-05 | 8.183E-05 | 2.074E-04 |
| 4 | (1349.00) | (2.5) | (-1) | 3.894E-59 | 7.640E-30 | 4.440E-20 | 3.385E-15 | 2.875E-12 | 2.576E-10 | 6.376E-09 | 7.056E-08 | 4.561E-07 | 2.023E-06 |

REFERENCES : /6/, /14/



NUCLEUS: ZR-93

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.5 | 1 | 1.000E+00 | 1.000E+00 | 9.999E-01 | 9.992E-01 | 9.968E-01 | 9.923E-01 | 9.855E-01 | 9.769E-01 | 9.668E-01 | 9.559E-01 |
| 2 | 267.10 | 1.5 | 1 | 1.675E-12 | 1.057E-06 | 9.062E-05 | 8.386E-04 | 3.181E-03 | 7.713E-03 | 1.447E-02 | 2.311E-02 | 3.314E-02 | 4.409E-02 |
| 3 | 949.00 | 0.5 | 1 | 2.036E-42 | 8.236E-22 | 6.091E-15 | 1.655E-11 | 1.899E-09 | 4.471E-08 | 4.254E-07 | 2.296E-06 | 8.489E-06 | 2.409E-05 |
| 4 | 1423.10 | (1.5) | 1 | 1.047E-62 | 8.353E-32 | 1.669E-21 | 2.358E-16 | 2.895E-13 | 3.310E-11 | 9.736E-10 | 1.225E-08 | 8.752E-08 | 4.206E-07 |
| 5 | 1480.00 | (3.5) | 1 | 7.079E-65 | 9.712E-33 | 5.009E-22 | 1.137E-16 | 1.856E-13 | 2.564E-11 | 8.638E-10 | 1.203E-08 | 9.302E-08 | 4.762E-07 |
| 6 | 1600.00 | (4.5) | 1 | 5.438E-70 | 3.009E-35 | 1.147E-23 | 7.075E-18 | 2.104E-14 | 4.338E-12 | 1.944E-10 | 3.356E-09 | 3.065E-08 | 1.793E-07 |
| 7 | 1650.00 | (2.5) | 1 | 2.198E-72 | 1.482E-36 | 1.300E-24 | 1.216E-18 | 4.644E-15 | 1.131E-12 | 5.711E-11 | 1.078E-09 | 1.055E-08 | 6.525E-08 |

REFERENCES : /6/

NUCLEUS: TC-99

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 4.5 | 1 | 1.000E+00 | 9.991E-01 | 9.896E-01 | 9.653E-01 | 9.296E-01 | 8.889E-01 | 8.480E-01 | 8.093E-01 | 7.737E-01 | 7.413E-01 |
| 2 | 140.50 | 3.5 | 1 | 6.329E-07 | 7.108E-04 | 7.321E-03 | 2.303E-02 | 4.477E-02 | 6.839E-02 | 9.116E-02 | 1.118E-01 | 1.299E-01 | 1.455E-01 |
| 3 | 142.63 | 0.5 | -1 | 1.279E-07 | 1.598E-04 | 1.705E-03 | 5.459E-03 | 1.073E-02 | 1.650E-02 | 2.211E-02 | 2.722E-02 | 3.172E-02 | 3.561E-02 |
| 4 | 181.10 | 2.5 | 1 | 8.188E-09 | 7.002E-05 | 1.419E-03 | 6.259E-03 | 1.491E-02 | 2.607E-02 | 3.828E-02 | 5.048E-02 | 6.206E-02 | 7.272E-02 |
| 5 | 509.10 | (1.5) | -1 | 3.107E-23 | 3.522E-12 | 1.689E-08 | 1.146E-06 | 1.407E-05 | 7.344E-05 | 2.355E-04 | 5.578E-04 | 1.081E-03 | 1.824E-03 |
| 6 | 625.40 | (3.5) | 1 | 5.528E-28 | 2.101E-14 | 6.998E-10 | 1.252E-07 | 2.749E-06 | 2.114E-05 | 8.941E-05 | 2.607E-04 | 5.940E-04 | 1.140E-03 |
| 7 | 672.00 | 2.5 | -1 | 3.925E-30 | 1.533E-15 | 1.110E-10 | 2.929E-08 | 8.119E-07 | 7.293E-06 | 3.446E-05 | 1.092E-04 | 2.655E-04 | 5.366E-04 |
| 8 | 726.70 | (5.5) | 1 | 3.306E-32 | 1.990E-16 | 3.586E-11 | 1.492E-08 | 5.438E-07 | 5.862E-06 | 3.155E-05 | 1.102E-04 | 2.891E-04 | 6.211E-04 |
| 9 | 761.70 | 2.5 | 1 | 4.992E-34 | 1.729E-17 | 5.583E-12 | 3.110E-09 | 1.350E-07 | 1.636E-06 | 9.568E-06 | 3.558E-05 | 9.799E-05 | 2.188E-04 |
| 10 | 762.00 | 6.5 | 1 | 1.130E-33 | 3.974E-17 | 1.290E-11 | 7.203E-09 | 3.132E-07 | 3.797E-06 | 2.223E-05 | 8.272E-05 | 2.279E-04 | 5.091E-04 |
| 11 | 919.00 | (0.5) | 1 | 2.453E-41 | 2.213E-21 | 9.832E-15 | 2.031E-11 | 1.936E-09 | 3.962E-08 | 3.371E-07 | 1.660E-06 | 5.688E-06 | 1.513E-05 |

REFERENCES : /6/



NUCLEUS: PD-107

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.5 | 1 | 1.000E+00 | 9.989E-01 | 9.914E-01 | 9.718E-01 | 9.373E-01 | 8.890E-01 | 8.313E-01 | 7.693E-01 | 7.076E-01 | 6.493E-01 |
| 2 | 115.80 | 0.5 | 1 | 3.117E-06 | 1.018E-03 | 6.962E-03 | 1.791E-02 | 3.083E-02 | 4.301E-02 | 5.299E-02 | 6.030E-02 | 6.514E-02 | 6.799E-02 |
| 3 | 214.90 | 5.5 | -1 | 9.293E-10 | 4.306E-05 | 1.536E-03 | 9.023E-03 | 2.549E-02 | 4.948E-02 | 7.718E-02 | 1.048E-01 | 1.300E-01 | 1.514E-01 |
| 4 | 302.80 | (1.5) | 1 | 4.716E-14 | 1.771E-07 | 2.733E-05 | 3.341E-04 | 1.465E-03 | 3.811E-03 | 7.328E-03 | 1.165E-02 | 1.631E-02 | 2.096E-02 |
| 5 | 312.20 | (3.5) | 1 | 3.685E-14 | 2.214E-07 | 3.996E-05 | 5.283E-04 | 2.427E-03 | 6.517E-03 | 1.282E-02 | 2.071E-02 | 2.939E-02 | 3.815E-02 |
| 6 | 348.20 | (3.5) | (1) | 1.007E-15 | 3.660E-08 | 1.204E-05 | 2.148E-04 | 1.181E-03 | 3.577E-03 | 7.663E-03 | 1.321E-02 | 1.970E-02 | 2.662E-02 |
| 7 | 366.80 | (2.5) | 1 | 1.176E-16 | 1.083E-08 | 4.856E-06 | 1.012E-04 | 6.108E-04 | 1.968E-03 | 4.406E-03 | 7.849E-03 | 1.202E-02 | 1.658E-02 |
| 8 | 381.90 | (1.5) | 1 | 1.731E-17 | 3.393E-09 | 1.957E-06 | 4.624E-05 | 3.011E-04 | 1.020E-03 | 2.367E-03 | 4.333E-03 | 6.774E-03 | 9.502E-03 |
| 9 | 392.50 | (2.5) | 1 | 8.997E-18 | 2.996E-09 | 2.062E-06 | 5.322E-05 | 3.653E-04 | 1.282E-03 | 3.052E-03 | 5.693E-03 | 9.032E-03 | 1.282E-02 |
| 10 | 471.20 | (1.5) | 1 | 2.292E-21 | 3.904E-11 | 9.974E-08 | 4.960E-06 | 5.047E-05 | 2.302E-04 | 6.610E-04 | 1.419E-03 | 2.511E-03 | 3.890E-03 |
| 11 | 567.70 | (2.5) | 1 | 2.215E-25 | 4.701E-13 | 5.998E-09 | 6.666E-07 | 1.099E-05 | 6.915E-05 | 2.498E-04 | 6.371E-04 | 1.289E-03 | 2.223E-03 |
| 12 | 670.40 | (1.5) | 1 | 5.118E-30 | 1.845E-15 | 1.304E-10 | 3.410E-08 | 9.392E-07 | 8.324E-06 | 3.840E-05 | 1.177E-04 | 2.746E-04 | 5.307E-04 |

REFERENCES : /6/

NUCLEUS: AG-108

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.0 | 1 | 9.820E-01 | 8.186E-01 | 6.238E-01 | 4.813E-01 | 3.851E-01 | 3.185E-01 | 2.705E-01 | 2.343E-01 | 2.063E-01 | 1.840E-01 |
| 2 | 45.50 | 2.0 | -1 | 1.730E-02 | 1.403E-01 | 2.282E-01 | 2.572E-01 | 2.584E-01 | 2.487E-01 | 2.353E-01 | 2.212E-01 | 2.074E-01 | 1.946E-01 |
| 3 | 79.14 | (2.0) | -1 | 5.984E-04 | 2.609E-02 | 7.435E-02 | 1.109E-01 | 1.318E-01 | 1.420E-01 | 1.455E-01 | 1.452E-01 | 1.427E-01 | 1.390E-01 |
| 4 | 109.50 | 6.0 | 1 | 7.473E-05 | 1.487E-02 | 7.026E-02 | 1.350E-01 | 1.868E-01 | 2.225E-01 | 2.452E-01 | 2.584E-01 | 2.648E-01 | 2.668E-01 |
| 5 | 192.80 | (1.0) | (1) | 4.159E-09 | 5.327E-05 | 1.009E-03 | 3.883E-03 | 8.146E-03 | 1.281E-02 | 1.722E-02 | 2.105E-02 | 2.422E-02 | 2.677E-02 |
| 6 | 206.20 | (2.0) | (1) | 1.815E-09 | 4.544E-05 | 1.076E-03 | 4.629E-03 | 1.039E-02 | 1.708E-02 | 2.370E-02 | 2.967E-02 | 3.478E-02 | 3.902E-02 |
| 7 | 215.00 | (3.0) | (1) | 1.054E-09 | 4.097E-05 | 1.124E-03 | 5.201E-03 | 1.219E-02 | 2.065E-02 | 2.925E-02 | 3.721E-02 | 4.416E-02 | 5.002E-02 |
| 8 | 287.50 | (1.0) | (-1) | 3.208E-13 | 4.679E-07 | 4.296E-05 | 3.639E-04 | 1.226E-03 | 2.644E-03 | 4.450E-03 | 6.443E-03 | 8.457E-03 | 1.038E-02 |
| 9 | 294.80 | (2.0) | (1) | 2.577E-13 | 5.413E-07 | 5.614E-05 | 5.053E-04 | 1.765E-03 | 3.901E-03 | 6.683E-03 | 9.802E-03 | 1.300E-02 | 1.609E-02 |
| 10 | 324.40 | (3.0) | (1) | 1.870E-14 | 1.725E-07 | 2.930E-05 | 3.375E-04 | 1.367E-03 | 3.335E-03 | 6.130E-03 | 9.479E-03 | 1.310E-02 | 1.675E-02 |
| 11 | 331.00 | (2.0) | (1) | 6.902E-15 | 8.860E-08 | 1.680E-05 | 2.044E-04 | 8.559E-04 | 2.134E-03 | 3.984E-03 | 6.235E-03 | 8.693E-03 | 1.120E-02 |
| 12 | 338.10 | (3.0) | -1 | 4.751E-15 | 8.697E-08 | 1.856E-05 | 2.396E-04 | 1.040E-03 | 2.654E-03 | 5.040E-03 | 7.987E-03 | 1.125E-02 | 1.461E-02 |
| 13 | 363.60 | (2.0) | (1) | 2.650E-16 | 1.736E-08 | 5.666E-06 | 9.048E-05 | 4.459E-04 | 1.239E-03 | 2.501E-03 | 4.148E-03 | 6.051E-03 | 8.085E-03 |
| 14 | 378.60 | (1.0) | -1 | 3.547E-17 | 4.920E-09 | 2.062E-06 | 3.731E-05 | 1.982E-04 | 5.791E-04 | 1.211E-03 | 2.063E-03 | 3.073E-03 | 4.175E-03 |
| 15 | 451.20 | (3.0) | (1) | 5.820E-20 | 3.044E-10 | 4.278E-07 | 1.418E-05 | 1.083E-04 | 4.030E-04 | 1.002E-03 | 1.943E-03 | 3.201E-03 | 4.714E-03 |
| 16 | 460.00 | (2.0) | (1) | 1.724E-20 | 1.400E-10 | 2.279E-07 | 8.127E-06 | 6.485E-05 | 2.486E-04 | 6.310E-04 | 1.243E-03 | 2.073E-03 | 3.083E-03 |
| 17 | 465.00 | (1.0) | (1) | 6.275E-21 | 6.543E-11 | 1.158E-07 | 4.303E-06 | 3.521E-05 | 1.372E-04 | 3.525E-04 | 7.007E-04 | 1.177E-03 | 1.760E-03 |
| 18 | 506.80 | (2.0) | (1) | 1.600E-22 | 1.349E-11 | 4.789E-08 | 2.522E-06 | 2.544E-05 | 1.139E-04 | 3.234E-04 | 6.925E-04 | 1.233E-03 | 1.931E-03 |
| 19 | 518.00 | (2.0) | (-1) | 5.221E-23 | 7.705E-12 | 3.297E-08 | 1.906E-06 | 2.033E-05 | 9.454E-05 | 2.755E-04 | 6.021E-04 | 1.088E-03 | 1.726E-03 |
| 20 | 537.50 | (1.0) | (1) | 4.457E-24 | 1.744E-12 | 1.033E-08 | 7.025E-07 | 8.259E-06 | 4.098E-05 | 1.251E-04 | 2.831E-04 | 5.258E-04 | 8.523E-04 |
| 21 | 542.90 | (3.0) | (1) | 6.060E-24 | 3.106E-12 | 2.013E-08 | 1.432E-06 | 1.730E-05 | 8.740E-05 | 2.703E-04 | 6.174E-04 | 1.155E-03 | 1.884E-03 |
| 22 | 563.90 | (1.0) | (-1) | 3.181E-25 | 4.658E-13 | 4.284E-09 | 3.631E-07 | 4.871E-06 | 2.640E-05 | 8.592E-05 | 2.035E-04 | 3.922E-04 | 6.545E-04 |
| 23 | 588.00 | (2.0) | (-1) | 4.761E-26 | 2.327E-13 | 3.197E-09 | 3.313E-07 | 5.014E-06 | 2.944E-05 | 1.014E-04 | 2.510E-04 | 5.000E-04 | 8.573E-04 |
| 24 | 606.00 | (3.0) | (1) | 1.102E-26 | 1.324E-13 | 2.457E-09 | 2.957E-07 | 4.897E-06 | 3.053E-05 | 1.097E-04 | 2.806E-04 | 5.732E-04 | 1.002E-03 |

REFERENCES : /6/

NUCLEUS: CD-109

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.5 | 1 | 9.991E-01 | 9.833E-01 | 9.549E-01 | 9.229E-01 | 8.888E-01 | 8.530E-01 | 8.162E-01 | 7.789E-01 | 7.420E-01 | 7.058E-01 |
| 2 | 59.60 | 0.5 | 1 | 8.593E-04 | 1.665E-02 | 4.366E-02 | 6.933E-02 | 8.995E-02 | 1.053E-01 | 1.161E-01 | 1.233E-01 | 1.275E-01 | 1.296E-01 |
| 3 | 203.30 | 3.5 | 1 | 1.974E-09 | 5.047E-05 | 1.452E-03 | 7.635E-03 | 2.032E-02 | 3.840E-02 | 5.962E-02 | 8.181E-02 | 1.033E-01 | 1.232E-01 |
| 4 | 347.50 | ( 1.5 ) | 1 | 5.395E-16 | 1.865E-08 | 5.933E-06 | 1.038E-04 | 5.680E-04 | 1.736E-03 | 3.800E-03 | 6.744E-03 | 1.041E-02 | 1.457E-02 |
| 5 | 426.30 | ( 2.5 ) | 1 | 3.061E-19 | 5.442E-10 | 6.436E-07 | 2.171E-05 | 1.762E-04 | 7.003E-04 | 1.849E-03 | 3.778E-03 | 6.505E-03 | 9.938E-03 |
| 6 | 462.00 | 5.5 | -1 | 1.724E-20 | 1.826E-10 | 3.916E-07 | 1.779E-05 | 1.726E-04 | 7.726E-04 | 2.221E-03 | 4.836E-03 | 8.751E-03 | 1.391E-02 |
| 7 | 623.80 | ( 3.5 ) | 1 | 1.080E-27 | 3.733E-14 | 1.187E-09 | 2.076E-07 | 4.524E-06 | 3.473E-05 | 1.467E-04 | 4.266E-04 | 9.664E-04 | 1.839E-03 |
| 8 | 673.20 | ( 1.5 ) | 1 | 3.865E-30 | 1.579E-15 | 1.144E-10 | 3.019E-08 | 8.421E-07 | 7.623E-06 | 3.623E-05 | 1.150E-04 | 2.791E-04 | 5.609E-04 |
| 9 | 721.70 | ( 1.5 ) | 1 | 3.026E-32 | 1.397E-16 | 2.271E-11 | 8.981E-09 | 3.192E-07 | 3.397E-06 | 1.812E-05 | 6.274E-05 | 1.628E-04 | 3.454E-04 |
| 10 | 822.60 | ( 2.5 ) | ( 1 ) | 1.883E-36 | 1.350E-18 | 1.179E-12 | 1.081E-09 | 6.365E-08 | 9.480E-07 | 6.430E-06 | 2.666E-05 | 7.960E-05 | 1.889E-04 |

REFERENCES : /6/, /15/



NUCLEUS: AG-110

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.0 | 1 | 4.054E-01 | 3.873E-01 | 3.658E-01 | 3.337E-01 | 2.990E-01 | 2.674E-01 | 2.407E-01 | 2.189E-01 | 2.011E-01 | 1.866E-01 |
| 2 | 1.28 | 2.0 | -1 | 5.945E-01 | 6.055E-01 | 5.842E-01 | 5.387E-01 | 4.858E-01 | 4.362E-01 | 3.939E-01 | 3.590E-01 | 3.304E-01 | 3.070E-01 |
| 3 | 117.76 | 6.0 | 1 | 1.351E-05 | 4.654E-03 | 3.128E-02 | 7.615E-02 | 1.229E-01 | 1.628E-01 | 1.940E-01 | 2.176E-01 | 2.355E-01 | 2.490E-01 |
| 4 | 118.65 | (3.0) | ( 1) | 6.653E-06 | 2.397E-03 | 1.635E-02 | 4.010E-02 | 6.503E-02 | 8.636E-02 | 1.031E-01 | 1.159E-01 | 1.255E-01 | 1.329E-01 |
| 5 | 191.27 | (3.0) | ( 1) | 4.669E-09 | 6.349E-05 | 1.453E-03 | 6.527E-03 | 1.522E-02 | 2.574E-02 | 3.654E-02 | 4.675E-02 | 5.603E-02 | 6.429E-02 |
| 6 | 198.39 | (2.0) | (-1) | 1.636E-09 | 3.177E-05 | 8.186E-04 | 3.902E-03 | 9.426E-03 | 1.633E-02 | 2.358E-02 | 3.055E-02 | 3.697E-02 | 4.276E-02 |
| 7 | 236.75 | (1.0) | (-1) | 2.119E-11 | 2.800E-06 | 1.367E-04 | 8.973E-04 | 2.626E-03 | 5.170E-03 | 8.178E-03 | 1.135E-02 | 1.449E-02 | 1.748E-02 |

REFERENCES : /6/, /47/

NUCLEUS: CD-113

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 0.5 | 1 | 1.000E+00 | 1.000E+00 | 9.989E-01 | 9.899E-01 | 9.611E-01 | 9.067E-01 | 8.310E-01 | 7.445E-01 | 6.575E-01 | 5.768E-01 |
| 2 | 263.70 | 5.5 | -1 | 2.118E-11 | 1.127E-05 | 9.125E-04 | 8.141E-03 | 2.954E-02 | 6.713E-02 | 1.153E-01 | 1.654E-01 | 2.107E-01 | 2.477E-01 |
| 3 | 298.40 | 1.5 | 1 | 2.197E-13 | 6.628E-07 | 9.568E-05 | 1.140E-03 | 4.920E-03 | 1.255E-02 | 2.341E-02 | 3.573E-02 | 4.775E-02 | 5.836E-02 |
| 4 | 316.10 | ( 1.5) | 1 | 3.742E-14 | 2.735E-07 | 5.304E-05 | 7.322E-04 | 3.453E-03 | 9.343E-03 | 1.818E-02 | 2.864E-02 | 3.923E-02 | 4.889E-02 |
| 5 | 442.00 | ( 2.5) | (1) | 1.912E-19 | 7.573E-10 | 1.197E-06 | 4.718E-05 | 4.176E-04 | 1.719E-03 | 4.513E-03 | 8.903E-03 | 1.453E-02 | 2.082E-02 |
| 6 | 460.00 | ( 3.5) | 1 | 4.214E-20 | 4.105E-10 | 8.759E-07 | 4.011E-05 | 3.885E-04 | 1.698E-03 | 4.653E-03 | 9.479E-03 | 1.586E-02 | 2.319E-02 |
| 7 | 530.00 | ( 3.5) | 1 | 3.843E-23 | 1.240E-11 | 8.494E-08 | 6.970E-06 | 9.579E-05 | 5.288E-04 | 1.712E-03 | 3.951E-03 | 7.286E-03 | 1.152E-02 |
| 8 | 583.90 | 2.5 | 1 | 1.315E-25 | 6.280E-13 | 1.057E-08 | 1.359E-06 | 2.445E-05 | 1.615E-04 | 5.944E-04 | 1.511E-03 | 3.002E-03 | 5.038E-03 |
| 9 | 603.00 | ( 1.5) | (1) | 1.298E-26 | 1.611E-13 | 3.726E-09 | 5.619E-07 | 1.112E-05 | 7.832E-05 | 3.017E-04 | 7.933E-04 | 1.619E-03 | 2.775E-03 |
| 10 | 681.00 | ( 1.5) | 1 | 5.320E-30 | 3.261E-15 | 2.768E-10 | 7.994E-08 | 2.337E-06 | 2.134E-05 | 9.899E-05 | 2.992E-04 | 6.804E-04 | 1.272E-03 |
| 11 | 689.00 | ( 2.5) | (1) | 3.585E-30 | 3.279E-15 | 3.180E-10 | 9.818E-08 | 2.988E-06 | 2.802E-05 | 1.324E-04 | 4.061E-04 | 9.338E-04 | 1.761E-03 |
| 12 | 708.50 | ( 1.5) | (1) | 3.401E-31 | 8.245E-16 | 1.107E-10 | 4.020E-08 | 1.349E-06 | 1.350E-05 | 6.683E-05 | 2.122E-04 | 5.013E-04 | 9.662E-04 |
| 13 | 760.00 | 0.5 | 1 | 9.862E-34 | 3.140E-17 | 9.941E-12 | 5.546E-09 | 2.407E-07 | 2.860E-06 | 1.601E-05 | 5.573E-05 | 1.414E-04 | 2.887E-04 |
| 14 | 821.00 | ( 3.5) | 1 | 8.848E-36 | 5.948E-18 | 5.205E-12 | 4.828E-09 | 2.843E-07 | 4.140E-06 | 2.679E-05 | 1.040E-04 | 2.872E-04 | 6.274E-04 |

REFERENCES : /6/

NUCLEUS: IN-114

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.0 | 1 | 1.000E+00 | 9.997E-01 | 9.916E-01 | 9.572E-01 | 8.901E-01 | 8.023E-01 | 7.095E-01 | 6.219E-01 | 5.438E-01 | 4.759E-01 |
| 2 | 190.29 | 5.0 | 1 | 1.996E-08 | 2.704E-04 | 6.396E-03 | 3.015E-02 | 7.259E-02 | 1.234E-01 | 1.716E-01 | 2.113E-01 | 2.407E-01 | 2.603E-01 |
| 3 | 221.02 | (4.0) | (1) | 7.559E-10 | 4.760E-05 | 1.879E-03 | 1.144E-02 | 3.212E-02 | 6.048E-02 | 9.054E-02 | 1.178E-01 | 1.400E-01 | 1.566E-01 |
| 4 | 287.73 | (2.0) | (1) | 5.321E-13 | 9.414E-07 | 1.129E-04 | 1.199E-03 | 4.700E-03 | 1.105E-02 | 1.939E-02 | 2.842E-02 | 3.705E-02 | 4.465E-02 |
| 5 | 497.20 | (5.0) | (1) | 9.362E-22 | 5.856E-11 | 2.306E-07 | 1.403E-05 | 1.567E-04 | 7.409E-04 | 2.140E-03 | 4.559E-03 | 7.952E-03 | 1.209E-02 |
| 6 | 502.00 | 8.0 | -1 | 8.953E-22 | 7.119E-11 | 3.037E-07 | 1.923E-05 | 2.200E-04 | 1.057E-03 | 3.089E-03 | 6.635E-03 | 1.165E-02 | 1.781E-02 |
| 7 | 536.30 | (7.0) | (-1) | 2.559E-23 | 1.131E-11 | 8.543E-08 | 7.197E-06 | 9.776E-05 | 5.265E-04 | 1.670E-03 | 3.813E-03 | 7.022E-03 | 1.115E-02 |
| 8 | 574.50 | (6.0) | (-1) | 4.862E-25 | 1.451E-12 | 2.072E-08 | 2.400E-06 | 3.946E-05 | 2.414E-04 | 8.384E-04 | 2.050E-03 | 3.981E-03 | 6.597E-03 |
| 9 | 628.30 | (3.0) | (1) | 1.206E-27 | 5.303E-14 | 1.857E-09 | 3.367E-07 | 7.245E-06 | 5.303E-05 | 2.093E-04 | 5.635E-04 | 1.179E-03 | 2.074E-03 |
| 10 | 641.80 | (7.0) | (1) | 6.702E-28 | 5.786E-14 | 2.537E-09 | 5.149E-07 | 1.185E-05 | 9.074E-05 | 3.699E-04 | 1.020E-03 | 2.175E-03 | 3.884E-03 |
| 11 | 687.50 | (8.0) | (1) | 7.868E-30 | 6.674E-15 | 6.268E-10 | 1.862E-07 | 5.385E-06 | 4.801E-05 | 2.192E-04 | 6.529E-04 | 1.483E-03 | 2.787E-03 |
| 12 | 693.40 | (3.0) | (-1) | 1.796E-30 | 2.046E-15 | 2.120E-10 | 6.614E-08 | 1.971E-06 | 1.792E-05 | 8.259E-05 | 2.497E-04 | 5.720E-04 | 1.082E-03 |
| 13 | 696.40 | (5.0) | (-1) | 2.091E-30 | 2.767E-15 | 3.015E-10 | 9.643E-08 | 2.916E-06 | 2.678E-05 | 1.243E-04 | 3.780E-04 | 8.694E-04 | 1.650E-03 |
| 14 | 724.89 | (3.0) | (1) | 7.704E-32 | 4.238E-16 | 7.422E-11 | 3.010E-08 | 1.050E-06 | 1.060E-05 | 5.267E-05 | 1.685E-04 | 4.031E-04 | 7.896E-04 |
| 15 | 728.70 | (4.0) | (1) | 6.767E-32 | 4.503E-16 | 8.404E-11 | 3.519E-08 | 1.251E-06 | 1.279E-05 | 6.413E-05 | 2.065E-04 | 4.968E-04 | 9.772E-04 |
| 16 | 775.28 | (3.0) | (-1) | 4.993E-34 | 3.411E-17 | 1.384E-11 | 8.541E-09 | 3.832E-07 | 4.578E-06 | 2.564E-05 | 8.974E-05 | 2.303E-04 | 4.770E-04 |
| 17 | 825.60 | (5.0) | (-1) | 5.120E-36 | 4.330E-18 | 4.063E-12 | 3.815E-09 | 2.201E-07 | 3.110E-06 | 1.964E-05 | 7.518E-05 | 2.069E-04 | 4.532E-04 |
| 18 | 835.70 | (4.0) | (-1) | 1.526E-36 | 2.138E-18 | 2.374E-12 | 2.425E-09 | 1.471E-07 | 2.150E-06 | 1.391E-05 | 5.421E-05 | 1.513E-04 | 3.352E-04 |
| 19 | 909.80 | (6.0) | ( 1) | 1.334E-39 | 7.598E-20 | 2.901E-13 | 5.493E-10 | 4.829E-08 | 9.032E-07 | 6.969E-06 | 3.101E-05 | 9.594E-05 | 2.308E-04 |
| 20 | 969.70 | (4.0) | (1) | 2.312E-42 | 2.632E-21 | 2.727E-14 | 8.507E-11 | 1.009E-08 | 2.304E-07 | 2.051E-06 | 1.015E-05 | 3.414E-05 | 8.777E-05 |
| 21 | 997.00 | (3.0) | (1) | 1.173E-43 | 5.228E-22 | 8.537E-15 | 3.344E-11 | 4.545E-09 | 1.137E-07 | 1.080E-06 | 5.615E-06 | 1.961E-05 | 5.195E-05 |

REFERENCES : /6/

NUCLEUS: CD-115

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 0.5 | 1 | 1.000E+00 | 9.990E-01 | 9.809E-01 | 9.211E-01 | 8.255E-01 | 7.186E-01 | 6.189E-01 | 5.336E-01 | 4.634E-01 | 4.062E-01 |
| 2 | 173.40 | 5.5 | -1 | 1.768E-07 | 1.029E-03 | 1.818E-02 | 7.241E-02 | 1.544E-01 | 2.396E-01 | 3.119E-01 | 3.665E-01 | 4.049E-01 | 4.304E-01 |
| 3 | 229.70 | (1.5) | 1 | 2.115E-10 | 2.055E-05 | 9.277E-04 | 5.908E-03 | 1.670E-02 | 3.125E-02 | 4.651E-02 | 6.043E-02 | 7.220E-02 | 8.170E-02 |
| 4 | 360.90 | (2.5) | 1 | 6.362E-16 | 4.364E-08 | 1.755E-05 | 3.334E-04 | 1.816E-03 | 5.264E-03 | 1.071E-02 | 1.758E-02 | 2.521E-02 | 3.300E-02 |
| 5 | 390.00 | (3.5) | 1 | 4.621E-17 | 1.358E-09 | 8.869E-06 | 2.148E-04 | 1.353E-03 | 4.322E-03 | 9.420E-03 | 1.630E-02 | 2.432E-02 | 3.289E-02 |
| 6 | 473.20 | (1.5) | 1 | 5.629E-21 | 1.060E-10 | 2.769E-07 | 1.342E-05 | 1.281E-04 | 5.400E-04 | 1.435E-03 | 2.880E-03 | 4.825E-03 | 7.157E-03 |
| 7 | 500.00 | (1.5) | 1 | 3.859E-22 | 2.775E-11 | 1.134E-07 | 6.866E-06 | 7.496E-05 | 3.455E-04 | 9.784E-04 | 2.060E-03 | 3.583E-03 | 5.475E-03 |
| 8 | 649.90 | 0.5 | 1 | 5.963E-29 | 7.713E-15 | 3.832E-10 | 8.093E-08 | 1.870E-06 | 1.420E-05 | 5.748E-05 | 1.582E-04 | 3.387E-04 | 6.114E-04 |
| 9 | 690.00 | (2.5) | 1 | 3.244E-30 | 3.116E-15 | 3.020E-10 | 8.910E-08 | 2.515E-06 | 2.184E-05 | 9.724E-05 | 2.874E-04 | 6.508E-04 | 1.228E-03 |
| 10 | 750.00 | (1.5) | 1 | 5.361E-33 | 1.034E-16 | 2.725E-11 | 1.325E-08 | 5.051E-07 | 5.356E-06 | 2.751E-05 | 9.052E-05 | 2.228E-04 | 4.494E-04 |
| 11 | 777.90 | (1.5) | 1 | 3.293E-34 | 2.563E-17 | 1.075E-11 | 6.598E-09 | 2.891E-07 | 3.364E-06 | 1.847E-05 | 6.387E-05 | 1.634E-04 | 3.400E-04 |
| 12 | 800.00 | 0.5 | 1 | 1.806E-35 | 4.245E-18 | 2.573E-12 | 1.899E-09 | 9.290E-08 | 1.164E-06 | 6.734E-06 | 2.423E-05 | 6.391E-05 | 1.363E-04 |
| 13 | 872.60 | (3.5) | -1 | 5.080E-38 | 4.502E-19 | 9.152E-13 | 1.237E-09 | 8.699E-08 | 1.388E-06 | 9.547E-06 | 3.910E-05 | 1.141E-04 | 2.638E-04 |
| 14 | 900.00 | (1.5) | (1) | 1.640E-39 | 5.720E-20 | 1.836E-13 | 3.117E-10 | 2.515E-08 | 4.397E-07 | 3.227E-06 | 1.388E-05 | 4.207E-05 | 1.003E-04 |

REFERENCES : /6/



NUCLEUS: IN-115

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 4.5 | 1 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 9.998E-01 | 9.992E-01 | 9.983E-01 | 9.968E-01 | 9.946E-01 | 9.918E-01 |
| 2 | 336.24 | 0.5 | -1 | 4.994E-16 | 9.993E-09 | 2.713E-06 | 4.470E-05 | 2.401E-04 | 7.361E-04 | 1.638E-03 | 2.980E-03 | 4.744E-03 | 6.874E-03 |
| 3 | 597.14 | 1.5 | -1 | 4.665E-27 | 4.319E-14 | 9.070E-10 | 1.314E-07 | 2.602E-06 | 1.903E-05 | 7.880E-05 | 2.285E-04 | 5.227E-04 | 1.012E-03 |
| 4 | 828.59 | 1.5 | 1 | 4.142E-37 | 4.070E-19 | 4.046E-13 | 4.034E-10 | 2.541E-08 | 4.020E-07 | 2.888E-06 | 1.266E-05 | 3.994E-05 | 9.999E-05 |
| 5 | 864.14 | 0.5 | 1 | 5.919E-39 | 3.440E-20 | 6.185E-14 | 8.294E-11 | 6.239E-09 | 1.111E-07 | 8.689E-07 | 4.060E-06 | 1.345E-05 | 3.504E-05 |
| 6 | 933.84 | 3.5 | 1 | 2.225E-41 | 4.218E-21 | 2.423E-14 | 5.808E-11 | 6.191E-09 | 1.391E-07 | 1.284E-06 | 6.795E-06 | 2.480E-05 | 6.981E-05 |
| 7 | 941.40 | 2.5 | 1 | 7.836E-42 | 2.168E-21 | 1.413E-14 | 3.606E-11 | 3.992E-09 | 9.199E-08 | 8.645E-07 | 4.636E-06 | 1.710E-05 | 4.854E-05 |
| 8 | 1041.50 | 2.5 | -1 | 3.522E-46 | 1.453E-23 | 5.023E-16 | 2.953E-12 | 5.392E-10 | 1.735E-08 | 2.069E-07 | 1.327E-06 | 5.624E-06 | 1.784E-05 |
| 9 | 1077.70 | 2.5 | 1 | 9.434E-48 | 2.378E-24 | 1.503E-16 | 1.194E-12 | 2.614E-10 | 9.488E-09 | 1.233E-07 | 8.438E-07 | 3.762E-06 | 1.242E-05 |
| 10 | 1132.57 | 5.5 | 1 | 7.812E-50 | 3.061E-25 | 4.826E-17 | 6.060E-13 | 1.745E-10 | 7.604E-09 | 1.127E-07 | 8.500E-07 | 4.089E-06 | 1.435E-05 |
| 11 | 1192.50 | (1.5) | (-1) | 6.501E-53 | 5.098E-27 | 2.182E-18 | 4.515E-14 | 1.754E-11 | 9.336E-10 | 1.595E-08 | 1.340E-07 | 7.004E-07 | 2.627E-06 |
| 12 | 1287.40 | (1.5) | (1) | 4.915E-57 | 4.433E-29 | 9.228E-20 | 4.210E-15 | 2.629E-12 | 1.920E-10 | 4.112E-09 | 4.091E-08 | 2.440E-07 | 1.017E-06 |
| 13 | 1290.59 | 6.5 | 1 | 1.250E-56 | 1.323E-28 | 2.904E-19 | 1.361E-14 | 8.632E-12 | 6.371E-10 | 1.375E-08 | 1.376E-07 | 8.242E-07 | 3.448E-06 |
| 14 | 1347.50 | (4.5) | (1) | 3.016E-59 | 5.490E-30 | 3.112E-20 | 2.343E-15 | 1.976E-12 | 1.763E-10 | 4.356E-09 | 4.825E-08 | 3.128E-07 | 1.394E-06 |

REFERENCES : /6/, /16/

NUCLEUS: SN-121

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.5 | 1 | 3.848E-01 | 3.112E-01 | 2.858E-01 | 2.722E-01 | 2.635E-01 | 2.575E-01 | 2.530E-01 | 2.495E-01 | 2.466E-01 | 2.442E-01 |
| 2 | 6.30 | 5.5 | -1 | 6.148E-01 | 6.812E-01 | 6.951E-01 | 6.977E-01 | 6.970E-01 | 6.954E-01 | 6.936E-01 | 6.917E-01 | 6.899E-01 | 6.880E-01 |
| 3 | 60.34 | 0.5 | 1 | 4.610E-04 | 7.615E-03 | 1.912E-02 | 3.011E-02 | 3.942E-02 | 4.709E-02 | 5.342E-02 | 5.867E-02 | 6.307E-02 | 6.679E-02 |
| 4 | 663.63 | (4.5 ) | -1 | 1.453E-29 | 3.023E-15 | 1.766E-10 | 4.242E-08 | 1.134E-06 | 1.012E-05 | 4.827E-05 | 1.557E-04 | 3.869E-04 | 8.010E-04 |
| 5 | 869.24 | ( 2.5 ) | 1 | 1.026E-38 | 6.221E-20 | 1.119E-13 | 1.491E-10 | 1.114E-08 | 1.973E-07 | 1.535E-06 | 7.149E-06 | 2.364E-05 | 6.150E-05 |
| 6 | 908.90 | ( 1.5 ) | 1 | 1.296E-40 | 5.709E-21 | 1.988E-14 | 3.687E-11 | 3.359E-09 | 6.791E-08 | 5.808E-07 | 2.903E-06 | 1.014E-05 | 2.758E-05 |
| 7 | 925.60 | 3.5 | 1 | 4.879E-41 | 4.954E-21 | 2.279E-14 | 4.857E-11 | 4.811E-09 | 1.028E-07 | 9.151E-07 | 4.712E-06 | 1.685E-05 | 4.667E-05 |
| 8 | 949.20 | ( 3.5 ) | -1 | 4.607E-42 | 1.522E-21 | 1.038E-14 | 2.693E-11 | 3.001E-09 | 6.938E-08 | 6.532E-07 | 3.509E-06 | 1.296E-05 | 3.686E-05 |
| 9 | 1101.20 | ( 2.5 ) | 1 | 8.655E-49 | 5.714E-25 | 4.906E-17 | 4.518E-13 | 1.077E-10 | 4.131E-09 | 5.586E-08 | 3.936E-07 | 1.796E-06 | 6.046E-06 |

REFERENCES : /6/, /17/

NUCLEUS: SB-122

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.0 | 1 | 9.964E-01 | 9.106E-01 | 7.452E-01 | 5.844E-01 | 4.572E-01 | 3.634E-01 | 2.952E-01 | 2.451E-01 | 2.078E-01 | 1.794E-01 |
| 2 | 61.41 | 3.0 | 1 | 3.003E-03 | 5.915E-02 | 1.347E-01 | 1.762E-01 | 1.874E-01 | 1.828E-01 | 1.719E-01 | 1.593E-01 | 1.470E-01 | 1.359E-01 |
| 3 | 78.09 | 3.0 | -1 | 5.665E-04 | 2.569E-02 | 7.726E-02 | 1.161E-01 | 1.343E-01 | 1.385E-01 | 1.354E-01 | 1.293E-01 | 1.222E-01 | 1.150E-01 |
| 4 | 121.50 | 1.0 | 1 | 3.162E-06 | 1.256E-03 | 7.790E-03 | 1.681E-02 | 2.415E-02 | 2.878E-02 | 3.122E-02 | 3.221E-02 | 3.232E-02 | 3.193E-02 |
| 5 | 137.47 | 5.0 | 1 | 2.348E-06 | 2.073E-03 | 1.677E-02 | 4.136E-02 | 6.435E-02 | 8.087E-02 | 9.112E-02 | 9.673E-02 | 9.925E-02 | 9.980E-02 |
| 6 | 163.56 | 8.0 | -1 | 2.671E-07 | 8.693E-04 | 1.086E-02 | 3.329E-02 | 5.902E-02 | 8.091E-02 | 9.701E-02 | 1.079E-01 | 1.148E-01 | 1.188E-01 |
| 7 | 167.23 | 2.0 | 1 | 5.443E-08 | 2.128E-04 | 2.827E-03 | 8.934E-03 | 1.613E-02 | 2.239E-02 | 2.708E-02 | 3.031E-02 | 3.241E-02 | 3.369E-02 |
| 8 | 192.96 | 4.0 | -1 | 7.476E-09 | 1.058E-04 | 2.159E-03 | 8.452E-03 | 1.735E-02 | 2.624E-02 | 3.374E-02 | 3.955E-02 | 4.383E-02 | 4.688E-02 |
| 9 | 209.65 | 4.0 | 1 | 1.409E-09 | 4.593E-05 | 1.238E-03 | 5.568E-03 | 1.243E-02 | 1.987E-02 | 2.659E-02 | 3.211E-02 | 3.641E-02 | 3.967E-02 |
| 10 | 255.50 | 3.0 | 1 | 1.118E-11 | 3.609E-06 | 2.088E-04 | 1.376E-03 | 3.864E-03 | 7.197E-03 | 1.074E-02 | 1.408E-02 | 1.702E-02 | 1.951E-02 |
| 11 | 264.43 | 5.0 | -1 | 7.194E-12 | 3.629E-06 | 2.436E-04 | 1.730E-03 | 5.079E-03 | 9.746E-03 | 1.486E-02 | 1.979E-02 | 2.421E-02 | 2.804E-02 |
| 12 | 265.11 | 7.0 | -1 | 9.164E-12 | 4.783E-06 | 3.248E-04 | 2.320E-03 | 6.832E-03 | 1.314E-02 | 2.006E-02 | 2.675E-02 | 3.277E-02 | 3.797E-02 |
| 13 | 271.76 | 6.0 | -1 | 4.085E-12 | 2.973E-06 | 2.255E-04 | 1.702E-03 | 5.184E-03 | 1.019E-02 | 1.581E-02 | 2.134E-02 | 2.638E-02 | 3.079E-02 |
| 14 | 282.65 | 3.0 | -1 | 7.402E-13 | 9.286E-07 | 8.446E-05 | 6.982E-04 | 2.245E-03 | 4.578E-03 | 7.288E-03 | 1.003E-02 | 1.259E-02 | 1.487E-02 |
| 15 | 311.26 | 4.0 | -1 | 5.445E-14 | 2.856E-07 | 4.184E-05 | 4.390E-04 | 1.629E-03 | 3.653E-03 | 6.227E-03 | 9.015E-03 | 1.177E-02 | 1.436E-02 |
| 16 | 323.09 | 2.0 | 1 | 9.267E-15 | 8.781E-08 | 1.567E-05 | 1.815E-04 | 7.142E-04 | 1.667E-03 | 2.921E-03 | 4.320E-03 | 5.736E-03 | 7.089E-03 |
| 17 | 333.68 | 3.0 | 1 | 4.500E-15 | 7.240E-08 | 1.541E-05 | 1.950E-04 | 8.090E-04 | 1.956E-03 | 3.516E-03 | 5.298E-03 | 7.139E-03 | 8.927E-03 |
| 18 | 393.70 | 4.0 | 1 | 1.431E-17 | 4.630E-09 | 2.680E-06 | 5.590E-05 | 3.132E-04 | 9.247E-04 | 1.918E-03 | 3.217E-03 | 4.711E-03 | 6.298E-03 |
| 19 | 396.94 | 2.0 | 1 | 5.751E-18 | 2.187E-09 | 1.337E-06 | 2.864E-05 | 1.631E-04 | 4.867E-04 | 1.017E-03 | 1.716E-03 | 2.525E-03 | 3.387E-03 |
| 20 | 413.77 | 6.0 | -1 | 2.778E-18 | 2.452E-09 | 1.983E-06 | 4.889E-05 | 3.028E-04 | 9.559E-04 | 2.080E-03 | 3.616E-03 | 5.445E-03 | 7.443E-03 |
| 21 | 425.15 | 5.0 | -1 | 7.534E-19 | 1.174E-09 | 1.148E-06 | 3.113E-05 | 2.041E-04 | 6.691E-04 | 1.496E-03 | 2.654E-03 | 4.060E-03 | 5.620E-03 |
| 22 | 453.75 | (3.0) | 1 | 2.746E-20 | 1.788E-10 | 2.817E-07 | 9.690E-06 | 7.329E-05 | 2.644E-04 | 6.325E-04 | 1.181E-03 | 1.880E-03 | 2.687E-03 |
| 23 | 480.44 | 7.0 | -1 | 4.079E-21 | 1.009E-10 | 2.479E-07 | 1.065E-05 | 9.209E-05 | 3.631E-04 | 9.257E-04 | 1.813E-03 | 2.995E-03 | 4.409E-03 |
| 24 | 481.34 | 4.0 | 1 | 2.237E-21 | 5.787E-11 | 1.444E-07 | 6.250E-06 | 5.427E-05 | 2.146E-04 | 5.483E-04 | 1.076E-03 | 1.779E-03 | 2.622E-03 |
| 25 | 483.65 | 3.0 | 1 | 1.381E-21 | 4.010E-11 | 1.040E-07 | 4.589E-06 | 4.030E-05 | 1.606E-04 | 4.126E-04 | 8.128E-04 | 1.349E-03 | 1.992E-03 |
| 26 | 586.05 | 2.0 | 1 | 3.523E-26 | 1.712E-13 | 2.446E-09 | 2.534E-07 | 3.714E-06 | 2.082E-05 | 6.825E-05 | 1.614E-04 | 3.088E-04 | 5.112E-04 |
| 27 | 631.82 | 2.0 | -1 | 3.623E-28 | 1.736E-14 | 5.318E-10 | 8.069E-08 | 1.487E-06 | 9.708E-06 | 3.549E-05 | 9.109E-05 | 1.857E-04 | 3.234E-04 |
| 28 | 642.56 | 4.0 | -1 | 2.228E-28 | 1.827E-14 | 6.692E-10 | 1.110E-07 | 2.159E-06 | 1.461E-05 | 5.480E-05 | 1.434E-04 | 2.967E-04 | 5.229E-04 |
| 29 | 658.44 | 3.0 | 1 | 3.541E-29 | 6.422E-15 | 3.066E-10 | 5.807E-08 | 1.222E-06 | 8.722E-06 | 3.397E-05 | 9.143E-05 | 1.934E-04 | 3.470E-04 |
| 30 | 667.55 | (2.0) | 1 | 1.017E-29 | 2.909E-15 | 1.616E-10 | 3.303E-08 | 7.276E-07 | 5.352E-06 | 2.131E-05 | 5.828E-05 | 1.249E-04 | 2.263E-04 |
| 31 | 693.99 | 5.0 | -1 | 1.591E-30 | 1.706E-15 | 1.473E-10 | 3.752E-08 | 9.433E-07 | 7.578E-06 | 3.213E-05 | 9.213E-05 | 2.048E-04 | 3.821E-04 |
| 32 | 702.73 | (6.0) | -1 | 7.844E-31 | 1.302E-15 | 1.301E-10 | 3.564E-08 | 9.360E-07 | 7.742E-06 | 3.351E-05 | 9.761E-05 | 2.196E-04 | 4.138E-04 |
| 33 | 796.77 | 3.0 | -1 | 3.480E-35 | 6.366E-18 | 3.048E-12 | 1.828E-09 | 7.685E-08 | 8.696E-07 | 4.709E-06 | 1.622E-05 | 4.159E-05 | 8.700E-05 |
| 34 | 824.96 | 3.0 | -1 | 2.077E-36 | 1.555E-18 | 1.191E-12 | 9.036E-10 | 4.373E-08 | 5.436E-07 | 3.148E-06 | 1.141E-05 | 3.040E-05 | 6.563E-05 |
| 35 | 868.57 | 3.0 | 1 | 2.651E-38 | 1.757E-19 | 2.784E-13 | 3.037E-10 | 1.828E-08 | 2.628E-07 | 1.688E-06 | 6.613E-06 | 1.873E-05 | 4.243E-05 |
| 36 | 920.57 | (3.0) | -1 | 1.463E-40 | 1.305E-20 | 4.919E-14 | 8.277E-11 | 6.461E-09 | 1.105E-07 | 8.032E-07 | 3.452E-06 | 1.051E-05 | 2.523E-05 |

REFERENCES : /6/, /36/

NUCLEUS: SN-123

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 5.5 | -1 | 9.723E-01 | 9.111E-01 | 8.711E-01 | 8.445E-01 | 8.251E-01 | 8.098E-01 | 7.974E-01 | 7.868E-01 | 7.777E-01 | 7.694E-01 |
| 2 | 24.60 | 1.5 | 1 | 2.769E-02 | 8.877E-02 | 1.279E-01 | 1.522E-01 | 1.681E-01 | 1.791E-01 | 1.870E-01 | 1.928E-01 | 1.972E-01 | 2.005E-01 |
| 3 | 150.36 | 0.5 | 1 | 4.783E-08 | 8.249E-05 | 9.666E-04 | 3.281E-03 | 6.797E-03 | 1.101E-02 | 1.551E-02 | 2.002E-02 | 2.438E-02 | 2.851E-02 |
| 4 | 618.80 | ( 4.5 ) | -1 | 1.083E-27 | 2.776E-14 | 7.996E-10 | 1.346E-07 | 2.901E-06 | 2.240E-05 | 9.623E-05 | 2.867E-04 | 6.693E-04 | 1.317E-03 |
| 5 | 870.20 | ( 1.5 ) | ( 1 ) | 5.233E-39 | 3.858E-20 | 7.338E-14 | 1.003E-10 | 7.602E-09 | 1.357E-07 | 1.061E-06 | 4.951E-06 | 1.639E-05 | 4.264E-05 |
| 6 | 899.00 | ( 2.5 ) | 1 | 4.407E-40 | 1.371E-20 | 4.214E-14 | 7.326E-11 | 6.410E-09 | 1.259E-07 | 1.055E-06 | 5.182E-06 | 1.785E-05 | 4.796E-05 |
| 7 | 919.80 | ( 1.5 ) | ( 1 ) | 3.670E-41 | 3.231E-21 | 1.405E-14 | 2.903E-11 | 2.819E-09 | 5.937E-08 | 5.223E-07 | 2.664E-06 | 9.445E-06 | 2.597E-05 |
| 8 | 931.40 | ( 3.5 ) | -1 | 2.301E-41 | 3.618E-21 | 1.908E-14 | 4.345E-11 | 4.471E-09 | 9.786E-08 | 8.851E-07 | 4.608E-06 | 1.660E-05 | 4.625E-05 |
| 9 | 1044.30 | ( 3.5 ) | 1 | 2.876E-46 | 1.279E-23 | 4.428E-16 | 2.583E-12 | 4.675E-10 | 1.491E-08 | 1.764E-07 | 1.124E-06 | 4.736E-06 | 1.495E-05 |
| 10 | 1072.00 | ( 1.5 ) | 1 | 9.011E-48 | 1.601E-24 | 8.795E-17 | 6.463E-13 | 1.343E-10 | 4.698E-09 | 5.938E-08 | 3.974E-07 | 1.741E-06 | 5.668E-06 |

REFERENCES : /6/, /18/

NUCLEUS: TE-123

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 0.5 | 1 | 1.000E+00 | 9.993E-01 | 9.886E-01 | 9.524E-01 | 8.878E-01 | 8.053E-01 | 7.184E-01 | 6.361E-01 | 5.628E-01 | 4.993E-01 |
| 2 | 158.99 | 1.5 | 1 | 2.490E-07 | 7.052E-04 | 9.873E-03 | 3.578E-02 | 7.385E-02 | 1.138E-01 | 1.482E-01 | 1.744E-01 | 1.924E-01 | 2.037E-01 |
| 3 | 247.46 | 5.5 | -1 | 1.075E-10 | 2.537E-05 | 1.552E-03 | 1.175E-02 | 3.776E-02 | 7.815E-02 | 1.257E-01 | 1.731E-01 | 2.160E-01 | 2.523E-01 |
| 4 | 440.00 | 1.5 | 1 | 1.557E-19 | 5.575E-10 | 8.441E-07 | 3.181E-05 | 2.676E-04 | 1.052E-03 | 2.676E-03 | 5.199E-03 | 8.475E-03 | 1.226E-02 |
| 5 | 489.72 | 0.5 | 1 | 5.394E-22 | 2.321E-11 | 8.047E-08 | 4.590E-06 | 4.951E-05 | 2.298E-04 | 6.577E-04 | 1.396E-03 | 2.439E-03 | 3.729E-03 |
| 6 | 496.00 | 2.5 | 1 | 8.636E-22 | 5.086E-11 | 1.958E-07 | 1.177E-05 | 1.310E-04 | 6.208E-04 | 1.804E-03 | 3.873E-03 | 6.823E-03 | 1.051E-02 |
| 7 | 505.34 | (2.5) | 1 | 3.394E-22 | 3.188E-11 | 1.434E-07 | 9.317E-06 | 1.087E-04 | 5.313E-04 | 1.578E-03 | 3.446E-03 | 6.151E-03 | 9.568E-03 |
| 8 | (532.78) | (1.5) | (1) | 1.455E-23 | 5.390E-12 | 3.831E-08 | 3.128E-06 | 4.185E-05 | 2.242E-04 | 7.111E-04 | 1.630E-03 | 3.023E-03 | 4.848E-03 |
| 9 | 599.57 | 0.5 | 1 | 9.147E-27 | 9.555E-14 | 2.067E-09 | 2.945E-07 | 5.502E-06 | 3.682E-05 | 1.369E-04 | 3.537E-04 | 7.196E-04 | 1.243E-03 |
| 10 | 687.95 | (1.5) | 1 | 2.655E-30 | 2.302E-15 | 2.173E-10 | 6.465E-08 | 1.879E-06 | 1.688E-05 | 7.748E-05 | 2.344E-04 | 5.391E-04 | 1.027E-03 |
| 11 | 697.52 | (0.5) | 1 | 5.098E-31 | 7.133E-16 | 7.896E-11 | 2.545E-08 | 7.758E-07 | 7.197E-06 | 3.379E-05 | 1.040E-04 | 2.424E-04 | 4.668E-04 |
| 12 | 769.26 | (1.5) | (1) | 7.813E-34 | 3.949E-17 | 1.445E-11 | 8.467E-09 | 3.695E-07 | 4.354E-06 | 2.425E-05 | 8.482E-05 | 2.184E-04 | 4.556E-04 |
| 13 | 783.60 | (0.5) | 1 | 9.312E-35 | 9.641E-18 | 4.480E-12 | 2.958E-09 | 1.387E-07 | 1.714E-06 | 9.880E-06 | 3.545E-05 | 9.313E-05 | 1.974E-04 |
| 14 | 883.00 | (2.5) | (1) | 1.347E-38 | 2.008E-19 | 4.891E-13 | 7.395E-10 | 5.699E-08 | 9.811E-07 | 7.164E-06 | 3.070E-05 | 9.258E-05 | 2.191E-04 |
| 15 | 894.74 | (1.5) | 1 | 2.776E-39 | 7.443E-20 | 2.205E-13 | 3.676E-10 | 3.004E-08 | 5.378E-07 | 4.039E-06 | 1.767E-05 | 5.417E-05 | 1.299E-04 |
| 16 | 996.07 | (2.5) | -1 | 1.655E-43 | 7.039E-22 | 1.129E-14 | 4.378E-11 | 5.939E-09 | 1.490E-07 | 1.424E-06 | 7.470E-06 | 2.636E-05 | 7.073E-05 |
| 17 | 1036.64 | (1.5) | 1 | 1.909E-45 | 6.173E-23 | 1.946E-15 | 1.059E-11 | 1.759E-09 | 5.053E-08 | 5.319E-07 | 2.999E-06 | 1.120E-05 | 3.143E-05 |

REFERENCES : /6/, /19/

NUCLEUS: TE-127

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.5 | 1 | 9.985E-01 | 9.435E-01 | 8.174E-01 | 6.949E-01 | 6.009E-01 | 5.312E-01 | 4.784E-01 | 4.367E-01 | 4.024E-01 | 3.734E-01 |
| 2 | 61.10 | 0.5 | 1 | 1.109E-03 | 2.223E-02 | 5.332E-02 | 7.542E-02 | 8.852E-02 | 9.594E-02 | 9.993E-02 | 1.017E-01 | 1.020E-01 | 1.013E-01 |
| 3 | 88.30 | 5.5 | -1 | 4.382E-04 | 3.424E-02 | 1.292E-01 | 2.293E-01 | 3.083E-01 | 3.658E-01 | 4.065E-01 | 4.344E-01 | 4.526E-01 | 4.633E-01 |
| 4 | 340.70 | 4.5 | -1 | 3.990E-15 | 9.430E-08 | 2.389E-05 | 3.473E-04 | 1.650E-03 | 4.541E-03 | 9.204E-03 | 1.544E-02 | 2.283E-02 | 3.094E-02 |
| 5 | 370.00 | (2.5) | (1) | 1.278E-16 | 1.307E-08 | 5.398E-06 | 1.002E-04 | 5.509E-04 | 1.672E-03 | 3.634E-03 | 6.421E-03 | 9.893E-03 | 1.385E-02 |
| 6 | 473.00 | 2.5 | 1 | 4.300E-21 | 7.583E-11 | 1.743E-07 | 7.629E-06 | 7.022E-05 | 3.004E-04 | 8.343E-04 | 1.772E-03 | 3.150E-03 | 4.944E-03 |
| 7 | 503.50 | (2.5) | (1) | 2.037E-22 | 1.650E-11 | 6.305E-08 | 3.559E-06 | 3.815E-05 | 1.807E-04 | 5.396E-04 | 1.210E-03 | 2.245E-03 | 3.644E-03 |
| 8 | 510.00 | (3.5) | (1) | 1.418E-22 | 1.590E-11 | 6.769E-08 | 4.034E-06 | 4.467E-05 | 2.162E-04 | 6.557E-04 | 1.488E-03 | 2.784E-03 | 4.553E-03 |
| 9 | 631.50 | (3.5) | (1) | 7.498E-28 | 3.656E-14 | 1.179E-09 | 1.934E-07 | 3.933E-06 | 2.854E-05 | 1.156E-04 | 3.258E-04 | 7.218E-04 | 1.351E-03 |
| 10 | 640.00 | (2.5) | (1) | 2.404E-28 | 1.793E-14 | 6.662E-10 | 1.173E-07 | 2.488E-06 | 1.857E-05 | 7.677E-05 | 2.197E-04 | 4.926E-04 | 9.307E-04 |
| 11 | 685.70 | 3.5 | 1 | 3.320E-30 | 2.433E-15 | 1.936E-10 | 4.989E-08 | 1.330E-06 | 1.156E-05 | 5.328E-05 | 1.655E-04 | 3.952E-04 | 7.857E-04 |
| 12 | 764.00 | (2.5) | 1 | 9.900E-34 | 3.638E-17 | 1.068E-11 | 5.284E-09 | 2.084E-07 | 2.352E-06 | 1.306E-05 | 4.664E-05 | 1.242E-04 | 2.693E-04 |
| 13 | 783.70 | 2.5 | 1 | 1.381E-34 | 1.359E-17 | 5.538E-12 | 3.229E-09 | 1.405E-07 | 1.694E-06 | 9.855E-06 | 3.646E-05 | 9.978E-05 | 2.212E-04 |
| 14 | 785.80 | (4.5) | (-1) | 1.865E-34 | 2.039E-17 | 8.606E-12 | 5.107E-09 | 2.246E-07 | 2.725E-06 | 1.594E-05 | 5.919E-05 | 1.625E-04 | 3.610E-04 |
| 15 | 924.00 | 3.5 | 1 | 1.486E-40 | 1.627E-20 | 6.875E-14 | 1.290E-10 | 1.133E-08 | 2.179E-07 | 1.771E-06 | 8.415E-06 | 2.799E-05 | 7.250E-05 |
| 16 | 980.00 | (2.5) | (1) | 4.121E-43 | 7.422E-22 | 7.973E-15 | 2.387E-11 | 2.771E-09 | 6.426E-08 | 5.967E-07 | 3.134E-06 | 1.127E-05 | 3.106E-05 |
| 17 | 1078.00 | (4.5) | (1) | 3.809E-47 | 9.212E-24 | 5.068E-16 | 3.433E-12 | 6.506E-10 | 2.091E-08 | 2.452E-07 | 1.535E-06 | 6.320E-06 | 1.943E-05 |
| 18 | 1142.00 | 2.5 | 1 | 3.797E-50 | 2.253E-25 | 3.601E-17 | 4.158E-13 | 1.085E-10 | 4.319E-09 | 5.898E-08 | 4.137E-07 | 1.862E-06 | 6.147E-06 |

REFERENCES : /6/, /20/

NUCLEUS: J-128

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.0 | 1 | 9.021E-01 | 6.794E-01 | 5.085E-01 | 3.732E-01 | 2.766E-01 | 2.112E-01 | 1.669E-01 | 1.361E-01 | 1.140E-01 | 9.762E-02 |
| 2 | 27.36 | 2.0 | 1 | 9.747E-02 | 2.883E-01 | 3.404E-01 | 3.139E-01 | 2.667E-01 | 2.231E-01 | 1.881E-01 | 1.611E-01 | 1.402E-01 | 1.238E-01 |
| 3 | 85.47 | 3.0 | 1 | 4.087E-04 | 2.209E-02 | 6.870E-02 | 1.028E-01 | 1.168E-01 | 1.186E-01 | 1.148E-01 | 1.091E-01 | 1.029E-01 | 9.690E-02 |
| 4 | 128.24 | (4.0) | 1 | 7.295E-06 | 3.346E-03 | 2.123E-02 | 4.537E-02 | 6.383E-02 | 7.474E-02 | 8.014E-02 | 8.217E-02 | 8.225E-02 | 8.123E-02 |
| 5 | 133.61 | 2.0 | -1 | 2.369E-06 | 1.421E-03 | 9.861E-03 | 2.204E-02 | 3.185E-02 | 3.797E-02 | 4.124E-02 | 4.269E-02 | 4.305E-02 | 4.277E-02 |
| 6 | 137.85 | 4.0 | -1 | 2.791E-06 | 2.070E-03 | 1.541E-02 | 3.568E-02 | 5.267E-02 | 6.367E-02 | 6.986E-02 | 7.287E-02 | 7.392E-02 | 7.379E-02 |
| 7 | 144.00 | 3.0 | -1 | 1.173E-06 | 1.184E-03 | 9.764E-03 | 2.380E-02 | 3.623E-02 | 4.470E-02 | 4.977E-02 | 5.249E-02 | 5.370E-02 | 5.397E-02 |
| 8 | 151.64 | 3.0 | 1 | 5.466E-07 | 8.078E-04 | 7.569E-03 | 1.966E-02 | 3.109E-02 | 3.936E-02 | 4.462E-02 | 4.770E-02 | 4.933E-02 | 5.000E-02 |
| 9 | 160.76 | 2.0 | 1 | 1.568E-07 | 3.657E-04 | 3.989E-03 | 1.118E-02 | 1.851E-02 | 2.415E-02 | 2.798E-02 | 3.040E-02 | 3.184E-02 | 3.260E-02 |
| 10 | 167.37 | 6.0 | -1 | 2.106E-07 | 6.833E-04 | 8.321E-03 | 2.464E-02 | 4.216E-02 | 5.623E-02 | 6.619E-02 | 7.278E-02 | 7.692E-02 | 7.934E-02 |
| 11 | 180.38 | 3.0 | 1 | 3.087E-08 | 1.920E-04 | 2.904E-03 | 9.583E-03 | 1.750E-02 | 2.438E-02 | 2.960E-02 | 3.331E-02 | 3.584E-02 | 3.751E-02 |
| 12 | 220.93 | 1.0 | 1 | 2.293E-10 | 1.083E-05 | 3.221E-04 | 1.490E-03 | 3.333E-03 | 5.315E-03 | 7.107E-03 | 8.599E-03 | 9.789E-03 | 1.072E-02 |
| 13 | 226.10 | (6.0) | -1 | 5.926E-10 | 3.625E-05 | 1.175E-03 | 5.675E-03 | 1.302E-02 | 2.113E-02 | 2.860E-02 | 3.493E-02 | 4.005E-02 | 4.410E-02 |
| 14 | 232.58 | 4.0 | 1 | 2.146E-10 | 1.815E-05 | 6.553E-04 | 3.341E-03 | 7.921E-03 | 1.313E-02 | 1.805E-02 | 2.230E-02 | 2.580E-02 | 2.861E-02 |
| 15 | 234.49 | 5.0 | -1 | 2.167E-10 | 2.016E-05 | 7.515E-04 | 3.893E-03 | 9.318E-03 | 1.555E-02 | 2.147E-02 | 2.661E-02 | 3.087E-02 | 3.431E-02 |
| 16 | 269.37 | (6.0) | -1 | 7.827E-12 | 4.166E-06 | 2.777E-04 | 1.924E-03 | 5.482E-03 | 1.027E-02 | 1.542E-02 | 2.034E-02 | 2.476E-02 | 2.861E-02 |
| 17 | 294.36 | 5.0 | -1 | 5.442E-13 | 1.010E-06 | 1.022E-04 | 8.715E-04 | 2.814E-03 | 5.731E-03 | 9.128E-03 | 1.259E-02 | 1.587E-02 | 1.885E-02 |
| 18 | 295.67 | 2.0 | 1 | 2.170E-13 | 4.302E-07 | 4.445E-05 | 3.834E-04 | 1.246E-03 | 2.549E-03 | 4.072E-03 | 5.630E-03 | 7.111E-03 | 8.459E-03 |
| 19 | 344.52 | 4.0 | 1 | 2.953E-15 | 6.732E-08 | 1.570E-05 | 2.035E-04 | 8.442E-04 | 2.033E-03 | 3.648E-03 | 5.503E-03 | 7.438E-03 | 9.342E-03 |
| 20 | 372.12 | (2.0) | 1 | 1.038E-16 | 9.409E-09 | 3.476E-06 | 5.670E-05 | 2.701E-04 | 7.128E-04 | 1.366E-03 | 2.165E-03 | 3.041E-03 | 3.938E-03 |
| 21 | 376.62 | 4.0 | -1 | 1.192E-16 | 1.352E-08 | 5.386E-06 | 9.120E-05 | 4.443E-04 | 1.190E-03 | 2.306E-03 | 3.684E-03 | 5.207E-03 | 6.777E-03 |
| 22 | 385.45 | 2.0 | 1 | 2.738E-17 | 4.832E-09 | 2.229E-06 | 4.063E-05 | 2.069E-04 | 5.708E-04 | 1.129E-03 | 1.833E-03 | 2.622E-03 | 3.447E-03 |
| 23 | 386.59 | 5.0 | -1 | 5.374E-17 | 1.004E-08 | 4.722E-06 | 8.688E-05 | 4.448E-04 | 1.232E-03 | 2.444E-03 | 3.975E-03 | 5.697E-03 | 7.497E-03 |
| 24 | 392.00 | 1.0 | 1 | 8.533E-18 | 2.089E-09 | 1.075E-06 | 2.070E-05 | 1.089E-04 | 3.071E-04 | 6.171E-04 | 1.013E-03 | 1.463E-03 | 1.937E-03 |
| 25 | 416.28 | (3.0) | 1 | 1.756E-18 | 1.448E-09 | 1.117E-06 | 2.632E-05 | 1.563E-04 | 4.781E-04 | 1.018E-03 | 1.745E-03 | 2.606E-03 | 3.545E-03 |
| 26 | 426.40 | 2.0 | 1 | 4.560E-19 | 6.236E-10 | 5.693E-07 | 1.460E-05 | 9.120E-05 | 2.885E-04 | 6.292E-04 | 1.099E-03 | 1.664E-03 | 2.289E-03 |
| 27 | 434.36 | 4.0 | -1 | 3.703E-19 | 7.539E-10 | 7.859E-07 | 2.153E-05 | 1.400E-04 | 4.547E-04 | 1.011E-03 | 1.790E-03 | 2.741E-03 | 3.804E-03 |
| 28 | 435.51 | 4.0 | -1 | 3.301E-19 | 7.118E-10 | 7.564E-07 | 2.092E-05 | 1.368E-04 | 4.461E-04 | 9.943E-04 | 1.765E-03 | 2.706E-03 | 3.761E-03 |
| 29 | 485.48 | 1.0 | 1 | 7.436E-22 | 1.950E-11 | 4.767E-08 | 2.000E-06 | 1.679E-05 | 6.466E-05 | 1.623E-04 | 3.150E-04 | 5.178E-04 | 7.606E-04 |
| 30 | 518.46 | 4.0 | -1 | 8.245E-23 | 1.125E-11 | 4.764E-08 | 2.630E-06 | 2.604E-05 | 1.119E-04 | 3.040E-04 | 6.257E-04 | 1.077E-03 | 1.641E-03 |
| 31 | 521.08 | 5.0 | -1 | 7.754E-23 | 1.206E-11 | 5.335E-08 | 3.011E-06 | 3.020E-05 | 1.310E-04 | 3.579E-04 | 7.401E-04 | 1.278E-03 | 1.953E-03 |
| 32 | 529.96 | 3.0 | 1 | 2.030E-23 | 4.923E-12 | 2.525E-08 | 1.535E-06 | 1.609E-05 | 7.189E-05 | 2.006E-04 | 4.215E-04 | 7.370E-04 | 1.137E-03 |
| 33 | 549.73 | (4.0) | 1 | 3.615E-24 | 2.356E-12 | 1.680E-08 | 1.204E-06 | 1.393E-05 | 6.648E-05 | 1.945E-04 | 4.233E-04 | 7.607E-04 | 1.200E-03 |
| 34 | 552.32 | (5.0) | -1 | 3.410E-24 | 2.529E-12 | 1.883E-08 | 1.379E-06 | 1.617E-05 | 7.782E-05 | 2.291E-04 | 5.008E-04 | 9.034E-04 | 1.429E-03 |
| 35 | 554.43 | 3.0 | -1 | 1.757E-24 | 1.448E-12 | 1.117E-08 | 8.324E-07 | 9.864E-06 | 4.781E-05 | 1.414E-04 | 3.104E-04 | 5.616E-04 | 8.906E-04 |
| 36 | 608.71 | 4.0 | -1 | 9.924E-27 | 1.234E-13 | 2.352E-09 | 2.755E-07 | 4.283E-06 | 2.488E-05 | 8.374E-05 | 2.025E-04 | 3.950E-04 | 6.654E-04 |
| 37 | 657.23 | 3.0 | 1 | 6.031E-29 | 8.484E-15 | 3.630E-10 | 6.371E-08 | 1.262E-06 | 8.618E-06 | 3.257E-05 | 8.588E-05 | 1.792E-04 | 3.186E-04 |
| 38 | 687.05 | 4.0 | -1 | 3.931E-30 | 2.456E-15 | 1.727E-10 | 3.886E-08 | 8.939E-07 | 6.741E-06 | 2.735E-05 | 7.606E-05 | 1.654E-04 | 3.040E-04 |
| 39 | 728.18 | 4.0 | -1 | 6.430E-32 | 3.141E-16 | 4.385E-11 | 1.390E-08 | 3.927E-07 | 3.396E-06 | 1.520E-05 | 4.548E-05 | 1.047E-04 | 2.015E-04 |
| 40 | 934.06 | 4.0 | -1 | 7.363E-41 | 1.063E-20 | 4.587E-14 | 8.085E-11 | 6.394E-09 | 1.099E-07 | 8.024E-07 | 3.469E-06 | 1.063E-05 | 2.571E-05 |

REFERENCES : /6/, /21/

NUCLEUS: J-129

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 3.5 | 1 | 9.554E-01 | 8.424E-01 | 7.709E-01 | 7.272E-01 | 6.982E-01 | 6.769E-01 | 6.602E-01 | 6.460E-01 | 6.332E-01 | 6.212E-01 |
| 2 | 27.77 | 2.5 | 1 | 4.459E-02 | 1.576E-01 | 2.291E-01 | 2.724E-01 | 3.005E-01 | 3.196E-01 | 3.330E-01 | 3.424E-01 | 3.488E-01 | 3.529E-01 |
| 3 | 278.42 | 1.5 | 1 | 3.870E-13 | 3.791E-07 | 3.593E-05 | 3.449E-04 | 1.332E-03 | 3.268E-03 | 6.184E-03 | 9.948E-03 | 1.435E-02 | 1.919E-02 |
| 4 | 487.38 | (2.5) | 1 | 4.885E-22 | 1.649E-11 | 5.088E-08 | 2.787E-06 | 3.060E-05 | 1.506E-04 | 4.687E-04 | 1.095E-03 | 2.112E-03 | 3.561E-03 |
| 5 | 559.60 | 0.5 | 1 | 1.189E-25 | 1.486E-13 | 1.527E-09 | 1.527E-07 | 2.406E-06 | 1.507E-05 | 5.568E-05 | 1.480E-04 | 3.156E-04 | 5.766E-04 |
| 6 | 661.00 | (2.5) | 1 | 1.408E-29 | 2.800E-15 | 1.560E-10 | 3.631E-08 | 9.498E-07 | 8.340E-06 | 3.924E-05 | 1.250E-04 | 3.069E-04 | 6.275E-04 |
| 7 | 695.98 | 5.5 | 1 | 8.522E-31 | 9.742E-16 | 9.722E-11 | 3.029E-08 | 9.437E-07 | 9.311E-06 | 4.762E-05 | 1.615E-04 | 4.161E-04 | 8.845E-04 |
| 8 | 729.62 | 4.5 | 1 | 2.457E-32 | 1.510E-16 | 2.640E-11 | 1.089E-08 | 4.013E-07 | 4.429E-06 | 2.454E-05 | 8.836E-05 | 2.386E-04 | 5.265E-04 |
| 9 | 768.90 | 3.5 | 1 | 3.869E-34 | 1.695E-17 | 5.702E-12 | 3.262E-09 | 1.463E-07 | 1.841E-06 | 1.120E-05 | 4.326E-05 | 1.234E-04 | 2.844E-04 |
| 10 | 829.90 | (1.5) | 1 | 4.339E-37 | 4.014E-19 | 3.732E-13 | 3.549E-10 | 2.160E-08 | 3.331E-07 | 2.343E-06 | 1.009E-05 | 3.132E-05 | 7.726E-05 |
| 11 | 845.00 | (4.5) | 1 | 2.397E-37 | 4.716E-19 | 5.640E-13 | 6.083E-10 | 3.993E-08 | 6.474E-07 | 4.721E-06 | 2.089E-05 | 6.621E-05 | 1.661E-04 |
| 12 | 1047.00 | (1.5) | 1 | 1.618E-46 | 7.750E-24 | 2.686E-16 | 1.560E-12 | 2.811E-10 | 8.935E-09 | 1.054E-07 | 6.689E-07 | 2.807E-06 | 8.813E-06 |
| 13 | 1050.04 | 3.5 | 1 | 2.388E-46 | 1.331E-23 | 4.854E-16 | 2.891E-12 | 5.290E-10 | 1.699E-08 | 2.018E-07 | 1.288E-06 | 5.427E-06 | 1.710E-05 |
| 14 | 1111.75 | 2.5 | 1 | 3.741E-49 | 4.564E-25 | 4.654E-17 | 4.635E-13 | 1.155E-10 | 4.555E-09 | 6.269E-08 | 4.466E-07 | 2.051E-06 | 6.918E-06 |

REFERENCES : /6/

NUCLEUS: CS-134

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 4.0 | 1 | 7.149E-01 | 5.756E-01 | 5.065E-01 | 4.528E-01 | 4.041E-01 | 3.596E-01 | 3.202E-01 | 2.860E-01 | 2.569E-01 | 2.322E-01 |
| 2 | 11.25 | 5.0 | 1 | 2.837E-01 | 4.008E-01 | 4.255E-01 | 4.178E-01 | 3.943E-01 | 3.644E-01 | 3.332E-01 | 3.037E-01 | 2.771E-01 | 2.536E-01 |
| 3 | 60.03 | 3.0 | 1 | 1.374E-03 | 2.226E-02 | 5.326E-02 | 7.852E-02 | 9.460E-02 | 1.028E-01 | 1.056E-01 | 1.050E-01 | 1.026E-01 | 9.909E-02 |
| 4 | 138.75 | 8.0 | -1 | 1.273E-06 | 1.055E-03 | 9.380E-03 | 2.665E-02 | 4.759E-02 | 6.725E-02 | 8.332E-02 | 9.537E-02 | 1.039E-01 | 1.095E-01 |
| 5 | 173.80 | (2.0) | 1 | 1.125E-08 | 5.381E-05 | 8.577E-04 | 3.263E-03 | 6.943E-03 | 1.103E-02 | 1.485E-02 | 1.810E-02 | 2.069E-02 | 2.269E-02 |
| 6 | 176.40 | 3.0 | -1 | 1.214E-08 | 6.615E-05 | 1.101E-03 | 4.281E-03 | 9.228E-03 | 1.479E-02 | 2.004E-02 | 2.453E-02 | 2.815E-02 | 3.095E-02 |
| 7 | 176.64 | 1.0 | 1 | 5.080E-09 | 2.801E-05 | 4.681E-04 | 1.824E-03 | 3.936E-03 | 6.311E-03 | 8.557E-03 | 1.048E-02 | 1.203E-02 | 1.323E-02 |
| 8 | 190.26 | (3.0) | 1 | 3.036E-09 | 3.308E-05 | 6.937E-04 | 3.027E-03 | 6.994E-03 | 1.174E-02 | 1.644E-02 | 2.063E-02 | 2.413E-02 | 2.694E-02 |
| 9 | 193.62 | 4.0 | -1 | 2.790E-09 | 3.595E-05 | 7.974E-04 | 3.579E-03 | 8.408E-03 | 1.427E-02 | 2.014E-02 | 2.543E-02 | 2.989E-02 | 3.350E-02 |
| 10 | 197.78 | 2.0 | 1 | 1.022E-09 | 1.622E-05 | 3.856E-04 | 1.792E-03 | 4.298E-03 | 7.395E-03 | 1.054E-02 | 1.341E-02 | 1.585E-02 | 1.785E-02 |
| 11 | 209.55 | (5.0) | 1 | 6.932E-10 | 1.981E-05 | 5.731E-04 | 2.937E-03 | 7.473E-03 | 1.337E-02 | 1.961E-02 | 2.547E-02 | 3.060E-02 | 3.491E-02 |
| 12 | 234.34 | (3.0) | 1 | 3.698E-11 | 3.651E-06 | 1.596E-04 | 1.006E-03 | 2.896E-03 | 5.629E-03 | 8.756E-03 | 1.189E-02 | 1.479E-02 | 1.734E-02 |
| 13 | 257.11 | 6.0 | -1 | 7.046E-12 | 2.172E-06 | 1.388E-04 | 1.057E-03 | 3.411E-03 | 7.153E-03 | 1.175E-02 | 1.661E-02 | 2.132E-02 | 2.564E-02 |
| 14 | 267.67 | 5.0 | -1 | 2.074E-12 | 1.084E-06 | 8.258E-05 | 6.869E-04 | 2.337E-03 | 5.076E-03 | 8.547E-03 | 1.232E-02 | 1.604E-02 | 1.952E-02 |
| 15 | 271.35 | (3.0) | 1 | 9.134E-13 | 5.737E-07 | 4.648E-05 | 3.987E-04 | 1.382E-03 | 3.038E-03 | 5.161E-03 | 7.485E-03 | 9.801E-03 | 1.198E-02 |
| 16 | 290.97 | (2.0) | 1 | 9.172E-14 | 1.537E-07 | 1.726E-05 | 1.744E-04 | 6.666E-04 | 1.565E-03 | 2.785E-03 | 4.184E-03 | 5.629E-03 | 7.030E-03 |
| 17 | 344.36 | 7.0 | -1 | 1.321E-15 | 3.194E-08 | 8.737E-06 | 1.377E-04 | 6.874E-04 | 1.928E-03 | 3.897E-03 | 6.439E-03 | 9.331E-03 | 1.237E-02 |
| 18 | 377.10 | 3.0 | 1 | 2.334E-17 | 2.900E-09 | 1.369E-06 | 2.834E-05 | 1.667E-04 | 5.213E-04 | 1.139E-03 | 1.996E-03 | 3.027E-03 | 4.159E-03 |
| 19 | 382.99 | 6.0 | -1 | 2.405E-17 | 4.012E-09 | 2.089E-06 | 4.543E-05 | 2.751E-04 | 8.777E-04 | 1.945E-03 | 3.443E-03 | 5.265E-03 | 7.283E-03 |
| 20 | 434.18 | (6.0) | -1 | 1.439E-19 | 3.103E-10 | 3.793E-07 | 1.264E-05 | 9.884E-05 | 3.739E-04 | 9.361E-04 | 1.816E-03 | 2.981E-03 | 4.365E-03 |
| 21 | 450.24 | 5.0 | -1 | 2.443E-20 | 1.176E-10 | 1.879E-07 | 7.156E-06 | 6.066E-05 | 2.421E-04 | 6.297E-04 | 1.257E-03 | 2.110E-03 | 3.145E-03 |
| 22 | 451.43 | (3.0) | 1 | 1.380E-20 | 7.052E-11 | 1.149E-07 | 4.420E-06 | 3.769E-05 | 1.510E-04 | 3.940E-04 | 7.881E-04 | 1.325E-03 | 1.978E-03 |
| 23 | 454.09 | (4.0) | 1 | 1.360E-20 | 7.938E-11 | 1.352E-07 | 5.318E-06 | 4.595E-05 | 1.858E-04 | 4.876E-04 | 9.802E-04 | 1.654E-03 | 2.476E-03 |
| 24 | 483.66 | (3.0) | -1 | 5.499E-22 | 1.408E-11 | 3.925E-08 | 1.975E-06 | 1.978E-05 | 8.827E-05 | 2.486E-04 | 5.268E-04 | 9.263E-04 | 1.433E-03 |
| 25 | 502.84 | (4.0) | 1 | 1.039E-22 | 6.936E-12 | 2.662E-08 | 1.572E-06 | 1.733E-05 | 8.244E-05 | 2.430E-04 | 5.329E-04 | 9.624E-04 | 1.521E-03 |
| 26 | 519.33 | (3.0) | 1 | 1.553E-23 | 2.365E-12 | 1.195E-08 | 8.095E-07 | 9.693E-06 | 4.871E-05 | 1.493E-04 | 3.373E-04 | 6.232E-04 | 1.003E-03 |
| 27 | 539.88 | (5.0) | -1 | 3.126E-24 | 1.330E-12 | 9.467E-09 | 7.610E-07 | 1.010E-05 | 5.435E-05 | 1.750E-04 | 4.100E-04 | 7.794E-04 | 1.283E-03 |
| 28 | 570.83 | (4.0) | -1 | 1.158E-25 | 2.316E-13 | 2.761E-09 | 2.872E-07 | 4.449E-06 | 2.655E-05 | 9.201E-05 | 2.278E-04 | 4.521E-04 | 7.706E-04 |
| 29 | 579.14 | (2.0) | 1 | 2.802E-26 | 8.493E-14 | 1.163E-09 | 1.296E-07 | 2.093E-06 | 1.284E-05 | 4.539E-05 | 1.141E-04 | 2.290E-04 | 3.940E-04 |
| 30 | 584.18 | (3.0) | 1 | 2.370E-26 | 9.241E-14 | 1.376E-09 | 1.600E-07 | 2.650E-06 | 1.653E-05 | 5.914E-05 | 1.500E-04 | 3.032E-04 | 5.244E-04 |
| 31 | 624.01 | (6.0) | -1 | 8.200E-28 | 2.342E-14 | 6.774E-10 | 1.098E-07 | 2.219E-06 | 1.580E-05 | 6.217E-05 | 1.693E-04 | 3.617E-04 | 6.540E-04 |
| 32 | 684.51 | (1.0) | -1 | 4.462E-31 | 2.625E-16 | 2.081E-11 | 5.583E-09 | 1.527E-07 | 1.331E-06 | 6.045E-06 | 1.834E-05 | 4.262E-05 | 8.241E-05 |
| 33 | 702.00 | 3.0 | -1 | 1.811E-31 | 2.554E-16 | 2.710E-11 | 8.412E-09 | 2.511E-07 | 2.320E-06 | 1.099E-05 | 3.438E-05 | 8.188E-05 | 1.614E-04 |
| 34 | 715.83 | (2.0) | -1 | 3.245E-32 | 9.138E-17 | 1.221E-11 | 4.252E-09 | 1.360E-07 | 1.316E-06 | 6.441E-06 | 2.066E-05 | 5.015E-05 | 1.004E-04 |
| 35 | 752.70 | (5.0) | -1 | 1.788E-33 | 3.182E-17 | 7.859E-12 | 3.722E-09 | 1.431E-07 | 1.566E-06 | 8.368E-06 | 2.867E-05 | 7.325E-05 | 1.528E-04 |
| 36 | 839.82 | (3.0) | -1 | 1.873E-37 | 2.598E-19 | 2.741E-13 | 2.683E-10 | 1.595E-08 | 2.333E-07 | 1.534E-06 | 6.140E-06 | 1.771E-05 | 4.069E-05 |
| 37 | 916.16 | (5.0) | -1 | 1.424E-40 | 8.978E-21 | 3.381E-14 | 6.252E-11 | 5.444E-09 | 1.027E-07 | 8.100E-07 | 3.716E-06 | 1.191E-05 | 2.980E-05 |
| 38 | 948.15 | (2.0) | -1 | 2.641E-42 | 8.244E-22 | 5.291E-15 | 1.277E-11 | 1.305E-09 | 2.739E-08 | 2.331E-07 | 1.132E-06 | 3.795E-06 | 9.837E-06 |
| 39 | 976.31 | (4.0) | -1 | 2.845E-43 | 3.630E-22 | 3.725E-15 | 1.137E-11 | 1.338E-09 | 3.084E-08 | 2.806E-07 | 1.433E-06 | 4.996E-06 | 1.336E-05 |
| 40 | 995.67 | (5.0) | -1 | 5.017E-44 | 1.685E-22 | 2.388E-15 | 8.565E-12 | 1.110E-09 | 2.729E-08 | 2.601E-07 | 1.375E-06 | 4.924E-06 | 1.346E-05 |
| 41 | 1142.87 | (4.0) | -1 | 1.662E-50 | 8.772E-26 | 1.445E-17 | 1.768E-13 | 4.782E-11 | 1.921E-09 | 2.599E-08 | 1.787E-07 | 7.850E-07 | 2.526E-06 |

REFERENCES : /6/, /48/

NUCLEUS: LA-137

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 3.5 | 1 | 7.937E-01 | 6.937E-01 | 6.550E-01 | 6.348E-01 | 6.223E-01 | 6.138E-01 | 6.072E-01 | 6.015E-01 | 5.960E-01 | 5.902E-01 |
| 2 | 10.60 | 2.5 | 1 | 2.063E-01 | 3.063E-01 | 3.450E-01 | 3.652E-01 | 3.776E-01 | 3.858E-01 | 3.914E-01 | 3.951E-01 | 3.973E-01 | 3.981E-01 |
| 3 | 447.10 | 2.5 | 1 | 2.278E-20 | 1.018E-10 | 1.655E-07 | 6.658E-06 | 6.104E-05 | 2.672E-04 | 7.664E-04 | 1.687E-03 | 3.110E-03 | 5.062E-03 |
| 4 | 493.00 | (3.5) | 1 | 3.084E-22 | 1.367E-11 | 4.779E-08 | 2.818E-06 | 3.250E-05 | 1.658E-04 | 5.305E-04 | 1.267E-03 | 2.490E-03 | 4.265E-03 |
| 5 | 614.90 | (2.5) | (1) | 1.176E-27 | 2.312E-14 | 6.162E-10 | 1.003E-07 | 2.129E-06 | 1.630E-05 | 6.973E-05 | 2.071E-04 | 4.821E-04 | 9.453E-04 |
| 6 | 709.30 | (1.5) | 1 | 6.229E-32 | 1.374E-16 | 1.766E-11 | 6.316E-09 | 2.148E-07 | 2.254E-06 | 1.207E-05 | 4.243E-05 | 1.126E-04 | 2.452E-04 |
| 7 | 726.30 | 5.5 | 1 | 3.414E-32 | 1.762E-16 | 3.007E-11 | 1.239E-08 | 4.587E-07 | 5.093E-06 | 2.840E-05 | 1.029E-04 | 2.796E-04 | 6.206E-04 |
| 8 | 781.50 | (3.5) | (1) | 9.118E-35 | 7.434E-18 | 3.183E-12 | 2.078E-09 | 1.014E-07 | 1.353E-06 | 8.605E-06 | 3.441E-05 | 1.010E-04 | 2.382E-04 |
| 9 | 835.30 | 4.5 | 1 | 5.252E-37 | 6.308E-19 | 6.622E-13 | 6.767E-10 | 4.321E-08 | 6.899E-07 | 4.987E-06 | 2.196E-05 | 6.941E-05 | 1.739E-04 |
| 10 | 917.40 | (4.5) | (1) | 1.428E-40 | 1.040E-20 | 4.290E-14 | 8.690E-11 | 8.366E-09 | 1.756E-07 | 1.543E-06 | 7.868E-06 | 2.788E-05 | 7.650E-05 |
| 11 | 926.30 | (2.5) | 1 | 3.519E-41 | 3.999E-21 | 1.913E-14 | 4.174E-11 | 4.201E-09 | 9.084E-08 | 8.155E-07 | 4.224E-06 | 1.515E-05 | 4.199E-05 |
| 12 | 1004.40 | 5.5 | -1 | 2.855E-44 | 1.611E-22 | 2.833E-15 | 1.185E-11 | 1.762E-09 | 4.943E-08 | 5.345E-07 | 3.182E-06 | 1.272E-05 | 3.846E-05 |
| 13 | 1171.40 | (0.5) | (1) | 2.660E-52 | 6.348E-27 | 1.805E-18 | 3.036E-14 | 1.041E-11 | 5.094E-10 | 8.197E-09 | 6.577E-08 | 3.316E-07 | 1.207E-06 |

REFERENCES : /6/

NUCLFUS: LA-138

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 5.0 | 1 | 9.995E-01 | 9.818E-01 | 9.344E-01 | 8.723E-01 | 8.079E-01 | 7.473E-01 | 6.929E-01 | 6.449E-01 | 6.027E-01 | 5.656E-01 |
| 2 | 72.57 | (3.0) | 1 | 4.486E-04 | 1.659E-02 | 5.293E-02 | 9.046E-02 | 1.204E-01 | 1.419E-01 | 1.564E-01 | 1.657E-01 | 1.713E-01 | 1.742E-01 |
| 3 | 116.20 | (2.0) | 1 | 4.083E-06 | 1.338E-03 | 8.830E-03 | 2.171E-02 | 3.594E-02 | 4.898E-02 | 5.989E-02 | 6.859E-02 | 7.533E-02 | 8.043E-02 |
| 4 | 161.20 | (3.0) | 1 | 6.350E-08 | 1.974E-04 | 2.758E-03 | 9.866E-03 | 2.046E-02 | 3.239E-02 | 4.408E-02 | 5.472E-02 | 6.397E-02 | 7.180E-02 |
| 5 | 192.19 | (2.0) | 1 | 2.045E-09 | 2.994E-05 | 7.013E-04 | 3.248E-03 | 7.863E-03 | 1.380E-02 | 2.022E-02 | 2.653E-02 | 3.238E-02 | 3.762E-02 |
| 6 | 230.40 | (4.0) | 1 | 8.065E-11 | 7.977E-06 | 3.532E-04 | 2.249E-03 | 6.591E-03 | 1.314E-02 | 2.109E-02 | 2.962E-02 | 3.812E-02 | 4.621E-02 |
| 7 | 293.00 | (1.0) | 1 | 5.138E-14 | 1.162E-07 | 1.461E-05 | 1.567E-04 | 6.282E-04 | 1.543E-03 | 2.875E-03 | 4.515E-03 | 6.339E-03 | 8.237E-03 |
| 8 | 413.30 | (3.0) | 1 | 7.150E-19 | 6.624E-10 | 6.182E-07 | 1.807E-05 | 1.322E-04 | 4.849E-04 | 1.203E-03 | 2.342E-03 | 3.886E-03 | 5.771E-03 |
| 9 | 479.30 | (4.0) | 1 | 1.251E-21 | 3.141E-11 | 8.807E-08 | 4.463E-06 | 4.540E-05 | 2.075E-04 | 6.024E-04 | 1.319E-03 | 2.400E-03 | 3.835E-03 |
| 10 | 510.40 | (3.0) | 1 | 4.339E-23 | 5.159E-12 | 2.429E-08 | 1.595E-06 | 1.896E-05 | 9.612E-05 | 3.005E-04 | 6.957E-04 | 1.321E-03 | 2.186E-03 |
| 11 | 518.70 | (4.0) | 1 | 2.432E-23 | 4.380E-12 | 2.368E-08 | 1.667E-06 | 2.065E-05 | 1.076E-04 | 3.431E-04 | 8.063E-04 | 1.549E-03 | 2.586E-03 |
| 12 | 642.30 | (2.0) | 1 | 5.793E-29 | 5.039E-15 | 2.137E-10 | 4.213E-08 | 9.682E-07 | 7.620E-06 | 3.261E-05 | 9.555E-05 | 2.179E-04 | 4.175E-04 |
| 13 | 737.70 | (2.0) | -1 | 4.167E-33 | 4.273E-17 | 8.889E-12 | 3.880E-09 | 1.437E-07 | 1.554E-06 | 8.345E-06 | 2.900E-05 | 7.550E-05 | 1.608E-04 |
| 14 | 738.70 | (4.0) | -1 | 6.787E-33 | 7.316E-17 | 1.548E-11 | 6.811E-09 | 2.535E-07 | 2.751E-06 | 1.481E-05 | 5.155E-05 | 1.344E-04 | 2.866E-04 |
| 15 | 823.40 | (3.0) | -1 | 1.107E-36 | 8.240E-19 | 7.151E-13 | 6.374E-10 | 3.623E-08 | 5.215E-07 | 3.435E-06 | 1.391E-05 | 4.079E-05 | 9.555E-05 |
| 16 | 836.00 | (7.0) | -1 | 6.727E-37 | 9.404E-19 | 1.007E-12 | 9.968E-10 | 6.035E-08 | 9.059E-07 | 6.147E-06 | 2.546E-05 | 7.598E-05 | 1.805E-04 |
| 17 | 842.80 | (5.0) | 1 | 2.499E-37 | 4.909E-19 | 5.886E-13 | 6.167E-10 | 3.863E-08 | 5.931E-07 | 4.091E-06 | 1.715E-05 | 5.167E-05 | 1.237E-04 |
| 18 | 888.00 | (3.0) | -1 | 1.732E-39 | 3.260E-20 | 8.302E-14 | 1.268E-10 | 9.954E-09 | 1.777E-07 | 1.365E-06 | 6.202E-06 | 1.990E-05 | 5.008E-05 |
| 19 | 900.60 | (4.0) | -1 | 6.317E-40 | 2.232E-20 | 7.013E-14 | 1.190E-10 | 9.947E-09 | 1.852E-07 | 1.466E-06 | 6.812E-06 | 2.224E-05 | 5.677E-05 |
| 20 | 929.00 | (4.0) | 1 | 3.691E-41 | 5.395E-21 | 2.721E-14 | 5.848E-11 | 5.637E-09 | 1.154E-07 | 9.769E-07 | 4.777E-06 | 1.622E-05 | 4.273E-05 |
| 21 | 936.90 | (5.0) | -1 | 2.047E-41 | 4.442E-21 | 2.556E-14 | 5.867E-11 | 5.882E-09 | 1.236E-07 | 1.067E-06 | 5.289E-06 | 1.816E-05 | 4.826E-05 |
| 22 | 947.80 | (4.0) | -1 | 5.632E-42 | 2.108E-21 | 1.454E-14 | 3.655E-11 | 3.870E-09 | 8.433E-08 | 7.468E-07 | 3.776E-06 | 1.316E-05 | 3.541E-05 |
| 23 | 961.40 | (6.0) | -1 | 2.088E-42 | 1.542E-21 | 1.335E-14 | 3.758E-11 | 4.259E-09 | 9.710E-08 | 8.882E-07 | 4.602E-06 | 1.635E-05 | 4.464E-05 |

REFERENCES : /6/

NUCLEUS: CE-141

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 3.5 | -1 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 1.000E+00 | 9.999E-01 | 9.997E-01 | 9.993E-01 |
| 2 | 662.05 | 1.5 | -1 | 8.847E-30 | 2.103E-15 | 1.303E-10 | 3.242E-08 | 8.882E-07 | 8.070E-06 | 3.904E-05 | 1.273E-04 | 3.192E-04 | 6.659E-04 |
| 3 | 1137.00 | 0.5 | -1 | 1.045E-50 | 5.110E-26 | 8.674E-18 | 1.130E-13 | 3.327E-11 | 1.473E-09 | 2.207E-08 | 1.681E-07 | 8.151E-07 | 2.882E-06 |
| 4 | 1354.50 | (4.5) | -1 | 1.872E-59 | 4.836E-30 | 3.080E-20 | 2.458E-15 | 2.147E-12 | 1.962E-10 | 4.935E-09 | 5.543E-08 | 3.636E-07 | 1.637E-06 |
| 5 | 1368.70 | 6.5 | 1 | 6.335E-60 | 3.328E-30 | 2.686E-20 | 2.413E-15 | 2.263E-12 | 2.168E-10 | 5.641E-09 | 6.498E-08 | 4.348E-07 | 1.989E-06 |
| 6 | 1378.00 | (5.5) | (-1) | 2.142E-60 | 1.792E-30 | 1.689E-20 | 1.639E-15 | 1.611E-12 | 1.592E-10 | 4.233E-09 | 4.958E-08 | 3.361E-07 | 1.553E-06 |
| 7 | 1497.01 | 2.5 | -1 | 7.268E-66 | 2.334E-33 | 1.598E-22 | 4.183E-17 | 7.451E-14 | 1.095E-11 | 3.866E-10 | 5.600E-09 | 4.478E-08 | 2.362E-07 |

REFERENCES : /6/, /22/, /40/

NUCLEUS: PR-142

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.0 | -1 | 3.615E-01 | 2.774E-01 | 2.269E-01 | 1.911E-01 | 1.655E-01 | 1.469E-01 | 1.330E-01 | 1.223E-01 | 1.138E-01 | 1.070E-01 |
| 2 | 3.68 | 5.0 | -1 | 5.504E-01 | 5.077E-01 | 4.416E-01 | 3.834E-01 | 3.383E-01 | 3.039E-01 | 2.775E-01 | 2.569E-01 | 2.404E-01 | 2.269E-01 |
| 3 | 17.74 | 3.0 | -1 | 8.586E-02 | 1.600E-01 | 1.759E-01 | 1.717E-01 | 1.625E-01 | 1.530E-01 | 1.445E-01 | 1.371E-01 | 1.308E-01 | 1.255E-01 |
| 4 | 63.75 | 6.0 | -1 | 1.601E-03 | 2.977E-02 | 7.047E-02 | 1.009E-01 | 1.202E-01 | 1.320E-01 | 1.391E-01 | 1.433E-01 | 1.457E-01 | 1.471E-01 |
| 5 | 72.29 | 4.0 | -1 | 4.719E-04 | 1.345E-02 | 3.670E-02 | 5.645E-02 | 7.017E-02 | 7.925E-02 | 8.521E-02 | 8.915E-02 | 9.176E-02 | 9.348E-02 |
| 6 | 85.00 | 1.0 | -1 | 4.413E-05 | 2.374E-03 | 8.009E-03 | 1.369E-02 | 1.814E-02 | 2.137E-02 | 2.369E-02 | 2.535E-02 | 2.656E-02 | 2.744E-02 |
| 7 | 90.40 | (6.0) | -1 | 1.115E-04 | 7.854E-03 | 2.899E-02 | 5.185E-02 | 7.056E-02 | 8.464E-02 | 9.503E-02 | 1.027E-01 | 1.084E-01 | 1.127E-01 |
| 8 | 128.25 | 5.0 | -1 | 2.142E-06 | 1.002E-03 | 6.946E-03 | 1.703E-02 | 2.801E-02 | 3.811E-02 | 4.682E-02 | 5.414E-02 | 6.023E-02 | 6.529E-02 |
| 9 | 144.59 | 4.0 | -1 | 3.420E-07 | 3.620E-04 | 3.296E-03 | 9.261E-03 | 1.653E-02 | 2.375E-02 | 3.033E-02 | 3.611E-02 | 4.109E-02 | 4.537E-02 |
| 10 | 176.86 | 3.0 | -1 | 1.055E-08 | 5.608E-05 | 8.744E-04 | 3.215E-03 | 6.741E-03 | 1.079E-02 | 1.488E-02 | 1.876E-02 | 2.233E-02 | 2.555E-02 |
| 11 | 200.53 | 2.0 | -1 | 7.068E-10 | 1.227E-05 | 2.838E-04 | 1.271E-03 | 2.999E-03 | 5.194E-03 | 7.579E-03 | 9.970E-03 | 1.226E-02 | 1.441E-02 |
| 12 | 358.60 | (7.0) | (-1) | 2.894E-16 | 1.360E-08 | 4.383E-06 | 7.327E-05 | 3.812E-04 | 1.118E-03 | 2.377E-03 | 4.147E-03 | 6.352E-03 | 8.895E-03 |
| 13 | 631.00 | (4.0) | (-1) | 2.568E-28 | 9.919E-15 | 2.996E-10 | 4.848E-08 | 9.846E-07 | 7.160E-06 | 2.912E-05 | 8.262E-05 | 1.848E-04 | 3.502E-04 |
| 14 | 637.20 | (1.0) | -1 | 4.606E-29 | 2.425E-15 | 8.122E-11 | 1.384E-08 | 2.899E-07 | 2.152E-06 | 8.883E-06 | 2.549E-05 | 5.749E-05 | 1.097E-04 |

RFFERENCES :/6/, /23/

NUCLEUS: PM-147

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 3.5 | 1 | 9.999E-01 | 9.922E-01 | 9.653E-01 | 9.285E-01 | 8.914E-01 | 8.571E-01 | 8.258E-01 | 7.964E-01 | 7.682E-01 | 7.402E-01 |
| 2 | 91.10 | 2.5 | 1 | 8.292E-05 | 7.824E-03 | 3.475E-02 | 7.141E-02 | 1.081E-01 | 1.408E-01 | 1.685E-01 | 1.913E-01 | 2.094E-01 | 2.232E-01 |
| 3 | 408.14 | 4.5 | 1 | 2.354E-18 | 1.702E-09 | 1.490E-06 | 4.299E-05 | 3.176E-04 | 1.191E-03 | 3.031E-03 | 6.059E-03 | 1.030E-02 | 1.562E-02 |
| 4 | 410.52 | 1.5 | 1 | 7.421E-19 | 6.043E-10 | 5.505E-07 | 1.620E-05 | 1.211E-04 | 4.577E-04 | 1.172E-03 | 2.353E-03 | 4.013E-03 | 6.102E-03 |
| 5 | 489.24 | 3.5 | 1 | 5.659E-22 | 2.360E-11 | 7.984E-08 | 4.528E-06 | 5.019E-05 | 2.465E-04 | 7.612E-04 | 1.759E-03 | 3.347E-03 | 5.554E-03 |
| 6 | 530.99 | 2.5 | 1 | 6.526E-24 | 2.195E-12 | 1.489E-08 | 1.196E-06 | 1.633E-05 | 9.219E-05 | 3.144E-04 | 7.828E-04 | 1.578E-03 | 2.744E-03 |
| 7 | 632.95 | 0.5 | 1 | 8.119E-29 | 4.470E-15 | 1.659E-10 | 3.116E-08 | 7.084E-07 | 5.617E-06 | 2.443E-05 | 7.295E-05 | 1.695E-04 | 3.299E-04 |
| 8 | 641.30 | (2.5) | 1 | 1.057E-28 | 8.832E-15 | 3.767E-10 | 7.587E-08 | 1.798E-06 | 1.466E-05 | 6.504E-05 | 1.972E-04 | 4.634E-04 | 9.105E-04 |
| 9 | 649.30 | 5.5 | -1 | 9.497E-29 | 1.184E-14 | 5.770E-10 | 1.242E-07 | 3.065E-06 | 2.566E-05 | 1.160E-04 | 3.568E-04 | 8.479E-04 | 1.681E-03 |
| 10 | 667.20 | (5.5) | 1 | 1.586E-29 | 4.838E-15 | 3.177E-10 | 7.941E-08 | 2.143E-06 | 1.904E-05 | 8.985E-05 | 2.853E-04 | 6.950E-04 | 1.405E-03 |
| 11 | 680.43 | 3.5 | (1) | 2.816E-30 | 1.665E-15 | 1.363E-10 | 3.803E-08 | 1.096E-06 | 1.018E-05 | 4.958E-05 | 1.612E-04 | 4.000E-04 | 8.209E-04 |
| 12 | 685.88 | 2.5 | 1 | 1.224E-30 | 9.507E-16 | 8.523E-11 | 2.489E-08 | 7.373E-07 | 6.975E-06 | 3.440E-05 | 1.129E-04 | 2.824E-04 | 5.830E-04 |
| 13 | 730.70 | (4.5) | 1 | 2.308E-32 | 1.685E-16 | 3.189E-11 | 1.353E-08 | 5.014E-07 | 5.508E-06 | 3.022E-05 | 1.075E-04 | 2.860E-04 | 6.207E-04 |
| 14 | 807.30 | (3.5) | -1 | 8.704E-36 | 2.927E-18 | 1.985E-12 | 1.595E-09 | 8.669E-08 | 1.229E-06 | 8.095E-06 | 3.301E-05 | 9.769E-05 | 2.308E-04 |

References: /6/, /24/, /41/, /42/

NUCLEUS: SM-151

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.5 | -1 | 7.071E-01 | 6.147E-01 | 5.144E-01 | 4.232E-01 | 3.508E-01 | 2.954E-01 | 2.528E-01 | 2.197E-01 | 1.934E-01 | 1.724E-01 |
| 2 | 4.83 | 1.5 | -1 | 2.908E-01 | 3.219E-01 | 2.919E-01 | 2.500E-01 | 2.124E-01 | 1.817E-01 | 1.573E-01 | 1.379E-01 | 1.222E-01 | 1.095E-01 |
| 3 | 65.83 | 3.5 | -1 | 1.305E-03 | 3.049E-02 | 7.643E-02 | 1.088E-01 | 1.254E-01 | 1.315E-01 | 1.316E-01 | 1.286E-01 | 1.241E-01 | 1.190E-01 |
| 4 | 69.70 | 2.5 | -1 | 6.645E-04 | 1.884E-02 | 5.039E-02 | 7.410E-02 | 8.704E-02 | 9.245E-02 | 9.341E-02 | 9.191E-02 | 8.916E-02 | 8.585E-02 |
| 5 | 91.57 | 4.5 | 1 | 1.243E-04 | 1.052E-02 | 4.051E-02 | 7.148E-02 | 9.367E-02 | 1.070E-01 | 1.139E-01 | 1.165E-01 | 1.165E-01 | 1.150E-01 |
| 6 | 104.85 | 1.5 | -1 | 1.318E-05 | 2.167E-03 | 1.041E-02 | 2.052E-02 | 2.873E-02 | 3.431E-02 | 3.769E-02 | 3.949E-02 | 4.022E-02 | 4.027E-02 |
| 7 | 147.90 | 6.5 | 1 | 6.227E-07 | 8.812E-04 | 8.674E-03 | 2.448E-02 | 4.251E-02 | 5.859E-02 | 7.132E-02 | 8.069E-02 | 8.726E-02 | 9.164E-02 |
| 8 | 167.78 | 2.5 | 1 | 3.656E-08 | 1.398E-04 | 1.916E-03 | 6.381E-03 | 1.224E-02 | 1.803E-02 | 2.301E-02 | 2.697E-02 | 2.998E-02 | 3.219E-02 |
| 9 | 168.43 | 2.5 | -1 | 3.426E-08 | 1.353E-04 | 1.875E-03 | 6.279E-03 | 1.208E-02 | 1.784E-02 | 2.279E-02 | 2.675E-02 | 2.977E-02 | 3.199E-02 |
| 10 | 175.38 | 4.5 | -1 | 2.849E-08 | 1.593E-04 | 2.479E-03 | 8.795E-03 | 1.752E-02 | 2.647E-02 | 3.440E-02 | 4.088E-02 | 4.593E-02 | 4.973E-02 |
| 11 | 208.98 | 3.5 | -1 | 7.918E-10 | 2.375E-05 | 6.471E-04 | 3.038E-03 | 7.159E-03 | 1.210E-02 | 1.703E-02 | 2.149E-02 | 2.529E-02 | 2.843E-02 |
| 12 | 261.10 | 5.5 | -1 | 6.474E-12 | 2.630E-06 | 1.708E-04 | 1.238E-03 | 3.787E-03 | 7.613E-03 | 1.213E-02 | 1.680E-02 | 2.126E-02 | 2.532E-02 |
| 13 | 285.02 | (0.5) | (-1) | 9.868E-14 | 1.326E-07 | 1.283E-05 | 1.135E-04 | 3.911E-04 | 8.516E-04 | 1.437E-03 | 2.077E-03 | 2.717E-03 | 3.323E-03 |
| 14 | 294.80 | 4.5 | -1 | 1.855E-13 | 4.065E-07 | 4.629E-05 | 4.443E-04 | 1.608E-03 | 3.618E-03 | 6.247E-03 | 9.188E-03 | 1.218E-02 | 1.507E-02 |
| 15 | 302.60 | 3.5 | 1 | 6.804E-14 | 2.202E-07 | 2.855E-05 | 2.925E-04 | 1.101E-03 | 2.541E-03 | 4.470E-03 | 6.667E-03 | 8.938E-03 | 1.115E-02 |
| 16 | 306.80 | 1.5 | 1 | 2.235E-14 | 8.924E-08 | 1.241E-05 | 1.317E-04 | 5.060E-04 | 1.185E-03 | 2.105E-03 | 3.163E-03 | 4.265E-03 | 5.345E-03 |
| 17 | 313.80 | 0.5 | 1 | 5.550E-15 | 3.144E-08 | 4.915E-06 | 5.526E-05 | 2.200E-04 | 5.271E-04 | 9.524E-04 | 1.449E-03 | 1.973E-03 | 2.492E-03 |
| 18 | 315.30 | (1.5) | (-1) | 9.555E-15 | 5.834E-08 | 9.350E-06 | 1.065E-04 | 4.269E-04 | 1.028E-03 | 1.864E-03 | 2.844E-03 | 3.881E-03 | 4.909E-03 |
| 19 | 323.92 | 3.5 | 1 | 8.070E-15 | 7.583E-08 | 1.403E-05 | 1.716E-04 | 7.187E-04 | 1.781E-03 | 3.297E-03 | 5.108E-03 | 7.053E-03 | 9.008E-03 |
| 20 | 344.89 | 1.5 | 1 | 4.956E-16 | 1.329E-08 | 3.487E-06 | 5.080E-05 | 2.362E-04 | 6.280E-04 | 1.222E-03 | 1.965E-03 | 2.794E-03 | 3.652E-03 |
| 21 | 357.60 | 0.5 | 1 | 6.952E-17 | 3.519E-09 | 1.141E-06 | 1.849E-05 | 9.160E-05 | 2.540E-04 | 5.094E-04 | 8.382E-04 | 1.213E-03 | 1.608E-03 |
| 22 | 383.30 | 8.5 | 1 | 4.789E-17 | 8.762E-09 | 4.361E-06 | 8.751E-05 | 4.931E-04 | 1.490E-03 | 3.176E-03 | 5.471E-03 | 8.204E-03 | 1.119E-02 |
| 23 | 386.00 | 1.5 | -1 | 8.124E-18 | 1.701E-09 | 8.858E-07 | 1.818E-05 | 1.038E-04 | 3.165E-04 | 6.790E-04 | 1.175E-03 | 1.769E-03 | 2.421E-03 |
| 24 | 395.55 | 2.5 | 1 | 4.689E-18 | 1.583E-09 | 9.664E-07 | 2.148E-05 | 1.287E-04 | 4.049E-04 | 8.887E-04 | 1.565E-03 | 2.387E-03 | 3.301E-03 |
| 25 | 405.50 | (2.5) | (1) | 1.734E-18 | 9.625E-10 | 6.936E-07 | 1.675E-05 | 1.054E-04 | 3.430E-04 | 7.709E-04 | 1.382E-03 | 2.137E-03 | 2.988E-03 |
| 26 | 415.60 | 2.5 | 1 | 6.315E-19 | 5.809E-10 | 4.953E-07 | 1.301E-05 | 8.615E-05 | 2.899E-04 | 6.673E-04 | 1.218E-03 | 1.910E-03 | 2.701E-03 |
| 27 | 423.20 | (5.5) | (-1) | 5.907E-19 | 7.945E-10 | 7.690E-07 | 2.152E-05 | 1.480E-04 | 5.108E-04 | 1.197E-03 | 2.215E-03 | 3.511E-03 | 5.007E-03 |
| 28 | 423.70 | (3.5) | (1) | 3.746E-19 | 5.166E-10 | 5.042E-07 | 1.417E-05 | 9.769E-05 | 3.377E-04 | 7.925E-04 | 1.467E-03 | 2.327E-03 | 3.321E-03 |
| 29 | 445.20 | 6.5 | -1 | 7.636E-20 | 3.085E-10 | 4.309E-07 | 1.448E-05 | 1.112E-04 | 4.130E-04 | 1.020E-03 | 1.963E-03 | 3.208E-03 | 4.687E-03 |
| 30 | 446.10 | 2.5 | 1 | 2.991E-20 | 1.264E-10 | 1.792E-07 | 6.069E-06 | 4.681E-05 | 1.744E-04 | 4.316E-04 | 8.318E-04 | 1.361E-03 | 1.991E-03 |
| 31 | 449.60 | (0.5) | -1 | 7.025E-21 | 3.537E-11 | 5.316E-08 | 1.853E-06 | 1.455E-05 | 5.483E-05 | 1.369E-04 | 2.654E-04 | 4.364E-04 | 6.408E-04 |
| 32 | 470.40 | (1.5) | (1) | 1.755E-21 | 2.501E-11 | 5.315E-08 | 2.204E-06 | 1.919E-05 | 7.753E-05 | 2.034E-04 | 4.093E-04 | 6.926E-04 | 1.041E-03 |
| 33 | 490.24 | 3.5 | (1) | 4.828E-22 | 1.855E-11 | 5.487E-08 | 2.684E-06 | 2.582E-05 | 1.114E-04 | 3.063E-04 | 6.387E-04 | 1.111E-03 | 1.707E-03 |
| 34 | 495.00 | (2.5) | (1) | 2.250E-22 | 1.096E-11 | 3.511E-08 | 1.787E-06 | 1.760E-05 | 7.718E-05 | 2.146E-04 | 4.514E-04 | 7.905E-04 | 1.221E-03 |

REFERENCES : /6/, /37/

NUCLEUS: EU-152

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 3.0 | -1 | 9.969E-01 | 8.957E-01 | 6.480E-01 | 4.305E-01 | 2.945E-01 | 2.139E-01 | 1.643E-01 | 1.322E-01 | 1.103E-01 | 9.479E-02 |
| 2 | 45.60 | 0.0 | -1 | 1.490E-03 | 1.309E-02 | 2.025E-02 | 1.967E-02 | 1.690E-02 | 1.429E-02 | 1.224E-02 | 1.068E-02 | 9.498E-03 | 8.583E-03 |
| 3 | 65.30 | 1.0 | -1 | 6.234E-04 | 1.466E-02 | 3.150E-02 | 3.606E-02 | 3.419E-02 | 3.087E-02 | 2.770E-02 | 2.505E-02 | 2.289E-02 | 2.114E-02 |
| 4 | 77.26 | 3.0 | -1 | 4.399E-04 | 1.881E-02 | 4.933E-02 | 6.239E-02 | 6.281E-02 | 5.901E-02 | 5.449E-02 | 5.033E-02 | 4.677E-02 | 4.377E-02 |
| 5 | 78.23 | 1.0 | 1 | 1.711E-04 | 7.681E-03 | 2.047E-02 | 2.610E-02 | 2.640E-02 | 2.488E-02 | 2.303E-02 | 2.131E-02 | 1.983E-02 | 1.858E-02 |
| 6 | 89.61 | (4.0) | -1 | 1.645E-04 | 1.305E-02 | 4.202E-02 | 5.891E-02 | 6.308E-02 | 6.175E-02 | 5.873E-02 | 5.546E-02 | 5.242E-02 | 4.974E-02 |
| 7 | 89.85 | 4.0 | 1 | 1.606E-04 | 1.289E-02 | 4.169E-02 | 5.855E-02 | 6.278E-02 | 6.150E-02 | 5.853E-02 | 5.529E-02 | 5.228E-02 | 4.962E-02 |
| 8 | 108.11 | 5.0 | 1 | 3.161E-05 | 6.322E-03 | 2.772E-02 | 4.534E-02 | 5.325E-02 | 5.545E-02 | 5.511E-02 | 5.379E-02 | 5.217E-02 | 5.053E-02 |
| 9 | 109.09 | 1.0 | -1 | 7.816E-06 | 1.642E-03 | 7.318E-03 | 1.207E-02 | 1.424E-02 | 1.488E-02 | 1.482E-02 | 1.449E-02 | 1.407E-02 | 1.365E-02 |
| 10 | 111.45 | 2.0 | -1 | 1.029E-05 | 2.432E-03 | 1.127E-02 | 1.896E-02 | 2.264E-02 | 2.384E-02 | 2.388E-02 | 2.345E-02 | 2.285E-02 | 2.221E-02 |
| 11 | 113.97 | 3.0 | 1 | 1.120E-05 | 3.001E-03 | 1.451E-02 | 2.492E-02 | 3.014E-02 | 3.200E-02 | 3.225E-02 | 3.181E-02 | 3.110E-02 | 3.032E-02 |
| 12 | 118.17 | 2.0 | -1 | 5.254E-06 | 1.738E-03 | 9.011E-03 | 1.603E-02 | 1.979E-02 | 2.131E-02 | 2.170E-02 | 2.156E-02 | 2.120E-02 | 2.077E-02 |
| 13 | 120.84 | 2.0 | 1 | 4.023E-06 | 1.521E-03 | 8.244E-03 | 1.499E-02 | 1.877E-02 | 2.039E-02 | 2.088E-02 | 2.085E-02 | 2.058E-02 | 2.022E-02 |
| 14 | 124.53 | (3.0) | 1 | 3.894E-06 | 1.770E-03 | 1.021E-02 | 1.914E-02 | 2.440E-02 | 2.684E-02 | 2.774E-02 | 2.788E-02 | 2.766E-02 | 2.729E-02 |
| 15 | 141.83 | 4.0 | -1 | 8.877E-07 | 9.583E-04 | 7.371E-03 | 1.597E-02 | 2.220E-02 | 2.586E-02 | 2.785E-02 | 2.887E-02 | 2.934E-02 | 2.951E-02 |
| 16 | 146.09 | 3.0 | 1 | 4.509E-07 | 6.024E-04 | 4.974E-03 | 1.116E-02 | 1.586E-02 | 1.874E-02 | 2.038E-02 | 2.129E-02 | 2.177E-02 | 2.199E-02 |
| 17 | 147.87 | 8.0 | -1 | 9.165E-07 | 1.338E-03 | 1.138E-02 | 2.593E-02 | 3.716E-02 | 4.417E-02 | 4.826E-02 | 5.057E-02 | 5.183E-02 | 5.247E-02 |
| 18 | 148.74 | (5.0) | 1 | 5.436E-07 | 8.291E-04 | 7.156E-03 | 1.642E-02 | 2.363E-02 | 2.817E-02 | 3.084E-02 | 3.237E-02 | 3.321E-02 | 3.366E-02 |
| 19 | 150.69 | 4.0 | -1 | 3.660E-07 | 6.153E-04 | 5.486E-03 | 1.279E-02 | 1.859E-02 | 2.231E-02 | 2.454E-02 | 2.584E-02 | 2.659E-02 | 2.701E-02 |
| 20 | 158.05 | 1.0 | 1 | 5.844E-08 | 1.420E-04 | 1.431E-03 | 3.548E-03 | 5.349E-03 | 6.579E-03 | 7.364E-03 | 7.858E-03 | 8.168E-03 | 8.363E-03 |
| 21 | 160.88 | (4.0) | 1 | 1.321E-07 | 3.697E-04 | 3.906E-03 | 9.916E-03 | 1.517E-02 | 1.883E-02 | 2.122E-02 | 2.275E-02 | 2.375E-02 | 2.439E-02 |
| 22 | 174.94 | (2.0) | -1 | 1.799E-08 | 1.017E-04 | 1.358E-03 | 3.876E-03 | 6.360E-03 | 8.274E-03 | 9.642E-03 | 1.060E-02 | 1.128E-02 | 1.177E-02 |
| 23 | 177.69 | (1.0) | 1 | 8.199E-09 | 5.317E-05 | 7.435E-04 | 2.171E-03 | 3.612E-03 | 4.742E-03 | 5.562E-03 | 6.147E-03 | 6.567E-03 | 6.872E-03 |
| 24 | 178.93 | (4.0) | 1 | 2.173E-08 | 1.499E-04 | 2.140E-03 | 6.315E-03 | 1.057E-02 | 1.394E-02 | 1.639E-02 | 1.816E-02 | 1.943E-02 | 2.036E-02 |
| 25 | 180.63 | (5.0) | -1 | 2.241E-08 | 1.683E-04 | 2.472E-03 | 7.397E-03 | 1.249E-02 | 1.656E-02 | 1.956E-02 | 2.173E-02 | 2.330E-02 | 2.447E-02 |
| 26 | 196.91 | (4.0) | 1 | 3.599E-09 | 6.102E-05 | 1.175E-03 | 4.029E-03 | 7.377E-03 | 1.033E-02 | 1.268E-02 | 1.450E-02 | 1.591E-02 | 1.701E-02 |
| 27 | 199.66 | (4.0) | 1 | 2.734E-09 | 5.318E-05 | 1.072E-03 | 3.761E-03 | 6.983E-03 | 9.864E-03 | 1.219E-02 | 1.401E-02 | 1.543E-02 | 1.655E-02 |
| 28 | 200.75 | (3.0) | -1 | 1.907E-09 | 3.917E-05 | 8.044E-04 | 2.847E-03 | 5.314E-03 | 7.534E-03 | 9.336E-03 | 1.075E-02 | 1.186E-02 | 1.273E-02 |
| 29 | 201.13 | 3.0 | 1 | 1.836E-09 | 3.843E-05 | 7.942E-04 | 2.820E-03 | 5.273E-03 | 7.487E-03 | 9.285E-03 | 1.070E-02 | 1.181E-02 | 1.268E-02 |
| 30 | 203.11 | (2.0) | -1 | 1.076E-09 | 2.486E-05 | 5.311E-04 | 1.917E-03 | 3.621E-03 | 5.174E-03 | 6.447E-03 | 7.456E-03 | 8.252E-03 | 8.882E-03 |
| 31 | 203.18 | (4.0) | -1 | 1.923E-09 | 4.460E-05 | 9.537E-04 | 3.444E-03 | 6.508E-03 | 9.302E-03 | 1.159E-02 | 1.341E-02 | 1.484E-02 | 1.598E-02 |
| 32 | 214.36 | (2.0) | -1 | 3.492E-10 | 1.417E-05 | 3.650E-04 | 1.447E-03 | 2.891E-03 | 4.289E-03 | 5.490E-03 | 6.478E-03 | 7.282E-03 | 7.937E-03 |
| 33 | 214.43 | (4.0) | 1 | 6.242E-10 | 2.541E-05 | 6.555E-04 | 2.600E-03 | 5.197E-03 | 7.712E-03 | 9.872E-03 | 1.165E-02 | 1.310E-02 | 1.428E-02 |
| 34 | 220.80 | 3.0 | -1 | 2.568E-10 | 1.437E-05 | 4.123E-04 | 1.724E-03 | 3.558E-03 | 5.394E-03 | 7.011E-03 | 8.368E-03 | 9.491E-03 | 1.042E-02 |
| 35 | 221.21 | (3.0) | 1 | 2.464E-10 | 1.408E-05 | 4.067E-04 | 1.707E-03 | 3.529E-03 | 5.357E-03 | 6.970E-03 | 8.325E-03 | 9.448E-03 | 1.038E-02 |
| 36 | 221.45 | 2.0 | -1 | 1.719E-10 | 9.938E-06 | 2.882E-04 | 1.212E-03 | 2.509E-03 | 3.811E-03 | 4.961E-03 | 5.929E-03 | 6.730E-03 | 7.394E-03 |
| 37 | 224.50 | (3.0) | -1 | 1.773E-10 | 1.195E-05 | 3.644E-04 | 1.572E-03 | 3.305E-03 | 5.071E-03 | 6.650E-03 | 7.990E-03 | 9.109E-03 | 1.004E-02 |
| 38 | 227.72 | (4.0) | 1 | 1.652E-10 | 1.307E-05 | 4.209E-04 | 1.865E-03 | 3.984E-03 | 6.180E-03 | 8.165E-03 | 9.867E-03 | 1.130E-02 | 1.250E-02 |
| 39 | 237.35 | 2.0 | -1 | 3.505E-11 | 4.488E-06 | 1.696E-04 | 8.144E-04 | 1.825E-03 | 2.924E-03 | 3.953E-03 | 4.860E-03 | 5.640E-03 | 6.307E-03 |
| 40 | 237.49 | (4.0) | -1 | 6.221E-11 | 8.022E-06 | 3.039E-04 | 1.461E-03 | 3.277E-03 | 5.251E-03 | 7.102E-03 | 8.733E-03 | 1.014E-02 | 1.134E-02 |

NUCLEUS: EU-152

| NO | F(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 41 | 246.65 | 3.0 | -1 | 1.936E-11 | 3.947E-06 | 1.742E-04 | 9.036E-04 | 2.122E-03 | 3.506E-03 | 4.846E-03 | 6.057E-03 | 7.121E-03 | 8.046E-03 |
| 42 | 248.50 | (1.0) | -1 | 6.895E-12 | 1.542E-06 | 7.018E-05 | 3.698E-04 | 8.763E-04 | 1.457E-03 | 2.023E-03 | 2.537E-03 | 2.990E-03 | 3.385E-03 |
| 43 | 249.33 | (1.0) | 1 | 6.346E-12 | 1.479E-06 | 6.827E-05 | 3.622E-04 | 8.619E-04 | 1.437E-03 | 1.999E-03 | 2.511E-03 | 2.962E-03 | 3.357E-03 |
| 44 | 253.76 | 3.0 | 1 | 9.508E-12 | 2.766E-06 | 1.374E-04 | 7.565E-04 | 1.841E-03 | 3.114E-03 | 4.378E-03 | 5.542E-03 | 6.580E-03 | 7.494E-03 |
| 45 | 256.72 | (3.0) | 1 | 7.072E-12 | 2.385E-06 | 1.245E-04 | 7.025E-04 | 1.735E-03 | 2.964E-03 | 4.197E-03 | 5.341E-03 | 6.368E-03 | 7.275E-03 |
| 46 | 258.72 | (5.0) | 1 | 9.099E-12 | 3.392E-06 | 1.830E-04 | 1.050E-03 | 2.619E-03 | 4.505E-03 | 6.409E-03 | 8.186E-03 | 9.786E-03 | 1.121E-02 |
| 47 | 265.72 | 3.0 | -1 | 2.875E-12 | 1.521E-06 | 9.224E-05 | 5.610E-04 | 1.449E-03 | 2.551E-03 | 3.690E-03 | 4.773E-03 | 5.762E-03 | 6.649E-03 |
| 48 | 267.64 | (4.0) | -1 | 3.051E-12 | 1.777E-06 | 1.112E-04 | 6.874E-04 | 1.793E-03 | 3.177E-03 | 4.616E-03 | 5.991E-03 | 7.251E-03 | 8.386E-03 |
| 49 | 272.38 | (2.0) | 1 | 1.055E-12 | 7.787E-07 | 5.277E-05 | 3.392E-04 | 9.059E-04 | 1.631E-03 | 2.397E-03 | 3.137E-03 | 3.822E-03 | 4.443E-03 |
| 50 | 283.72 | (3.0) | (-1) | 4.753E-13 | 6.184E-07 | 5.062E-05 | 3.577E-04 | 1.011E-03 | 1.890E-03 | 2.854E-03 | 3.811E-03 | 4.717E-03 | 5.554E-03 |
| 51 | 285.13 | (4.0) | -1 | 5.307E-13 | 7.410E-07 | 6.210E-05 | 4.439E-04 | 1.264E-03 | 2.374E-03 | 3.596E-03 | 4.814E-03 | 5.971E-03 | 7.040E-03 |
| 52 | 286.03 | (2.0) | -1 | 2.695E-13 | 3.935E-07 | 3.348E-05 | 2.411E-04 | 6.895E-04 | 1.299E-03 | 1.972E-03 | 2.645E-03 | 3.284E-03 | 3.876E-03 |
| 53 | 287.16 | (4.0) | -1 | 4.332E-13 | 6.695E-07 | 5.803E-05 | 4.220E-04 | 1.213E-03 | 2.295E-03 | 3.493E-03 | 4.694E-03 | 5.838E-03 | 6.899E-03 |
| 54 | 294.45 | (3.0) | -1 | 1.625E-13 | 3.616E-07 | 3.540E-05 | 2.735E-04 | 8.157E-04 | 1.581E-03 | 2.448E-03 | 3.333E-03 | 4.187E-03 | 4.989E-03 |
| 55 | 296.33 | (3.0) | 1 | 1.347E-13 | 3.292E-07 | 3.325E-05 | 2.610E-04 | 7.856E-04 | 1.532E-03 | 2.383E-03 | 3.255E-03 | 4.100E-03 | 4.896E-03 |

REFERENCES : /6/, /25/, /26/

NUCLEUS: EU-154

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 3.0 | -1 | 9.983E-01 | 9.167E-01 | 7.031E-01 | 4.966E-01 | 3.548E-01 | 2.647E-01 | 2.066E-01 | 1.677E-01 | 1.406E-01 | 1.210E-01 |
| 2 | 68.17 | 2.0 | 1 | 7.808E-04 | 2.167E-02 | 5.177E-02 | 6.452E-02 | 6.482E-02 | 6.070E-02 | 5.573E-02 | 5.110E-02 | 4.709E-02 | 4.371E-02 |
| 3 | 71.92 | 1.0 | 1 | 3.220E-04 | 1.078E-02 | 2.741E-02 | 3.525E-02 | 3.608E-02 | 3.421E-02 | 3.169E-02 | 2.925E-02 | 2.710E-02 | 2.526E-02 |
| 4 | 80.66 | 4.0 | -1 | 4.031E-04 | 2.089E-02 | 6.145E-02 | 8.499E-02 | 9.089E-02 | 8.872E-02 | 8.392E-02 | 7.868E-02 | 7.378E-02 | 6.944E-02 |
| 5 | 82.82 | 1.0 | -1 | 1.083E-04 | 6.249E-03 | 1.906E-02 | 2.684E-02 | 2.902E-02 | 2.853E-02 | 2.712E-02 | 2.553E-02 | 2.401E-02 | 2.265E-02 |
| 6 | 99.95 | 3.0 | 1 | 4.555E-05 | 6.192E-03 | 2.513E-02 | 4.081E-02 | 4.806E-02 | 5.003E-02 | 4.955E-02 | 4.808E-02 | 4.632E-02 | 4.454E-02 |
| 7 | 100.86 | 4.0 | 1 | 5.347E-05 | 7.607E-03 | 3.134E-02 | 5.129E-02 | 6.068E-02 | 6.336E-02 | 6.288E-02 | 6.112E-02 | 5.895E-02 | 5.674E-02 |
| 8 | 122.56 | 2.0 | -1 | 3.392E-06 | 1.428E-03 | 8.447E-03 | 1.656E-02 | 2.184E-02 | 2.452E-02 | 2.562E-02 | 2.589E-02 | 2.573E-02 | 2.537E-02 |
| 9 | 127.43 | 4.0 | 1 | 3.752E-06 | 2.015E-03 | 1.293E-02 | 2.640E-02 | 3.567E-02 | 4.069E-02 | 4.302E-02 | 4.385E-02 | 4.388E-02 | 4.350E-02 |
| 10 | 129.68 | 4.0 | -1 | 2.996E-06 | 1.801E-03 | 1.199E-02 | 2.495E-02 | 3.410E-02 | 3.919E-02 | 4.166E-02 | 4.263E-02 | 4.280E-02 | 4.253E-02 |
| 11 | 134.78 | 1.0 | 1 | 5.997E-07 | 4.651E-04 | 3.372E-03 | 7.322E-03 | 1.026E-02 | 1.200E-02 | 1.291E-02 | 1.333E-02 | 1.348E-02 | 1.347E-02 |
| 12 | 136.70 | 5.0 | 1 | 1.815E-06 | 1.549E-03 | 1.160E-02 | 2.559E-02 | 3.622E-02 | 4.261E-02 | 4.606E-02 | 4.773E-02 | 4.838E-02 | 4.846E-02 |
| 13 | 145.20 | 8.0 | -1 | 1.199E-06 | 1.565E-03 | 1.350E-02 | 3.198E-02 | 4.722E-02 | 5.716E-02 | 6.304E-02 | 6.633E-02 | 6.803E-02 | 6.879E-02 |
| 14 | 152.43 | 1.0 | -1 | 3.777E-08 | 1.167E-04 | 1.342E-03 | 3.668E-03 | 5.904E-03 | 7.569E-03 | 8.698E-03 | 9.437E-03 | 9.914E-03 | 1.022E-02 |
| 15 | 173.60 | 3.0 | -1 | 2.884E-08 | 1.558E-04 | 2.157E-03 | 6.474E-03 | 1.102E-02 | 1.466E-02 | 1.730E-02 | 1.915E-02 | 2.043E-02 | 2.132E-02 |
| 16 | 175.48 | 5.0 | -1 | 3.755E-08 | 2.229E-04 | 3.184E-03 | 9.706E-03 | 1.668E-02 | 2.233E-02 | 2.647E-02 | 2.939E-02 | 3.145E-02 | 3.288E-02 |
| 17 | 180.74 | 5.0 | -1 | 2.219E-08 | 1.713E-04 | 2.672E-03 | 8.510E-03 | 1.501E-02 | 2.045E-02 | 2.455E-02 | 2.752E-02 | 2.966E-02 | 3.120E-02 |
| 18 | 180.81 | 2.0 | -1 | 1.002E-08 | 7.760E-05 | 1.212E-03 | 3.861E-03 | 6.813E-03 | 9.286E-03 | 1.115E-02 | 1.250E-02 | 1.347E-02 | 1.417E-02 |
| 19 | 185.05 | 2.0 | 1 | 6.555E-09 | 6.278E-05 | 1.052E-03 | 3.473E-03 | 6.259E-03 | 8.653E-03 | 1.049E-02 | 1.185E-02 | 1.285E-02 | 1.358E-02 |
| 20 | 192.29 | 5.0 | 1 | 6.992E-09 | 9.616E-05 | 1.818E-03 | 6.375E-03 | 1.191E-02 | 1.687E-02 | 2.082E-02 | 2.382E-02 | 2.609E-02 | 2.780E-02 |
| 21 | 196.11 | 6.0 | 1 | 5.639E-09 | 9.389E-05 | 1.892E-03 | 6.848E-03 | 1.304E-02 | 1.871E-02 | 2.330E-02 | 2.684E-02 | 2.955E-02 | 3.162E-02 |
| 22 | 203.82 | 4.0 | 1 | 1.806E-09 | 4.421E-05 | 1.013E-03 | 3.910E-03 | 7.740E-03 | 1.139E-02 | 1.445E-02 | 1.688E-02 | 1.878E-02 | 2.027E-02 |
| 23 | 214.07 | 3.0 | -1 | 5.040E-10 | 2.060E-05 | 5.598E-04 | 2.354E-03 | 4.904E-03 | 7.468E-03 | 9.705E-03 | 1.155E-02 | 1.303E-02 | 1.423E-02 |
| 24 | 230.88 | 4.0 | -1 | 1.206E-10 | 1.143E-05 | 4.110E-04 | 1.988E-03 | 4.505E-03 | 7.256E-03 | 9.814E-03 | 1.203E-02 | 1.390E-02 | 1.546E-02 |
| 25 | 235.28 | 4.0 | -1 | 7.770E-11 | 9.170E-06 | 3.550E-04 | 1.781E-03 | 4.126E-03 | 6.743E-03 | 9.216E-03 | 1.139E-02 | 1.324E-02 | 1.480E-02 |
| 26 | 239.29 | 3.0 | -1 | 4.047E-11 | 5.836E-06 | 2.415E-04 | 1.253E-03 | 2.962E-03 | 4.905E-03 | 6.769E-03 | 8.425E-03 | 9.848E-03 | 1.106E-02 |
| 27 | 249.42 | 1.0 | 1 | 6.298E-12 | 1.507E-06 | 7.385E-05 | 4.168E-04 | 1.036E-03 | 1.776E-03 | 2.510E-03 | 3.191E-03 | 3.771E-03 | 4.282E-03 |
| 28 | 251.83 | 3.0 | 1 | 1.155E-11 | 3.118E-06 | 1.590E-04 | 9.157E-04 | 2.305E-03 | 3.980E-03 | 5.659E-03 | 7.203E-03 | 8.567E-03 | 9.752E-03 |
| 29 | 255.21 | 5.0 | 1 | 1.294E-11 | 4.137E-06 | 2.233E-04 | 1.322E-03 | 3.385E-03 | 5.912E-03 | 8.473E-03 | 1.085E-02 | 1.297E-02 | 1.482E-02 |
| 30 | 272.85 | 4.0 | -1 | 1.815E-12 | 1.401E-06 | 1.015E-04 | 6.961E-04 | 1.946E-03 | 3.605E-03 | 5.389E-03 | 7.121E-03 | 8.721E-03 | 1.016E-02 |
| 31 | 278.55 | 2.0 | 1 | 5.701E-13 | 5.854E-07 | 4.661E-05 | 3.354E-04 | 9.647E-04 | 1.821E-03 | 2.759E-03 | 3.684E-03 | 4.548E-03 | 5.333E-03 |
| 32 | 279.04 | 0.0 | -1 | 1.086E-13 | 1.143E-07 | 9.171E-06 | 6.626E-05 | 1.911E-04 | 3.613E-04 | 5.480E-04 | 7.323E-04 | 9.046E-04 | 1.061E-03 |
| 33 | 279.38 | 4.0 | -1 | 9.445E-13 | 1.011E-06 | 8.161E-05 | 5.913E-04 | 1.708E-03 | 3.233E-03 | 4.908E-03 | 6.563E-03 | 8.110E-03 | 9.519E-03 |
| 34 | 282.81 | 2.0 | 1 | 3.724E-13 | 4.731E-07 | 4.044E-05 | 3.015E-04 | 8.859E-04 | 1.696E-03 | 2.597E-03 | 3.493E-03 | 4.337E-03 | 5.110E-03 |
| 35 | 286.95 | 0.0 | 1 | 4.923E-14 | 7.693E-08 | 7.046E-06 | 5.437E-05 | 1.631E-04 | 3.167E-04 | 4.895E-04 | 6.633E-04 | 8.285E-04 | 9.806E-04 |
| 36 | 292.92 | 6.0 | 1 | 3.558E-13 | 7.457E-07 | 7.532E-05 | 6.103E-04 | 1.885E-03 | 3.733E-03 | 5.851E-03 | 8.013E-03 | 1.009E-02 | 1.202E-02 |
| 37 | 299.81 | 6.0 | -1 | 1.769E-13 | 5.258E-07 | 5.966E-05 | 5.125E-04 | 1.639E-03 | 3.322E-03 | 5.295E-03 | 7.343E-03 | 9.336E-03 | 1.121E-02 |
| 38 | 304.80 | 1.0 | 1 | 2.478E-14 | 9.454E-08 | 1.166E-05 | 1.044E-04 | 3.424E-04 | 7.055E-04 | 1.138E-03 | 1.592E-03 | 2.038E-03 | 2.461E-03 |
| 39 | 310.00 | 3.0 | 1 | 3.438E-14 | 1.701E-07 | 2.287E-05 | 2.139E-04 | 7.200E-04 | 1.510E-03 | 2.465E-03 | 3.481E-03 | 4.489E-03 | 5.451E-03 |
| 40 | 329.02 | 4.0 | -1 | 7.291E-15 | 8.883E-08 | 1.613E-05 | 1.753E-04 | 6.456E-04 | 1.437E-03 | 2.450E-03 | 3.573E-03 | 4.724E-03 | 5.853E-03 |

NUCLEUS: EU-154

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 41 | 335.76 | 2.0 | 1 | 1.868E-15 | 3.351E-08 | 6.923E-06 | 8.024E-05 | 3.072E-04 | 7.019E-04 | 1.219E-03 | 1.802E-03 | 2.408E-03 | 3.009E-03 |
| 42 | 338.10 | 4.0 | 1 | 2.661E-15 | 5.366E-08 | 1.153E-05 | 1.362E-04 | 5.277E-04 | 1.215E-03 | 2.121E-03 | 3.150E-03 | 4.224E-03 | 5.292E-03 |
| 43 | 342.13 | 2.0 | -1 | 9.880E-16 | 2.437E-08 | 5.599E-06 | 6.843E-05 | 2.705E-04 | 6.312E-04 | 1.113E-03 | 1.664E-03 | 2.244E-03 | 2.824E-03 |
| 44 | 356.10 | 5.0 | -1 | 5.376E-16 | 2.667E-08 | 7.732E-06 | 1.062E-04 | 4.500E-04 | 1.100E-03 | 2.005E-03 | 3.074E-03 | 4.226E-03 | 5.402E-03 |
| 45 | 362.60 | 1.0 | -1 | 7.654E-17 | 5.254E-09 | 1.698E-06 | 2.461E-05 | 1.078E-04 | 2.692E-04 | 4.983E-04 | 7.730E-04 | 1.072E-03 | 1.381E-03 |

REFERENCES : /27/, /28/

NUCLEUS: EU-155

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.5 | 1 | 9.995E-01 | 9.689E-01 | 8.793E-01 | 7.677E-01 | 6.631E-01 | 5.748E-01 | 5.028E-01 | 4.447E-01 | 3.977E-01 | 3.594E-01 |
| 2 | 78.60 | 3.5 | 1 | 5.143E-04 | 2.538E-02 | 8.535E-02 | 1.435E-01 | 1.836E-01 | 2.068E-01 | 2.181E-01 | 2.220E-01 | 2.214E-01 | 2.183E-01 |
| 3 | 104.32 | 2.5 | -1 | 2.946E-05 | 5.260E-03 | 2.716E-02 | 5.656E-02 | 8.232E-02 | 1.010E-01 | 1.133E-01 | 1.207E-01 | 1.248E-01 | 1.266E-01 |
| 4 | 169.00 | 3.5 | -1 | 6.098E-08 | 2.763E-04 | 4.193E-03 | 1.497E-02 | 3.010E-02 | 4.583E-02 | 5.996E-02 | 7.171E-02 | 8.110E-02 | 8.841E-02 |
| 5 | 180.00 | (4.5) | (1) | 2.537E-08 | 1.993E-04 | 3.633E-03 | 1.421E-02 | 3.020E-02 | 4.770E-02 | 6.405E-02 | 7.813E-02 | 8.971E-02 | 9.901E-02 |
| 6 | 245.73 | 1.5 | 1 | 1.419E-11 | 2.980E-06 | 1.625E-04 | 1.099E-03 | 3.244E-03 | 6.379E-03 | 1.002E-02 | 1.374E-02 | 1.729E-02 | 2.052E-02 |
| 7 | 251.00 | 1.5 | 1 | 8.375E-12 | 2.290E-06 | 1.363E-04 | 9.636E-04 | 2.920E-03 | 5.843E-03 | 9.291E-03 | 1.287E-02 | 1.630E-02 | 1.947E-02 |
| 8 | 300.00 | (2.5) | (1) | 9.355E-14 | 2.964E-07 | 3.992E-05 | 4.246E-04 | 1.644E-03 | 3.873E-03 | 6.921E-03 | 1.046E-02 | 1.419E-02 | 1.789E-02 |
| 9 | 307.40 | 2.5 | 1 | 4.464E-14 | 2.047E-07 | 3.119E-05 | 3.529E-04 | 1.418E-03 | 3.424E-03 | 6.227E-03 | 9.535E-03 | 1.307E-02 | 1.662E-02 |
| 10 | 357.00 | 5.5 | -1 | 6.261E-16 | 3.429E-08 | 1.194E-05 | 2.042E-04 | 1.051E-03 | 2.996E-03 | 6.131E-03 | 1.026E-02 | 1.506E-02 | 2.024E-02 |
| 11 | 391.40 | 3.5 | 1 | 1.338E-17 | 4.094E-09 | 2.529E-06 | 5.762E-05 | 3.523E-04 | 1.126E-03 | 2.501E-03 | 4.449E-03 | 6.852E-03 | 9.564E-03 |
| 12 | 502.00 | 4.5 | 1 | 2.632E-22 | 2.029E-11 | 7.921E-08 | 4.536E-06 | 4.821E-05 | 2.227E-04 | 6.438E-04 | 1.396E-03 | 2.506E-03 | 3.956E-03 |

REFERENCES : /6/

NUCLEUS: HO-163

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | ( 3.5) | -1 | 9.999E-01 | 9.916E-01 | 9.565E-01 | 9.017E-01 | 8.398E-01 | 7.772E-01 | 7.166E-01 | 6.590E-01 | 6.053E-01 | 5.558E-01 |
| 2 | 100.04 | ( 4.5) | (-1) | 5.653E-05 | 8.336E-03 | 4.260E-02 | 9.243E-02 | 1.420E-01 | 1.834E-01 | 2.145E-01 | 2.359E-01 | 2.490E-01 | 2.555E-01 |
| 3 | 222.23 | ( 5.5) | -1 | 3.348E-10 | 2.222E-05 | 8.703E-04 | 5.228E-03 | 1.479E-02 | 2.871E-02 | 4.494E-02 | 6.146E-02 | 7.686E-02 | 9.033E-02 |
| 4 | 297.88 | ( 0.5) | 1 | 2.893E-14 | 8.432E-08 | 1.165E-05 | 1.315E-04 | 5.430E-04 | 1.356E-03 | 2.542E-03 | 3.979E-03 | 5.527E-03 | 7.066E-03 |
| 5 | 307.64 | ( 1.5) | 1 | 2.180E-14 | 1.035E-07 | 1.683E-05 | 2.060E-04 | 8.933E-04 | 2.305E-03 | 4.421E-03 | 7.044E-03 | 9.918E-03 | 1.282E-02 |
| 6 | 360.36 | ( 1.5) | 1 | 1.119E-16 | 7.417E-09 | 2.903E-06 | 5.514E-05 | 3.112E-04 | 9.575E-04 | 2.082E-03 | 3.644E-03 | 5.521E-03 | 7.565E-03 |
| 7 | 366.65 | ( 6.5) | (-1) | 2.088E-16 | 1.896E-08 | 8.240E-06 | 1.649E-04 | 9.606E-04 | 3.018E-03 | 6.661E-03 | 1.179E-02 | 1.802E-02 | 2.486E-02 |
| 8 | 392.09 | ( 2.5) | 1 | 7.030E-18 | 2.277E-09 | 1.512E-06 | 3.742E-05 | 2.475E-04 | 8.464E-04 | 1.985E-03 | 3.677E-03 | 5.821E-03 | 8.263E-03 |
| 9 | 431.18 | ( 3.5) | 1 | 1.880E-19 | 4.300E-10 | 5.479E-07 | 1.878E-05 | 1.510E-04 | 5.882E-04 | 1.514E-03 | 3.007E-03 | 5.027E-03 | 7.452E-03 |
| 10 | 439.97 | ( 3.5) | 1 | 7.808E-20 | 2.771E-10 | 4.088E-07 | 1.507E-05 | 1.267E-04 | 5.081E-04 | 1.335E-03 | 2.694E-03 | 4.559E-03 | 6.825E-03 |
| 11 | 440.51 | ( 2.5) | 1 | 5.548E-20 | 2.023E-10 | 3.011E-07 | 1.115E-05 | 9.398E-05 | 3.776E-04 | 9.938E-04 | 2.007E-03 | 3.399E-03 | 5.091E-03 |
| 12 | 471.26 | 0.5 | -1 | 8.542E-22 | 1.449E-11 | 3.601E-08 | 1.723E-06 | 1.694E-05 | 7.540E-05 | 2.135E-04 | 4.555E-04 | 8.051E-04 | 1.248E-03 |
| 13 | 500.38 | ( 2.5) | (-1) | 1.393E-22 | 1.014E-11 | 4.093E-08 | 2.496E-06 | 2.838E-05 | 1.392E-04 | 4.225E-04 | 9.497E-04 | 1.748E-03 | 2.798E-03 |
| 14 | 528.25 | ( 3.5) | ( 1) | 1.144E-23 | 3.354E-12 | 2.155E-08 | 1.658E-06 | 2.167E-05 | 1.167E-04 | 3.783E-04 | 8.937E-04 | 1.710E-03 | 2.823E-03 |
| 15 | 531.80 | ( 7.5) | (-1) | 1.605E-23 | 5.618E-12 | 3.830E-08 | 3.035E-06 | 4.037E-05 | 2.199E-04 | 7.193E-04 | 1.710E-03 | 3.287E-03 | 5.449E-03 |
| 16 | 552.07 | ( 4.5) | ( 1) | 1.321E-24 | 1.274E-12 | 1.218E-08 | 1.143E-06 | 1.682E-05 | 9.805E-05 | 3.365E-04 | 8.295E-04 | 1.640E-03 | 2.781E-03 |
| 17 | 560.00 | ( 1.5) | (-1) | 2.392E-25 | 3.429E-13 | 3.740E-09 | 3.749E-07 | 5.742E-06 | 3.436E-05 | 1.202E-04 | 3.005E-04 | 6.007E-04 | 1.028E-03 |
| 18 | 578.23 | 1.5 | -1 | 3.864E-26 | 1.378E-13 | 2.037E-09 | 2.377E-07 | 3.988E-06 | 2.536E-05 | 9.264E-05 | 2.393E-04 | 4.906E-04 | 8.563E-04 |
| 19 | 612.80 | 4.5 | -1 | 3.045E-27 | 6.117E-14 | 1.609E-09 | 2.504E-07 | 4.993E-06 | 3.563E-05 | 1.413E-04 | 3.883E-04 | 8.352E-04 | 1.515E-03 |

REFERENCES : /45/

NUCLEUS: HO-166

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 0.0 | -1 | 9.881E-02 | 7.642E-02 | 6.684E-02 | 5.945E-02 | 5.283E-02 | 4.680E-02 | 4.137E-02 | 3.658E-02 | 3.240E-02 | 2.879E-02 |
| 2 | 5.00 | ( 7.0) | (-1) | 8.989E-01 | 8.928E-01 | 8.487E-01 | 7.869E-01 | 7.170E-01 | 6.458E-01 | 5.778E-01 | 5.154E-01 | 4.597E-01 | 4.108E-01 |
| 3 | 54.24 | 2.0 | -1 | 2.179E-03 | 2.537E-02 | 5.480E-02 | 7.660E-02 | 8.927E-02 | 9.475E-02 | 9.531E-02 | 9.284E-02 | 8.866E-02 | 8.368E-02 |
| 4 | 82.47 | 1.0 | -1 | 7.768E-05 | 3.712E-03 | 1.283E-02 | 2.269E-02 | 3.046E-02 | 3.551E-02 | 3.821E-02 | 3.914E-02 | 3.887E-02 | 3.786E-02 |
| 5 | (136.00) | ( 8.0) | (-1) | 2.094E-06 | 1.447E-03 | 1.221E-02 | 3.373E-02 | 5.916E-02 | 8.246E-02 | 1.008E-01 | 1.136E-01 | 1.215E-01 | 1.256E-01 |
| 6 | 171.04 | 3.0 | -1 | 2.581E-08 | 1.033E-04 | 1.563E-03 | 5.784E-03 | 1.209E-02 | 1.894E-02 | 2.516E-02 | 3.018E-02 | 3.390E-02 | 3.643E-02 |
| 7 | 180.47 | 4.0 | -1 | 1.292E-08 | 8.292E-05 | 1.468E-03 | 5.874E-03 | 1.287E-02 | 2.080E-02 | 2.827E-02 | 3.449E-02 | 3.925E-02 | 4.263E-02 |
| 8 | 190.90 | ( 3.0) | 1 | 3.542E-09 | 3.828E-05 | 8.065E-04 | 3.520E-03 | 8.125E-03 | 1.360E-02 | 1.894E-02 | 2.355E-02 | 2.719E-02 | 2.987E-02 |
| 9 | 198.00 | (2.0) | (-1 ) | 1.244E-09 | 1.917E-05 | 4.546E-04 | 2.105E-03 | 5.035E-03 | 8.630E-03 | 1.222E-02 | 1.539E-02 | 1.795E-02 | 1.987E-02 |
| 10 | 260.66 | (4.0) | (1) | 4.254E-12 | 1.504E-06 | 1.014E-04 | 7.912E-04 | 2.588E-03 | 5.467E-03 | 8.990E-03 | 1.266E-02 | 1.610E-02 | 1.912E-02 |
| 11 | 263.79 | (5.0) | (1) | 3.802E-12 | 1.572E-06 | 1.116E-04 | 8.943E-04 | 2.972E-03 | 6.342E-03 | 1.051E-02 | 1.488E-02 | 1.901E-02 | 2.264E-02 |
| 12 | 294.00 | (6.0) | (1) | 2.191E-13 | 4.103E-07 | 4.818E-05 | 4.966E-04 | 1.919E-03 | 4.530E-03 | 8.065E-03 | 1.205E-02 | 1.606E-02 | 1.978E-02 |
| 13 | 308.00 | (9.0) | (-1) | 7.896E-14 | 2.978E-07 | 4.416E-05 | 5.115E-04 | 2.120E-03 | 5.243E-03 | 9.651E-03 | 1.479E-02 | 2.009E-02 | 2.514E-02 |
| 14 | 329.77 | 5.0 | -1 | 5.183E-15 | 5.805E-08 | 1.237E-05 | 1.718E-04 | 7.942E-04 | 2.112E-03 | 4.094E-03 | 6.522E-03 | 9.132E-03 | 1.171E-02 |
| 15 | 339.00 | (4.0) | (1) | 1.685E-15 | 2.994E-08 | 7.443E-06 | 1.116E-04 | 5.402E-04 | 1.481E-03 | 2.936E-03 | 4.755E-03 | 6.744E-03 | 8.734E-03 |
| 16 | 348.26 | (5.0) | (1) | 8.159E-16 | 2.303E-08 | 6.681E-06 | 1.082E-04 | 5.487E-04 | 1.552E-03 | 3.144E-03 | 5.176E-03 | 7.436E-03 | 9.730E-03 |
| 17 | 371.98 | (4.0) | (1) | 6.227E-17 | 5.755E-09 | 2.479E-06 | 4.894E-05 | 2.793E-04 | 8.550E-04 | 1.833E-03 | 3.148E-03 | 4.675E-03 | 6.280E-03 |
| 18 | 373.08 | (1.0) | (-1 ) | 1.860E-17 | 1.816E-09 | 7.967E-07 | 1.587E-05 | 9.109E-05 | 2.798E-04 | 6.014E-04 | 1.035E-03 | 1.539E-03 | 2.070E-03 |
| 19 | 377.81 | 6.0 | -1 | 5.021E-17 | 6.211E-09 | 2.949E-06 | 6.110E-05 | 3.591E-04 | 1.121E-03 | 2.436E-03 | 4.228E-03 | 6.329E-03 | 8.557E-03 |
| 20 | 386.00 | (4.0) | (1 ) | 1.533E-17 | 2.855E-09 | 1.554E-06 | 3.447E-05 | 2.110E-04 | 6.768E-04 | 1.500E-03 | 2.642E-03 | 4.000E-03 | 5.458E-03 |
| 21 | 401.00 | (3.0) | (1 ) | 2.660E-18 | 1.049E-09 | 7.330E-07 | 1.843E-05 | 1.216E-04 | 4.100E-04 | 9.417E-04 | 1.704E-03 | 2.634E-03 | 3.654E-03 |
| 22 | 416.08 | (2.0) | (-1 ) | 4.205E-19 | 3.525E-10 | 3.167E-07 | 9.028E-06 | 6.424E-05 | 2.278E-04 | 5.423E-04 | 1.008E-03 | 1.591E-03 | 2.245E-03 |
| 23 | 421.00 | (7.0) | (1 ) | 7.714E-19 | 8.269E-10 | 8.064E-07 | 2.395E-05 | 1.747E-04 | 6.295E-04 | 1.516E-03 | 2.843E-03 | 4.519E-03 | 6.411E-03 |
| 24 | 425.99 | 1.0 | 1 | 9.367E-20 | 1.289E-10 | 1.366E-07 | 4.228E-06 | 3.161E-05 | 1.159E-04 | 2.824E-04 | 5.343E-04 | 8.551E-04 | 1.220E-03 |
| 25 | 430.03 | (2.0) | (1 ) | 1.042E-19 | 1.755E-10 | 1.989E-07 | 6.370E-06 | 4.860E-05 | 1.805E-04 | 4.443E-04 | 8.466E-04 | 1.363E-03 | 1.952E-03 |
| 26 | 453.77 | (6.0) | (1 ) | 2.523E-20 | 1.392E-10 | 2.344E-07 | 9.148E-06 | 7.860E-05 | 3.160E-04 | 8.229E-04 | 1.636E-03 | 2.721E-03 | 4.004E-03 |
| 27 | 464.48 | (2.0) | (1 ) | 3.325E-21 | 3.135E-11 | 6.309E-08 | 2.692E-06 | 2.440E-05 | 1.017E-04 | 2.716E-04 | 5.504E-04 | 9.292E-04 | 1.383E-03 |
| 28 | 470.84 | (5.0) | (1 ) | 3.873E-21 | 5.018E-11 | 1.123E-07 | 5.052E-06 | 4.727E-05 | 2.012E-04 | 5.456E-04 | 1.118E-03 | 1.905E-03 | 2.856E-03 |
| 29 | 476.00 | (4.0) | (-1 ) | 1.892E-21 | 3.172E-11 | 7.736E-08 | 3.633E-06 | 3.488E-05 | 1.510E-04 | 4.147E-04 | 8.578E-04 | 1.472E-03 | 2.219E-03 |
| 30 | 481.84 | (3.0) | (1 ) | 8.204E-22 | 1.842E-11 | 4.952E-09 | 2.442E-06 | 2.414E-05 | 1.086E-04 | 2.967E-04 | 6.202E-04 | 1.073E-03 | 1.628E-03 |
| 31 | 514.00 | (5.0) | (1 ) | 5.172E-23 | 5.798E-12 | 2.664E-08 | 1.717E-06 | 1.994E-05 | 9.798E-05 | 2.945E-04 | 6.520E-04 | 1.179E-03 | 1.855E-03 |
| 32 | 522.00 | (3.0) | (1 ) | 1.479E-23 | 2.473E-12 | 1.298E-08 | 8.948E-07 | 1.081E-05 | 5.457E-05 | 1.672E-04 | 3.754E-04 | 6.866E-04 | 1.090E-03 |
| 33 | 543.00 | (6.0) | (-1 ) | 3.363E-24 | 1.607E-12 | 1.198E-08 | 9.830E-07 | 1.319E-05 | 7.142E-05 | 2.300E-04 | 5.363E-04 | 1.010E-03 | 1.640E-03 |
| 34 | 547.96 | (4.0) | (1 ) | 1.418E-24 | 8.684E-13 | 7.027E-09 | 6.012E-07 | 8.272E-06 | 4.552E-05 | 1.484E-04 | 3.489E-04 | 6.615E-04 | 1.081E-03 |
| 35 | 557.69 | (7.0) | (-1 ) | 8.932E-25 | 8.898E-13 | 8.468E-09 | 7.856E-07 | 1.135E-05 | 6.451E-05 | 2.152E-04 | 5.150E-04 | 9.896E-04 | 1.634E-03 |
| 36 | 558.56 | (4.0) | (1 ) | 4.913E-25 | 5.117E-13 | 4.935E-09 | 4.612E-07 | 6.692E-06 | 3.815E-05 | 1.275E-04 | 3.056E-04 | 5.880E-04 | 9.720E-04 |
| 37 | 562.91 | (2.0) | (1 ) | 1.767E-25 | 2.285E-13 | 2.372E-09 | 2.298E-07 | 3.408E-06 | 1.971E-05 | 6.657E-05 | 1.608E-04 | 3.113E-04 | 5.170E-04 |
| 38 | 567.56 | (1.0) | (1 ) | 6.658E-26 | 1.086E-13 | 1.219E-09 | 1.228E-07 | 1.863E-06 | 1.094E-05 | 3.737E-05 | 9.104E-05 | 1.774E-04 | 2.961E-04 |
| 39 | 577.21 | (7.0) | (1 ) | 1.268E-25 | 3.353E-13 | 4.418E-09 | 4.822E-07 | 7.680E-06 | 4.659E-05 | 1.628E-04 | 4.035E-04 | 7.966E-04 | 1.344E-03 |
| 40 | 588.10 | (6.0) | (1 ) | 3.699E-26 | 1.686E-13 | 2.663E-09 | 3.183E-07 | 5.354E-06 | 3.368E-05 | 1.208E-04 | 3.052E-04 | 6.117E-04 | 1.045E-03 |

NUCLEUS: HO-166

| NO | E(KEV) | SPIN PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 41 | 592.50 | (3.0) ( 1) | 1.283E-26 | 7.285E-14 | 1.238E-09 | 1.536E-07 | 2.640E-06 | 1.685E-05 | 6.107E-05 | 1.555E-04 | 3.137E-04 | 5.384E-04 |
| 42 | 598.46 | (4.0)(-1) | 9.089E-27 | 6.953E-14 | 1.305E-09 | 1.701E-07 | 3.013E-06 | 1.962E-05 | 7.211E-05 | 1.856E-04 | 3.775E-04 | 6.522E-04 |
| 43 | 605.03 | (2.0)(-1) | 2.618E-27 | 2.781E-14 | 5.825E-10 | 8.018E-08 | 1.468E-06 | 9.769E-06 | 3.647E-05 | 9.499E-05 | 1.949E-04 | 3.393E-04 |
| 44 | 610.00 | (1.0) ( 1) | 9.554E-28 | 1.301E-14 | 2.962E-10 | 4.249E-08 | 7.973E-07 | 5.395E-06 | 2.038E-05 | 5.356E-05 | 1.107E-04 | 1.937E-04 |
| 45 | 628.00 | (4.0)(-1) | 4.738E-28 | 1.587E-14 | 4.876E-10 | 8.128E-08 | 1.669E-06 | 1.199E-05 | 4.728E-05 | 1.283E-04 | 2.718E-04 | 4.854E-04 |
| 46 | 634.00 | (6.0) ( 1) | 3.756E-28 | 1.699E-14 | 5.767E-10 | 1.010E-07 | 2.138E-06 | 1.567E-05 | 6.269E-05 | 1.719E-04 | 3.673E-04 | 6.603E-04 |
| 47 | 634.31 | (5.0) ( 1) | 3.081E-28 | 1.415E-14 | 4.829E-10 | 8.484E-08 | 1.798E-06 | 1.319E-05 | 5.281E-05 | 1.449E-04 | 3.098E-04 | 5.570E-04 |
| 48 | 638.32 | (2.0)(-1) | 9.379E-29 | 5.264E-15 | 1.920E-10 | 3.489E-08 | 7.542E-07 | 5.609E-06 | 2.267E-05 | 6.265E-05 | 1.347E-04 | 2.432E-04 |
| 49 | 655.00 | (5.0) ( 1) | 3.892E-29 | 5.030E-15 | 2.423E-10 | 5.058E-08 | 1.189E-06 | 9.345E-06 | 3.930E-05 | 1.119E-04 | 2.461E-04 | 4.529E-04 |
| 50 | 662.00 | (3.0) ( 1) | 1.230E-29 | 2.256E-15 | 1.221E-10 | 2.702E-08 | 6.575E-07 | 5.292E-06 | 2.263E-05 | 6.524E-05 | 1.449E-04 | 2.687E-04 |
| 51 | 671.00 | (4.0) ( 1) | 6.429E-30 | 1.849E-15 | 1.163E-10 | 2.774E-08 | 7.061E-07 | 5.856E-06 | 2.558E-05 | 7.495E-05 | 1.686E-04 | 3.157E-04 |
| 52 | 693.00 | (3.0)(-1) | 5.541E-31 | 4.787E-16 | 4.345E-11 | 1.245E-08 | 3.537E-07 | 3.157E-06 | 1.453E-05 | 4.428E-05 | 1.027E-04 | 1.971E-04 |
| 53 | 693.65 | (5.0) ( 1) | 8.159E-31 | 7.283E-16 | 6.681E-11 | 1.925E-08 | 5.487E-07 | 4.907E-06 | 2.262E-05 | 6.902E-05 | 1.602E-04 | 3.077E-04 |
| 54 | 719.17 | (4.0) ( 1) | 5.202E-32 | 1.663E-16 | 2.335E-11 | 8.320E-09 | 2.695E-07 | 2.624E-06 | 1.285E-05 | 4.105E-05 | 9.871E-05 | 1.950E-04 |
| 55 | 726.00 | (2.0)(-1) | 1.460E-32 | 6.567E-17 | 1.033E-11 | 3.897E-09 | 1.306E-07 | 1.301E-06 | 6.478E-06 | 2.094E-05 | 5.083E-05 | 1.012E-04 |
| 56 | 736.00 | (4.0) ( 1) | 9.667E-33 | 7.170E-17 | 1.332E-11 | 5.462E-09 | 1.924E-07 | 1.982E-06 | 1.011E-05 | 3.326E-05 | 8.188E-05 | 1.648E-04 |
| 57 | 769.00 | (5.0) ( 1) | 4.358E-34 | 1.683E-17 | 5.421E-12 | 2.926E-09 | 1.216E-07 | 1.398E-06 | 7.710E-06 | 2.691E-05 | 6.935E-05 | 1.448E-04 |
| 58 | 771.00 | (3.0)(-1) | 2.270E-34 | 9.691E-18 | 3.227E-12 | 1.771E-09 | 7.433E-08 | 8.603E-07 | 4.768E-06 | 1.670E-05 | 4.316E-05 | 9.034E-05 |
| 59 | 806.00 | (5.0) ( 1) | 1.077E-35 | 2.646E-18 | 1.579E-12 | 1.160E-09 | 5.800E-08 | 7.544E-07 | 4.545E-06 | 1.695E-05 | 4.598E-05 | 1.000E-04 |
| 60 | 807.30 | (6.0) ( 1) | 1.118E-35 | 2.931E-18 | 1.787E-12 | 1.327E-09 | 6.679E-08 | 8.724E-07 | 5.272E-06 | 1.970E-05 | 5.356E-05 | 1.167E-04 |
| 61 | 814.00 | (3.0) ( 1) | 3.081E-36 | 1.129E-18 | 7.697E-13 | 6.045E-10 | 3.145E-08 | 4.201E-07 | 2.580E-06 | 9.758E-06 | 2.677E-05 | 5.877E-05 |
| 62 | 831.00 | (5.0) ( 1) | 8.844E-37 | 7.582E-19 | 6.863E-13 | 6.210E-10 | 3.518E-08 | 4.973E-07 | 3.180E-06 | 1.240E-05 | 3.483E-05 | 7.791E-05 |



REFERENCES : /6/

NUCLEUS: TM-170

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.0 | -1 | 9.664E-01 | 8.004E-01 | 6.520E-01 | 5.313E-01 | 4.318E-01 | 3.520E-01 | 2.896E-01 | 2.415E-01 | 2.043E-01 | 1.754E-01 |
| 2 | 38.71 | 2.0 | -1 | 3.356E-02 | 1.926E-01 | 2.990E-01 | 3.365E-01 | 3.318E-01 | 3.078E-01 | 2.777E-01 | 2.481E-01 | 2.215E-01 | 1.985E-01 |
| 3 | 114.54 | 3.0 | -1 | 2.392E-05 | 6.083E-03 | 3.343E-02 | 7.075E-02 | 1.020E-01 | 1.217E-01 | 1.316E-01 | 1.346E-01 | 1.335E-01 | 1.302E-01 |
| 4 | 149.72 | 0.0 | -1 | 1.014E-07 | 1.497E-04 | 1.478E-03 | 4.195E-03 | 7.207E-03 | 9.677E-03 | 1.137E-02 | 1.239E-02 | 1.290E-02 | 1.308E-02 |
| 5 | 172.00 | 2.0 | -1 | 5.460E-08 | 2.456E-04 | 3.517E-03 | 1.202E-02 | 2.308E-02 | 3.338E-02 | 4.136E-02 | 4.688E-02 | 5.037E-02 | 5.235E-02 |
| 6 | 183.19 | 3.0 | 1 | 2.497E-08 | 1.965E-04 | 3.391E-03 | 1.272E-02 | 2.583E-02 | 3.878E-02 | 4.935E-02 | 5.707E-02 | 6.227E-02 | 6.553E-02 |
| 7 | 183.58 | 4.0 | -1 | 3.087E-08 | 2.478E-04 | 4.303E-03 | 1.619E-02 | 3.295E-02 | 4.953E-02 | 6.310E-02 | 7.302E-02 | 7.972E-02 | 8.392E-02 |
| 8 | (204.45) | (2.0) | -1 | 2.128E-09 | 4.849E-05 | 1.192E-03 | 5.339E-03 | 1.206E-02 | 1.943E-02 | 2.602E-02 | 3.125E-02 | 3.512E-02 | 3.784E-02 |
| 9 | 219.71 | 2.0 | -1 | 4.626E-10 | 2.261E-05 | 7.169E-04 | 3.645E-03 | 8.888E-03 | 1.507E-02 | 2.092E-02 | 2.582E-02 | 2.964E-02 | 3.249E-02 |
| 10 | 237.24 | (1.0) | -1 | 4.809E-11 | 5.646E-06 | 2.398E-04 | 1.411E-03 | 3.756E-03 | 6.751E-03 | 9.772E-03 | 1.245E-02 | 1.464E-02 | 1.636E-02 |
| 11 | 253.68 | (4.0) | (1) | 2.788E-11 | 7.445E-06 | 4.159E-04 | 2.807E-03 | 8.110E-03 | 1.540E-02 | 2.318E-02 | 3.040E-02 | 3.658E-02 | 4.163E-02 |
| 12 | 270.55 | (3.0) | -1 | 4.013E-12 | 2.491E-06 | 1.843E-04 | 1.432E-03 | 4.501E-03 | 9.041E-03 | 1.417E-02 | 1.915E-02 | 2.359E-02 | 2.735E-02 |
| 13 | 320.00 | (5.0) | (-1) | 4.489E-14 | 3.303E-07 | 5.573E-05 | 6.536E-04 | 2.631E-03 | 6.232E-03 | 1.098E-02 | 1.622E-02 | 2.140E-02 | 2.622E-02 |
| 14 | 343.90 | (5.0) | (1) | 4.113E-15 | 9.998E-08 | 2.512E-05 | 3.596E-04 | 1.631E-03 | 4.184E-03 | 7.808E-03 | 1.203E-02 | 1.641E-02 | 2.064E-02 |
| 15 | 349.74 | (3.0) | -1 | 1.460E-15 | 4.751E-08 | 1.316E-05 | 1.977E-04 | 9.236E-04 | 2.416E-03 | 4.571E-03 | 7.116E-03 | 9.786E-03 | 1.239E-02 |
| 16 | 358.12 | (4.0) | (-1) | 8.119E-16 | 4.018E-08 | 1.280E-05 | 2.062E-04 | 1.004E-03 | 2.701E-03 | 5.214E-03 | 8.240E-03 | 1.146E-02 | 1.465E-02 |
| 17 | 380.00 | (4.0) | (-1) | 9.105E-17 | 1.345E-08 | 6.170E-06 | 1.193E-04 | 6.483E-04 | 1.876E-03 | 3.814E-03 | 6.268E-03 | 8.989E-03 | 1.177E-02 |
| 18 | 411.00 | (6.0) | (-1) | 5.925E-18 | 4.125E-09 | 3.171E-06 | 7.940E-05 | 5.038E-04 | 1.616E-03 | 3.538E-03 | 6.145E-03 | 9.201E-03 | 1.247E-02 |
| 19 | 411.45 | (1.0) | (-1) | 1.307E-18 | 9.308E-10 | 7.210E-07 | 1.812E-05 | 1.152E-04 | 3.702E-04 | 8.112E-04 | 1.410E-03 | 2.113E-03 | 2.865E-03 |
| 20 | 427.00 | (3.0) | (-1) | 6.441E-19 | 9.980E-10 | 1.002E-06 | 2.866E-05 | 1.970E-04 | 6.665E-04 | 1.516E-03 | 2.709E-03 | 4.148E-03 | 5.722E-03 |
| 21 | 447.08 | (3.0) | -1 | 8.648E-20 | 3.657E-10 | 5.130E-07 | 1.735E-05 | 1.318E-04 | 4.769E-04 | 1.138E-03 | 2.108E-03 | 3.318E-03 | 4.681E-03 |
| 22 | 456.20 | (2.0) | (-1) | 2.481E-20 | 1.656E-10 | 2.704E-07 | 9.865E-06 | 7.846E-05 | 2.926E-04 | 7.134E-04 | 1.343E-03 | 2.142E-03 | 3.052E-03 |
| 23 | 486.00 | (3.0) | (-1) | 1.765E-21 | 5.224E-11 | 1.402E-07 | 6.557E-06 | 6.053E-05 | 2.493E-04 | 6.525E-04 | 1.296E-03 | 2.153E-03 | 3.172E-03 |
| 24 | 512.40 | (3.0) | (-1) | 1.259E-22 | 1.395E-11 | 5.814E-08 | 3.389E-06 | 3.570E-05 | 1.606E-04 | 4.475E-04 | 9.316E-04 | 1.606E-03 | 2.436E-03 |
| 25 | 537.90 | (1.0) | (-1) | 4.214E-24 | 1.671E-12 | 1.065E-08 | 7.679E-07 | 9.187E-06 | 4.499E-05 | 1.332E-04 | 2.903E-04 | 5.184E-04 | 8.090E-04 |
| 26 | 591.00 | 1.0 | (1) | 2.083E-26 | 1.175E-13 | 1.814E-09 | 2.036E-07 | 3.177E-06 | 1.857E-05 | 6.240E-05 | 1.495E-04 | 2.874E-04 | 4.757E-04 |
| 27 | 604.10 | (2.0) | (1) | 9.366E-27 | 1.017E-13 | 1.954E-09 | 2.445E-07 | 4.074E-06 | 2.488E-05 | 8.625E-05 | 2.115E-04 | 4.141E-04 | 6.955E-04 |
| 28 | 610.00 | (7.0) | (-1) | 1.558E-26 | 2.272E-13 | 4.815E-09 | 6.329E-07 | 1.086E-05 | 6.764E-05 | 2.378E-04 | 5.894E-04 | 1.163E-03 | 1.967E-03 |
| 29 | 650.00 | (1.0) | (1) | 5.706E-29 | 6.149E-15 | 2.538E-10 | 4.657E-08 | 9.761E-07 | 6.946E-06 | 2.686E-05 | 7.149E-05 | 1.492E-04 | 2.637E-04 |
| 30 | 661.90 | (2.0) | -1 | 2.893E-29 | 5.653E-15 | 2.845E-10 | 5.764E-08 | 1.282E-06 | 9.493E-06 | 3.777E-05 | 1.027E-04 | 2.178E-04 | 3.902E-04 |
| 31 | 685.00 | (1.0) | (-1) | 1.723E-30 | 1.069E-15 | 7.905E-11 | 1.941E-08 | 4.847E-07 | 3.876E-06 | 1.629E-05 | 4.616E-05 | 1.011E-04 | 1.858E-04 |
| 32 | 695.00 | (0.0) | (-1) | 2.113E-31 | 2.160E-16 | 1.888E-11 | 5.040E-09 | 1.323E-07 | 1.094E-06 | 4.708E-06 | 1.358E-05 | 3.016E-05 | 5.605E-05 |
| 33 | 719.20 | (1.0) | (1) | 5.637E-32 | 1.933E-16 | 2.528E-11 | 8.256E-09 | 2.446E-07 | 2.192E-06 | 9.996E-06 | 3.010E-05 | 6.915E-05 | 1.320E-04 |
| 34 | 726.00 | (1.0) | (-1) | 2.856E-32 | 1.376E-16 | 2.015E-11 | 6.965E-09 | 2.135E-07 | 1.957E-06 | 9.070E-06 | 2.765E-05 | 6.412E-05 | 1.233E-04 |
| 35 | 734.00 | (2.0) | (1) | 2.139E-32 | 1.537E-16 | 2.573E-11 | 9.505E-09 | 3.032E-07 | 2.855E-06 | 1.348E-05 | 4.170E-05 | 9.778E-05 | 1.897E-04 |

REFERENCES : /6/, /29/

NUCLEUS: LU-176

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 7.0 | -1 | 1.000E+00 | 9.995E-01 | 9.942E-01 | 9.768E-01 | 9.446E-01 | 8.991E-01 | 8.443E-01 | 7.843E-01 | 7.228E-01 | 6.626E-01 |
| 2 | 127.00 | 1.0 | -1 | 6.103E-07 | 3.492E-04 | 2.884E-03 | 8.165E-03 | 1.490E-02 | 2.166E-02 | 2.751E-02 | 3.207E-02 | 3.526E-02 | 3.721E-02 |
| 3 | 185.40 | 8.0 | -1 | 1.006E-08 | 1.067E-04 | 2.333E-03 | 1.075E-02 | 2.626E-02 | 4.636E-02 | 6.770E-02 | 8.757E-02 | 1.044E-01 | 1.176E-01 |
| 4 | 198.01 | 1.0 | 1 | 5.031E-10 | 1.003E-05 | 2.704E-04 | 1.384E-03 | 3.601E-03 | 6.631E-03 | 9.977E-03 | 1.320E-02 | 1.602E-02 | 1.829E-02 |
| 5 | 236.75 | 2.0 | 1 | 1.742E-11 | 2.408E-06 | 1.239E-04 | 8.754E-04 | 2.765E-03 | 5.795E-03 | 9.561E-03 | 1.356E-02 | 1.736E-02 | 2.070E-02 |
| 6 | 239.41 | 3.0 | -1 | 1.869E-11 | 2.952E-06 | 1.587E-04 | 1.147E-03 | 3.671E-03 | 7.761E-03 | 1.289E-02 | 1.836E-02 | 2.359E-02 | 2.822E-02 |
| 7 | 240.56 | 0.0 | -1 | 2.380E-12 | 3.981E-07 | 2.182E-05 | 1.592E-04 | 5.125E-04 | 1.088E-03 | 1.811E-03 | 2.585E-03 | 3.328E-03 | 3.985E-03 |
| 8 | 302.98 | 3.0 | 1 | 3.243E-14 | 1.229E-07 | 1.907E-05 | 2.340E-04 | 1.029E-03 | 2.690E-03 | 5.197E-03 | 8.293E-03 | 1.164E-02 | 1.494E-02 |
| 9 | 308.91 | 2.0 | -1 | 1.280E-14 | 6.528E-08 | 1.118E-05 | 1.441E-04 | 6.531E-04 | 1.741E-03 | 3.410E-03 | 5.500E-03 | 7.785E-03 | 1.006E-02 |
| 10 | 316.00 | (1.0) | (1) | 3.780E-15 | 2.748E-08 | 5.296E-06 | 7.243E-05 | 3.400E-04 | 9.280E-04 | 1.849E-03 | 3.020E-03 | 4.317E-03 | 5.622E-03 |
| 11 | 342.48 | 1.0 | 1 | 2.676E-16 | 7.311E-09 | 2.191E-06 | 3.736E-05 | 2.002E-04 | 5.969E-04 | 1.267E-03 | 2.169E-03 | 3.217E-03 | 4.314E-03 |
| 12 | 376.12 | 4.0 | 1 | 2.777E-17 | 4.080E-09 | 2.142E-06 | 4.834E-05 | 3.065E-04 | 1.022E-03 | 2.350E-03 | 4.274E-03 | 6.641E-03 | 9.245E-03 |
| 13 | 384.98 | 2.0 | 1 | 6.362E-18 | 1.455E-09 | 8.855E-07 | 2.152E-05 | 1.426E-04 | 4.899E-04 | 1.150E-03 | 2.125E-03 | 3.343E-03 | 4.701E-03 |
| 14 | 390.00 | 9.0 | 1 | 1.463E-17 | 4.303E-09 | 2.846E-06 | 7.213E-05 | 4.902E-04 | 1.712E-03 | 4.069E-03 | 7.585E-03 | 1.202E-02 | 1.699E-02 |
| 15 | 390.21 | 1.0 | -1 | 2.263E-18 | 6.723E-10 | 4.463E-07 | 1.133E-05 | 7.708E-05 | 2.694E-04 | 6.406E-04 | 1.194E-03 | 1.893E-03 | 2.677E-03 |
| 16 | 404.00 | 3.0 | -1 | 1.329E-18 | 7.872E-10 | 6.576E-07 | 1.873E-05 | 1.365E-04 | 4.995E-04 | 1.227E-03 | 2.346E-03 | 3.789E-03 | 5.441E-03 |
| 17 | 436.66 | 2.0 | -1 | 3.624E-20 | 1.098E-10 | 1.581E-07 | 5.912E-06 | 5.074E-05 | 2.070E-04 | 5.498E-04 | 1.114E-03 | 1.883E-03 | 2.804E-03 |
| 18 | 440.95 | 5.0 | -1 | 5.191E-20 | 1.950E-10 | 3.016E-07 | 1.168E-05 | 1.024E-04 | 4.240E-04 | 1.138E-03 | 2.323E-03 | 3.949E-03 | 5.909E-03 |
| 19 | 453.73 | 3.0 | 1 | 9.204E-21 | 6.550E-11 | 1.253E-07 | 5.402E-06 | 5.049E-05 | 2.181E-04 | 6.032E-04 | 1.260E-03 | 2.181E-03 | 3.309E-03 |
| 20 | 467.40 | 4.0 | -1 | 3.916E-21 | 4.251E-11 | 1.022E-07 | 4.935E-06 | 4.939E-05 | 2.233E-04 | 6.379E-04 | 1.365E-03 | 2.409E-03 | 3.711E-03 |
| 21 | 491.25 | 5.0 | 1 | 3.395E-22 | 1.577E-11 | 5.639E-08 | 3.322E-06 | 3.746E-05 | 1.834E-04 | 5.546E-04 | 1.239E-03 | 2.258E-03 | 3.573E-03 |
| 22 | 508.49 | 3.0 | -1 | 3.853E-23 | 4.238E-12 | 2.020E-08 | 1.374E-06 | 1.689E-05 | 8.755E-05 | 2.759E-04 | 6.354E-04 | 1.187E-03 | 1.914E-03 |
| 23 | 536.70 | 4.0 | 1 | 2.950E-24 | 1.330E-12 | 1.014E-08 | 8.726E-07 | 1.235E-05 | 7.034E-05 | 2.370E-04 | 5.742E-04 | 1.115E-03 | 1.856E-03 |
| 24 | 543.00 | 2.0 | 1 | 8.728E-25 | 5.391E-13 | 4.567E-09 | 4.142E-07 | 6.049E-06 | 3.518E-05 | 1.204E-04 | 2.948E-04 | 5.777E-04 | 9.680E-04 |
| 25 | 565.00 | 3.0 | 1 | 1.354E-25 | 2.512E-13 | 3.071E-09 | 3.345E-07 | 5.454E-06 | 3.414E-05 | 1.231E-04 | 3.135E-04 | 6.333E-04 | 1.088E-03 |
| 26 | 595.36 | (6.0) | (1) | 1.208E-26 | 1.022E-13 | 2.073E-09 | 2.908E-07 | 5.519E-06 | 3.822E-05 | 1.481E-04 | 3.984E-04 | 8.394E-04 | 1.491E-03 |
| 27 | 599.35 | 4.0 | -1 | 5.610E-27 | 5.798E-14 | 1.256E-09 | 1.822E-07 | 3.528E-06 | 2.476E-05 | 9.686E-05 | 2.624E-04 | 5.559E-04 | 9.918E-04 |
| 28 | 613.00 | 10.0 | -1 | 3.343E-27 | 6.837E-14 | 1.860E-09 | 3.023E-07 | 6.265E-06 | 4.601E-05 | 1.860E-04 | 5.162E-04 | 1.115E-03 | 2.019E-03 |
| 29 | 627.00 | (3.0) | (1) | 2.748E-28 | 1.132E-14 | 3.888E-10 | 7.100E-08 | 1.578E-06 | 1.215E-05 | 5.075E-05 | 1.444E-04 | 3.180E-04 | 5.851E-04 |
| 30 | 638.80 | (4.0) | 1 | 1.086E-28 | 8.066E-15 | 3.373E-10 | 6.797E-08 | 1.603E-06 | 1.283E-05 | 5.513E-05 | 1.602E-04 | 3.586E-04 | 6.685E-04 |
| 31 | 641.37 | 1.0 | -1 | 2.799E-29 | 2.364E-15 | 1.032E-10 | 2.125E-08 | 5.075E-07 | 4.097E-06 | 1.771E-05 | 5.173E-05 | 1.162E-04 | 2.172E-04 |
| 32 | 653.80 | 5.0 | 1 | 2.961E-29 | 4.657E-15 | 2.501E-10 | 5.709E-08 | 1.451E-06 | 1.221E-05 | 5.438E-05 | 1.624E-04 | 3.710E-04 | 7.033E-04 |
| 33 | 660.74 | (5.0) | 1 | 1.479E-29 | 3.291E-15 | 1.984E-10 | 4.800E-08 | 1.263E-06 | 1.088E-05 | 4.925E-05 | 1.489E-04 | 3.435E-04 | 6.561E-04 |
| 34 | 662.05 | 3.0 | -1 | 8.257E-30 | 1.962E-15 | 1.209E-10 | 2.956E-08 | 7.830E-07 | 6.772E-06 | 3.076E-05 | 9.320E-05 | 2.154E-04 | 4.121E-04 |
| 35 | (667.00) | (1.0) | ( 1 ) | 2.157E-30 | 6.564E-16 | 4.392E-11 | 1.119E-08 | 3.039E-07 | 2.673E-06 | 1.228E-05 | 3.755E-05 | 8.739E-05 | 1.681E-04 |
| 36 | 691.47 | 2.0 | -1 | 3.112E-31 | 3.219E-16 | 3.238E-11 | 1.012E-08 | 3.105E-07 | 2.963E-06 | 1.443E-05 | 4.609E-05 | 1.110E-04 | 2.193E-04 |
| 37 | 692.00 | (3.0) | (1) | 4.132E-31 | 4.388E-16 | 4.454E-11 | 1.398E-08 | 4.301E-07 | 4.111E-06 | 2.005E-05 | 6.410E-05 | 1.545E-04 | 3.054E-04 |
| 38 | 713.60 | (6.0) | (-1) | 8.949E-32 | 2.768E-16 | 4.026E-11 | 1.513E-08 | 5.186E-07 | 5.327E-06 | 2.735E-05 | 9.087E-05 | 2.256E-04 | 4.570E-04 |
| 39 | 719.00 | (4.0) | (1) | 3.570E-32 | 1.463E-16 | 2.328E-11 | 9.153E-09 | 3.223E-07 | 3.370E-06 | 1.753E-05 | 5.880E-05 | 1.471E-04 | 2.998E-04 |
| 40 | 719.01 | 5.0 | -1 | 4.359E-32 | 1.787E-16 | 2.845E-11 | 1.118E-08 | 3.938E-07 | 4.119E-06 | 2.142E-05 | 7.186E-05 | 1.798E-04 | 3.664E-04 |

NUCLEUS: LU-176

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 41 | 726.51 | (4.0) | -1 | 1.685E-32 | 1.005E-16 | 1.813E-11 | 7.586E-09 | 2.773E-07 | 2.974E-06 | 1.575E-05 | 5.354E-05 | 1.353E-04 | 2.781E-04 |
| 42 | 728.30 | (7.0) | (-1) | 2.348E-32 | 1.531E-16 | 2.846E-11 | 1.209E-08 | 4.460E-07 | 4.811E-06 | 2.558E-05 | 8.725E-05 | 2.211E-04 | 4.553E-04 |
| 43 | 737.00 | (5.0) | ( 1) | 7.213E-33 | 7.268E-17 | 1.562E-11 | 7.133E-09 | 2.748E-07 | 3.052E-06 | 1.657E-05 | 5.739E-05 | 1.472E-04 | 3.060E-04 |
| 44 | 743.00 | (3.0) | ( 1) | 2.519E-33 | 3.426E-17 | 8.137E-12 | 3.907E-09 | 1.551E-07 | 1.757E-06 | 9.677E-06 | 3.388E-05 | 8.764E-05 | 1.834E-04 |
| 45 | 755.51 | 4.0 | -1 | 9.270E-34 | 2.357E-17 | 6.895E-12 | 3.674E-09 | 1.553E-07 | 1.834E-06 | 1.041E-05 | 3.726E-05 | 9.806E-05 | 2.081E-04 |
| 46 | 767.21 | 3.0 | -1 | 2.238E-34 | 1.021E-17 | 3.631E-12 | 2.133E-09 | 9.558E-08 | 1.174E-06 | 6.848E-06 | 2.504E-05 | 6.697E-05 | 1.440E-04 |
| 47 | 776.86 | (6.0) | (1) | 1.583E-34 | 1.171E-17 | 4.888E-12 | 3.112E-09 | 1.463E-07 | 1.856E-06 | 1.108E-05 | 4.121E-05 | 1.117E-04 | 2.428E-04 |
| 48 | 792.00 | (2.0) | (1) | 1.340E-35 | 2.112E-18 | 1.135E-12 | 8.198E-10 | 4.158E-08 | 5.546E-07 | 3.433E-06 | 1.312E-05 | 3.632E-05 | 8.026E-05 |
| 49 | 818.00 | (3.0) | (1) | 1.393E-36 | 8.058E-19 | 6.679E-13 | 5.991E-10 | 3.461E-08 | 5.034E-07 | 3.315E-06 | 1.327E-05 | 3.809E-05 | 8.664E-05 |
| 50 | 837.00 | (4.0) | (-1 ) | 2.680E-37 | 4.007E-19 | 4.559E-13 | 4.791E-10 | 3.043E-08 | 4.716E-07 | 3.249E-06 | 1.345E-05 | 3.965E-05 | 9.212E-05 |
| 51 | 847.00 | (3.0) | (1) | 7.667E-38 | 1.890E-19 | 2.541E-13 | 2.902E-10 | 1.938E-08 | 3.105E-07 | 2.190E-06 | 9.234E-06 | 2.760E-05 | 6.483E-05 |
| 52 | 851.80 | 6.0 | -1 | 8.811E-38 | 2.761E-19 | 4.021E-13 | 4.780E-10 | 3.269E-08 | 5.323E-07 | 3.798E-06 | 1.615E-05 | 4.859E-05 | 1.148E-04 |
| 53 | 864.13 | 4.0 | -1 | 1.778E-38 | 1.032E-19 | 1.845E-13 | 2.431E-10 | 1.769E-08 | 3.000E-07 | 2.205E-06 | 9.584E-06 | 2.933E-05 | 7.023E-05 |
| 54 | 873.00 | (3.0) | (1) | 5.695E-39 | 5.152E-20 | 1.068E-13 | 1.515E-10 | 1.152E-08 | 2.013E-07 | 1.511E-06 | 6.672E-06 | 2.067E-05 | 4.999E-05 |
| 55 | 874.20 | (5.0) | (-1) | 7.937E-39 | 7.624E-20 | 1.612E-13 | 2.310E-10 | 1.767E-08 | 3.101E-07 | 2.334E-06 | 1.033E-05 | 3.205E-05 | 7.761E-05 |
| 56 | 888.00 | (4.0) | (1) | 1.634E-39 | 3.129E-20 | 9.328E-14 | 1.339E-10 | 1.097E-08 | 2.016E-07 | 1.568E-06 | 7.112E-06 | 2.250E-05 | 5.532E-05 |
| 57 | 911.00 | (5.0) | (1) | 2.002E-40 | 1.211E-20 | 4.729E-14 | 9.206E-11 | 8.467E-09 | 1.679E-07 | 1.380E-06 | 6.520E-06 | 2.130E-05 | 5.372E-05 |
| 58 | 916.00 | (3.0) | (1) | 7.727E-41 | 6.001E-21 | 2.547E-14 | 5.170E-11 | 4.875E-09 | 9.831E-08 | 8.174E-07 | 3.899E-06 | 1.282E-05 | 3.252E-05 |
| 59 | 925.00 | (4.0) | (-1) | 4.039E-41 | 4.919E-21 | 2.426E-14 | 5.308E-11 | 5.235E-09 | 1.088E-07 | 9.241E-07 | 4.478E-06 | 1.491E-05 | 3.821E-05 |
| 60 | 932.00 | (3.0) | (-1) | 1.560E-41 | 2.696E-21 | 1.494E-14 | 3.466E-11 | 3.540E-09 | 7.530E-08 | 6.504E-07 | 3.191E-06 | 1.073E-05 | 2.771E-05 |
| 61 | 949.00 | (4.0) | (-1) | 3.665E-42 | 1.482E-21 | 1.090E-14 | 2.913E-11 | 3.240E-09 | 7.292E-08 | 6.559E-07 | 3.318E-06 | 1.142E-05 | 3.006E-05 |
| 62 | 962.00 | (4.0) | (1) | 9.987E-43 | 7.735E-22 | 7.068E-15 | 2.105E-11 | 2.498E-09 | 5.872E-08 | 5.447E-07 | 2.820E-06 | 9.887E-06 | 2.639E-05 |
| 63 | 975.00 | (3.0) | (1) | 2.117E-43 | 3.141E-22 | 3.564E-15 | 1.183E-11 | 1.498E-09 | 3.677E-08 | 3.519E-07 | 1.864E-06 | 6.656E-06 | 1.802E-05 |
| 64 | 992.00 | (5.0) | (-1) | 6.077E-44 | 2.110E-22 | 3.178E-15 | 1.215E-11 | 1.676E-09 | 4.353E-08 | 4.337E-07 | 2.369E-06 | 8.659E-06 | 2.399E-05 |

REFERENCES : /6/, /49/

NUCLEUS: TA-180

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.0 | 1 | 9.701E-01 | 7.485E-01 | 5.185E-01 | 3.735E-01 | 2.860E-01 | 2.300E-01 | 1.918E-01 | 1.643E-01 | 1.437E-01 | 1.278E-01 |
| 2 | 40.50 | 2.0 | 1 | 2.817E-02 | 1.647E-01 | 2.240E-01 | 2.262E-01 | 2.120E-01 | 1.952E-01 | 1.792E-01 | 1.651E-01 | 1.528E-01 | 1.421E-01 |
| 3 | 82.00 | 9.0 | -1 | 1.688E-03 | 7.856E-02 | 2.135E-01 | 3.045E-01 | 3.513E-01 | 3.714E-01 | 3.765E-01 | 3.735E-01 | 3.661E-01 | 3.565E-01 |
| 4 | 110.90 | 3.0 | 1 | 3.456E-05 | 6.824E-03 | 3.001E-02 | 5.448E-02 | 7.262E-02 | 8.452E-02 | 9.179E-02 | 9.587E-02 | 9.782E-02 | 9.837E-02 |
| 5 | 134.00 | 1.0 | -1 | 1.470E-06 | 9.214E-04 | 5.956E-03 | 1.311E-02 | 1.961E-02 | 2.465E-02 | 2.828E-02 | 3.078E-02 | 3.243E-02 | 3.346E-02 |
| 6 | 180.10 | (8.0) | 1 | 8.291E-08 | 5.208E-04 | 7.259E-03 | 2.346E-02 | 4.419E-02 | 6.478E-02 | 8.295E-02 | 9.803E-02 | 1.101E-01 | 1.196E-01 |
| 7 | 235.00 | 3.0 | -1 | 1.409E-10 | 1.378E-05 | 4.795E-04 | 2.448E-03 | 6.069E-03 | 1.068E-02 | 1.559E-02 | 2.032E-02 | 2.464E-02 | 2.844E-02 |
| 8 | 285.90 | (5.0) | 1 | 1.364E-12 | 1.699E-06 | 1.381E-04 | 1.078E-03 | 3.446E-03 | 7.187E-03 | 1.184E-02 | 1.690E-02 | 2.199E-02 | 2.686E-02 |
| 9 | 311.10 | (5.0) | (-1) | 1.097E-13 | 4.820E-07 | 5.962E-05 | 5.740E-04 | 2.082E-03 | 4.722E-03 | 8.261E-03 | 1.234E-02 | 1.662E-02 | 2.088E-02 |
| 10 | 320.00 | (4.0) | (-1) | 3.687E-14 | 2.527E-07 | 3.626E-05 | 3.759E-04 | 1.426E-03 | 3.331E-03 | 5.952E-03 | 9.030E-03 | 1.232E-02 | 1.563E-02 |
| 11 | 375.20 | (9.0) | (1) | 3.118E-16 | 3.377E-08 | 1.216E-05 | 1.997E-04 | 9.978E-04 | 2.803E-03 | 5.711E-03 | 9.562E-03 | 1.408E-02 | 1.900E-02 |
| 12 | 421.40 | (1.0) | (1) | 4.851E-19 | 5.292E-10 | 4.115E-07 | 9.932E-06 | 6.253E-05 | 2.049E-04 | 4.660E-04 | 8.474E-04 | 1.331E-03 | 1.890E-03 |
| 13 | 464.30 | (4.0) | (-1) | 1.995E-20 | 1.859E-10 | 2.955E-07 | 1.019E-05 | 7.954E-05 | 3.007E-04 | 7.575E-04 | 1.487E-03 | 2.479E-03 | 3.692E-03 |
| 14 | 477.40 | (1.0) | (-1) | 1.794E-21 | 3.218E-11 | 6.364E-08 | 2.449E-06 | 2.040E-05 | 8.057E-05 | 2.094E-04 | 4.208E-04 | 7.144E-04 | 1.079E-03 |
| 15 | 547.00 | (5.0) | (1) | 6.243E-24 | 3.635E-12 | 2.293E-08 | 1.576E-06 | 1.860E-05 | 9.261E-05 | 2.841E-04 | 6.465E-04 | 1.209E-03 | 1.973E-03 |
| 16 | 563.00 | (4.0) | (1) | 1.031E-24 | 1.337E-12 | 1.101E-08 | 8.645E-07 | 1.105E-05 | 5.804E-05 | 1.849E-04 | 4.330E-04 | 8.279E-04 | 1.376E-03 |
| 17 | 576.50 | (2.0) | (-1) | 1.485E-25 | 3.781E-13 | 3.899E-09 | 3.427E-07 | 4.686E-06 | 2.575E-05 | 8.472E-05 | 2.032E-04 | 3.959E-04 | 6.678E-04 |
| 18 | 596.00 | (3.0) | (1) | 2.959E-26 | 1.996E-13 | 2.850E-09 | 2.947E-07 | 4.442E-06 | 2.604E-05 | 8.977E-05 | 2.230E-04 | 4.463E-04 | 7.693E-04 |

REFERENCES : /6/, /30/, /31/, /32/

Remark: Level scheme uncertain; low lying levels probably missing

NUCLEUS: RE-186

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.0 | -1 | 9.953E-01 | 9.042E-01 | 7.373E-01 | 5.758E-01 | 4.479E-01 | 3.528E-01 | 2.830E-01 | 2.315E-01 | 1.928E-01 | 1.633E-01 |
| 2 | 59.01 | ( 2.0) | -1 | 4.540E-03 | 7.884E-02 | 1.719E-01 | 2.195E-01 | 2.293E-01 | 2.199E-01 | 2.030E-01 | 1.845E-01 | 1.668E-01 | 1.509E-01 |
| 3 | 99.36 | (3.0) | -1 | 1.124E-04 | 1.468E-02 | 6.269E-02 | 1.121E-01 | 1.432E-01 | 1.571E-01 | 1.597E-01 | 1.560E-01 | 1.492E-01 | 1.411E-01 |
| 4 | 146.28 | (3.0) | -1 | 1.031E-06 | 1.406E-03 | 1.312E-02 | 3.468E-02 | 5.605E-02 | 7.189E-02 | 8.171E-02 | 8.678E-02 | 8.857E-02 | 8.825E-02 |
| 5 | 173.93 | (4.0) | -1 | 8.346E-08 | 4.535E-04 | 6.712E-03 | 2.234E-02 | 4.145E-02 | 5.830E-02 | 7.077E-02 | 7.897E-02 | 8.375E-02 | 8.606E-02 |
| 6 | 186.00 | (6.0) | (-1) | 3.606E-08 | 3.582E-04 | 6.484E-03 | 2.386E-02 | 4.703E-02 | 6.887E-02 | 8.604E-02 | 9.809E-02 | 1.058E-01 | 1.102E-01 |
| 7 | 210.70 | (2.0) | -1 | 1.173E-09 | 4.007E-05 | 1.095E-03 | 4.949E-03 | 1.104E-02 | 1.755E-02 | 2.325E-02 | 2.771E-02 | 3.092E-02 | 3.310E-02 |
| 8 | 268.80 | (4.0) | -1 | 6.330E-12 | 3.949E-06 | 2.841E-04 | 2.084E-03 | 6.216E-03 | 1.199E-02 | 1.825E-02 | 2.412E-02 | 2.919E-02 | 3.333E-02 |
| 9 | 273.63 | (4.0) | -1 | 3.905E-12 | 3.102E-06 | 2.419E-04 | 1.847E-03 | 5.643E-03 | 1.107E-02 | 1.703E-02 | 2.271E-02 | 2.766E-02 | 3.175E-02 |
| 10 | 314.01 | (3.0) | 1 | 5.356E-14 | 3.204E-07 | 4.896E-05 | 5.235E-04 | 1.957E-03 | 4.391E-03 | 7.441E-03 | 1.066E-02 | 1.374E-02 | 1.649E-02 |
| 11 | 316.46 | (1.0) | -1 | 1.797E-14 | 1.215E-07 | 1.934E-05 | 2.110E-04 | 7.987E-04 | 1.807E-03 | 3.079E-03 | 4.432E-03 | 5.729E-03 | 6.897E-03 |
| 12 | 317.85 | (2.0) | -1 | 2.606E-14 | 1.889E-07 | 3.077E-05 | 3.397E-04 | 1.295E-03 | 2.942E-03 | 5.031E-03 | 7.259E-03 | 9.402E-03 | 1.134E-02 |
| 13 | 322.39 | (3.0) | -1 | 2.317E-14 | 2.107E-07 | 3.703E-05 | 4.246E-04 | 1.655E-03 | 3.819E-03 | 6.602E-03 | 9.602E-03 | 1.252E-02 | 1.517E-02 |
| 14 | 330.00 | (5.0) | ( 1) | 1.701E-14 | 2.263E-07 | 4.515E-05 | 5.516E-04 | 2.234E-03 | 5.286E-03 | 9.305E-03 | 1.372E-02 | 1.807E-02 | 2.209E-02 |
| 15 | 342.00 | (4.0) | ( 1) | 4.192E-15 | 1.016E-07 | 2.476E-05 | 3.343E-04 | 1.438E-03 | 3.541E-03 | 6.414E-03 | 9.662E-03 | 1.294E-02 | 1.603E-02 |
| 16 | 351.20 | (3.0) | ( 1) | 1.299E-15 | 4.990E-08 | 1.417E-05 | 2.066E-04 | 9.303E-04 | 2.363E-03 | 4.374E-03 | 6.698E-03 | 9.087E-03 | 1.137E-02 |
| 17 | 378.38 | (2.0) | -1 | 6.126E-17 | 9.157E-09 | 4.091E-06 | 7.481E-05 | 3.859E-04 | 1.073E-03 | 2.119E-03 | 3.406E-03 | 4.799E-03 | 6.189E-03 |
| 18 | 417.79 | (5.0) | -1 | 2.618E-18 | 2.808E-09 | 2.420E-06 | 6.144E-05 | 3.860E-04 | 1.224E-03 | 2.655E-03 | 4.579E-03 | 6.814E-03 | 9.181E-03 |
| 19 | 420.56 | (4.0) | 1 | 1.624E-18 | 2.000E-09 | 1.805E-06 | 4.691E-05 | 2.988E-04 | 9.561E-04 | 2.088E-03 | 3.619E-03 | 5.406E-03 | 7.306E-03 |
| 20 | 425.82 | (2.0) | ( 1) | 5.332E-19 | 8.543E-10 | 8.416E-07 | 2.285E-05 | 1.494E-04 | 4.866E-04 | 1.076E-03 | 1.883E-03 | 2.833E-03 | 3.851E-03 |
| 21 | 462.96 | (5.0) | -1 | 2.860E-20 | 2.935E-10 | 5.369E-07 | 1.986E-05 | 1.564E-04 | 5.765E-04 | 1.393E-03 | 2.604E-03 | 4.125E-03 | 5.844E-03 |
| 22 | 469.79 | (4.0) | -1 | 1.182E-20 | 1.706E-10 | 3.498E-07 | 1.370E-05 | 1.116E-04 | 4.209E-04 | 1.033E-03 | 1.956E-03 | 3.128E-03 | 4.466E-03 |
| 23 | 470.51 | (3.0) | -1 | 8.554E-21 | 1.280E-10 | 2.656E-07 | 1.047E-05 | 8.557E-05 | 3.235E-04 | 7.956E-04 | 1.508E-03 | 2.414E-03 | 3.448E-03 |
| 24 | 471.00 | (3.0) | 1 | 8.145E-21 | 1.249E-10 | 2.613E-07 | 1.034E-05 | 8.474E-05 | 3.208E-04 | 7.900E-04 | 1.498E-03 | 2.401E-03 | 3.432E-03 |
| 25 | 497.30 | (4.0) | -1 | 7.548E-22 | 4.312E-11 | 1.398E-07 | 6.887E-06 | 6.438E-05 | 2.661E-04 | 6.976E-04 | 1.387E-03 | 2.305E-03 | 3.392E-03 |
| 26 | 500.72 | (2.0) | 1 | 2.979E-22 | 2.019E-11 | 6.932E-08 | 3.513E-06 | 3.340E-05 | 1.396E-04 | 3.691E-04 | 7.382E-04 | 1.233E-03 | 1.821E-03 |
| 27 | 534.40 | (4.0) | -1 | 1.848E-23 | 6.747E-12 | 4.060E-08 | 2.724E-06 | 3.066E-05 | 1.434E-04 | 4.106E-04 | 8.721E-04 | 1.526E-03 | 2.340E-03 |
| 28 | 549.30 | (3.0) | (-1) | 3.239E-24 | 2.491E-12 | 1.922E-08 | 1.460E-06 | 1.770E-05 | 8.700E-05 | 2.581E-04 | 5.631E-04 | 1.006E-03 | 1.568E-03 |
| 29 | 559.97 | (2.0) | 1 | 7.959E-25 | 1.044E-12 | 9.618E-09 | 7.986E-07 | 1.021E-05 | 5.202E-05 | 1.583E-04 | 3.520E-04 | 6.381E-04 | 1.007E-03 |
| 30 | 562.00 | ( 1.0) | 1 | 3.898E-25 | 5.658E-13 | 5.394E-09 | 4.555E-07 | 5.884E-06 | 3.017E-05 | 9.228E-05 | 2.059E-04 | 3.743E-04 | 5.920E-04 |
| 31 | 577.73 | (4.0) | -1 | 2.426E-25 | 7.731E-13 | 9.578E-09 | 9.221E-07 | 1.289E-05 | 6.964E-05 | 2.211E-04 | 5.074E-04 | 9.429E-04 | 1.517E-03 |
| 32 | 588.71 | (4.0) | (-1) | 8.091E-26 | 4.465E-13 | 6.642E-09 | 7.008E-07 | 1.035E-05 | 5.800E-05 | 1.890E-04 | 4.423E-04 | 8.346E-04 | 1.360E-03 |
| 33 | 601.58 | (2.0) | ( 1) | 1.241E-26 | 1.303E-13 | 2.403E-09 | 2.822E-07 | 4.444E-06 | 2.600E-05 | 8.737E-05 | 2.092E-04 | 4.019E-04 | 6.641E-04 |
| 34 | 623.90 | (3.0) | (-1) | 1.865E-27 | 5.977E-14 | 1.599E-09 | 2.261E-07 | 3.981E-06 | 2.509E-05 | 8.893E-05 | 2.216E-04 | 4.391E-04 | 7.438E-04 |
| 35 | 646.30 | (5.0) | (-1) | 3.119E-28 | 3.065E-14 | 1.191E-09 | 2.030E-07 | 3.997E-06 | 2.715E-05 | 1.015E-04 | 2.632E-04 | 5.379E-04 | 9.343E-04 |
| 36 | 657.99 | (1.0) | ( 1) | 2.643E-29 | 4.659E-15 | 2.199E-10 | 4.133E-08 | 8.628E-07 | 6.093E-06 | 2.342E-05 | 6.202E-05 | 1.288E-04 | 2.267E-04 |
| 37 | 665.19 | (3.0) | (-1) | 3.002E-29 | 7.584E-15 | 4.037E-10 | 8.055E-08 | 1.743E-06 | 1.261E-05 | 4.930E-05 | 1.323E-04 | 2.775E-04 | 4.922E-04 |
| 38 | 680.00 | (4.0) | (-1) | 8.777E-30 | 4.650E-15 | 3.168E-10 | 7.152E-08 | 1.667E-06 | 1.267E-05 | 5.130E-05 | 1.413E-04 | 3.027E-04 | 5.457E-04 |
| 39 | 686.60 | (3.0) | -1 | 3.528E-30 | 2.600E-15 | 1.977E-10 | 4.716E-08 | 1.136E-06 | 8.825E-06 | 3.631E-05 | 1.012E-04 | 2.188E-04 | 3.973E-04 |
| 40 | 691.40 | (3.0) | ( 1) | 2.183E-30 | 2.045E-15 | 1.685E-10 | 4.183E-08 | 1.032E-06 | 8.146E-06 | 3.390E-05 | 9.531E-05 | 2.074E-04 | 3.787E-04 |

NUCLEUS: RE-186

| NO | E(KEV) | SPIN PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 41 | 726.00 | (3.0) (1) | 6.863E-32 | 3.626E-16 | 5.318E-11 | 1.761E-08 | 5.166E-07 | 4.576E-06 | 2.068E-05 | 6.185E-05 | 1.412E-04 | 2.679E-04 |
| 42 | 744.80 | (2.0) 1 | 7.480E-33 | 1.012E-16 | 2.030E-11 | 7.863E-09 | 2.534E-07 | 2.390E-06 | 1.129E-05 | 3.492E-05 | 8.185E-05 | 1.586E-04 |
| 43 | 761.60 | (4.0)(-1) | 2.509E-33 | 7.862E-17 | 2.087E-11 | 9.299E-09 | 3.259E-07 | 3.251E-06 | 1.599E-05 | 5.096E-05 | 1.222E-04 | 2.413E-04 |
| 44 | 785.30 | (3.0)(-1) | 1.824E-34 | 1.870E-17 | 7.366E-12 | 3.999E-09 | 1.578E-07 | 1.703E-06 | 8.865E-06 | 2.947E-05 | 7.306E-05 | 1.481E-04 |
| 45 | 796.00 | (4.0)(-1) | 8.046E-35 | 1.408E-17 | 6.630E-12 | 3.935E-09 | 1.638E-07 | 1.832E-06 | 9.782E-06 | 3.315E-05 | 8.341E-05 | 1.711E-04 |

REFERENCES : /6/

NUCLEUS: RE-187

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.5 | 1 | 1.000E+00 | 9.983E-01 | 9.835E-01 | 9.469E-01 | 8.924E-01 | 8.288E-01 | 7.632E-01 | 7.002E-01 | 6.420E-01 | 5.894E-01 |
| 2 | 134.20 | 3.5 | 1 | 1.980E-06 | 1.622E-03 | 1.496E-02 | 4.407E-02 | 8.126E-02 | 1.180E-01 | 1.496E-01 | 1.744E-01 | 1.927E-01 | 2.054E-01 |
| 3 | 211.00 | 4.5 | -1 | 1.144E-09 | 4.359E-05 | 1.446E-03 | 8.077E-03 | 2.186E-02 | 4.102E-02 | 6.243E-02 | 8.349E-02 | 1.026E-01 | 1.191E-01 |
| 4 | 301.00 | 4.5 | 1 | 1.412E-13 | 4.842E-07 | 7.198E-05 | 8.513E-04 | 3.614E-03 | 9.154E-03 | 1.726E-02 | 2.711E-02 | 3.775E-02 | 4.842E-02 |
| 5 | 390.00 | 5.5 | -1 | 2.311E-17 | 6.786E-09 | 4.446E-06 | 1.104E-04 | 7.313E-04 | 2.492E-03 | 5.808E-03 | 1.069E-02 | 1.685E-02 | 2.386E-02 |
| 6 | 509.00 | 5.5 | 1 | 1.569E-22 | 1.768E-11 | 8.420E-08 | 5.636E-06 | 6.769E-05 | 3.429E-04 | 1.061E-03 | 2.416E-03 | 4.492E-03 | 7.259E-03 |
| 7 | 512.00 | 0.5 | 1 | 1.937E-23 | 2.537E-12 | 1.270E-08 | 8.714E-07 | 1.062E-05 | 5.437E-05 | 1.694E-04 | 3.878E-04 | 7.241E-04 | 1.174E-03 |
| 8 | 589.00 | 1.5 | 1 | 1.755E-26 | 1.080E-13 | 1.950E-09 | 2.542E-07 | 4.555E-06 | 3.013E-05 | 1.128E-04 | 2.963E-04 | 6.155E-04 | 1.087E-03 |
| 9 | 618.00 | 1.5 | 1 | 9.656E-28 | 2.532E-14 | 7.417E-10 | 1.231E-07 | 2.550E-06 | 1.858E-05 | 7.454E-05 | 2.062E-04 | 4.460E-04 | 8.135E-04 |
| 10 | 625.00 | 0.5 | 1 | 2.397E-28 | 8.923E-15 | 2.937E-10 | 5.168E-08 | 1.109E-06 | 8.269E-06 | 3.372E-05 | 9.445E-05 | 2.063E-04 | 3.793E-04 |
| 11 | 648.00 | 2.5 | 1 | 7.211E-29 | 8.476E-15 | 4.093E-10 | 8.725E-08 | 2.100E-06 | 1.691E-05 | 7.283E-05 | 2.126E-04 | 4.793E-04 | 9.040E-04 |
| 12 | 686.00 | 2.5 | -1 | 1.613E-30 | 1.268E-15 | 1.153E-10 | 3.374E-08 | 9.819E-07 | 8.975E-06 | 4.232E-05 | 1.322E-04 | 3.143E-04 | 6.182E-04 |
| 13 | 743.00 | 7.5 | 1 | 1.439E-32 | 1.956E-16 | 4.600E-11 | 2.164E-08 | 8.374E-07 | 9.256E-06 | 4.999E-05 | 1.729E-04 | 4.448E-04 | 9.323E-04 |
| 14 | 773.00 | 1.5 | 1 | 1.792E-34 | 1.091E-17 | 4.231E-12 | 2.556E-09 | 1.149E-07 | 1.403E-06 | 8.142E-06 | 2.970E-05 | 7.968E-05 | 1.727E-04 |
| 15 | 818.00 | (1.5) | (1) | 1.991E-36 | 1.150E-18 | 9.440E-13 | 8.297E-10 | 4.671E-08 | 6.630E-07 | 4.281E-06 | 1.692E-05 | 4.833E-05 | 1.101E-04 |
| 16 | 840.00 | (4.5) | (1) | 5.514E-37 | 9.568E-19 | 1.134E-12 | 1.197E-09 | 7.521E-08 | 1.149E-06 | 7.816E-06 | 3.214E-05 | 9.462E-05 | 2.209E-04 |
| 17 | 865.00 | (1.5) | (1) | 1.811E-38 | 1.097E-19 | 1.970E-13 | 2.562E-10 | 1.825E-08 | 3.029E-07 | 2.187E-06 | 9.405E-06 | 2.867E-05 | 6.881E-05 |
| 18 | 880.00 | 2.5 | 1 | 6.060E-39 | 7.770E-20 | 1.793E-13 | 2.641E-10 | 2.028E-08 | 3.538E-07 | 2.648E-06 | 1.170E-05 | 3.640E-05 | 8.884E-05 |
| 19 | 1079.00 | (0.5) | (-1) | 4.602E-48 | 1.236E-24 | 7.863E-17 | 6.083E-13 | 1.263E-10 | 4.278E-09 | 5.143E-08 | 3.240E-07 | 1.330E-06 | 4.048E-06 |
| 20 | 1126.00 | (1.5) | 1 | 8.372E-50 | 2.358E-25 | 3.283E-17 | 3.757E-13 | 9.867E-11 | 3.909E-09 | 5.256E-08 | 3.601E-07 | 1.578E-06 | 5.060E-06 |
| 21 | 1163.00 | (2.5) | 1 | 3.105E-51 | 5.561E-26 | 1.434E-17 | 2.235E-13 | 7.062E-11 | 3.165E-09 | 4.647E-08 | 3.402E-07 | 1.569E-06 | 5.243E-06 |
| 22 | 1187.00 | (1.5) | (1) | 1.878E-52 | 1.117E-26 | 4.297E-18 | 8.176E-14 | 2.913E-11 | 1.414E-09 | 2.199E-08 | 1.680E-07 | 8.010E-07 | 2.749E-06 |
| 23 | 1201.00 | (4.5) | (-1) | 1.158E-52 | 1.386E-26 | 6.736E-18 | 1.440E-13 | 5.504E-11 | 2.800E-09 | 4.501E-08 | 3.526E-07 | 1.714E-06 | 5.976E-06 |
| 24 | 1208.00 | (5.5) | (-1) | 6.899E-53 | 1.172E-26 | 6.401E-18 | 1.451E-13 | 5.742E-11 | 2.990E-09 | 4.887E-08 | 3.877E-07 | 1.903E-06 | 6.686E-06 |
| 25 | 1233.00 | (2.5) | (-1) | 2.832E-54 | 1.679E-27 | 1.391E-18 | 3.883E-14 | 1.741E-11 | 9.856E-10 | 1.710E-08 | 1.418E-07 | 7.207E-07 | 2.604E-06 |
| 26 | 1266.00 | (1.5) | (-1) | 6.963E-56 | 2.150E-28 | 3.087E-19 | 1.135E-14 | 6.000E-12 | 3.791E-10 | 7.113E-09 | 6.258E-08 | 3.330E-07 | 1.248E-06 |
| 27 | 1286.00 | (4.5) | ( 1) | 2.356E-56 | 1.978E-28 | 3.962E-19 | 1.720E-14 | 1.006E-11 | 6.791E-10 | 1.336E-08 | 1.219E-07 | 6.665E-07 | 2.554E-06 |
| 28 | 1343.00 | (2.5) | ( 1) | 4.730E-59 | 6.863E-30 | 3.556E-20 | 2.483E-15 | 1.930E-12 | 1.576E-10 | 3.552E-09 | 3.585E-08 | 2.123E-07 | 8.666E-07 |

REFERENCES : /6/

NUCLEUS: TL-204

| NO | E(KEV) | SPIN PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.0 -1 | 1.000E+00 | 9.993E-01 | 9.928E-01 | 9.762E-01 | 9.499E-01 | 9.149E-01 | 8.726E-01 | 8.247E-01 | 7.735E-01 | 7.213E-01 |
| 2 | 140.00 | (1.0)(-1) | 4.990E-07 | 5.468E-04 | 5.602E-03 | 1.769E-02 | 3.466E-02 | 5.323E-02 | 7.086E-02 | 8.599E-02 | 9.796E-02 | 1.067E-01 |
| 3 | 146.00 | (0.0)(-1) | 9.128E-08 | 1.350E-04 | 1.529E-03 | 5.075E-03 | 1.025E-02 | 1.606E-02 | 2.168E-02 | 2.659E-02 | 3.055E-02 | 3.350E-02 |
| 4 | 300.10 | (1.0) -1 | 5.560E-14 | 1.825E-07 | 2.695E-05 | 3.232E-04 | 1.410E-03 | 3.693E-03 | 7.196E-03 | 1.162E-02 | 1.654E-02 | 2.152E-02 |
| 5 | 319.00 | (2.0) -1 | 1.400E-14 | 1.182E-07 | 2.393E-05 | 3.358E-04 | 1.610E-03 | 4.491E-03 | 9.155E-03 | 1.530E-02 | 2.234E-02 | 2.970E-02 |
| 6 | 347.90 | (3.0) -1 | 1.089E-15 | 3.902E-08 | 1.278E-05 | 2.283E-04 | 1.265E-03 | 3.884E-03 | 8.482E-03 | 1.492E-02 | 2.269E-02 | 3.114E-02 |
| 7 | 414.10 | (4.0)(-1) | 1.868E-18 | 1.832E-09 | 1.809E-06 | 5.608E-05 | 4.326E-04 | 1.657E-03 | 4.236E-03 | 8.386E-03 | 1.398E-02 | 2.065E-02 |
| 8 | 425.10 | (2.0)(-1) | 3.454E-19 | 5.872E-10 | 6.965E-07 | 2.366E-05 | 1.929E-04 | 7.663E-04 | 2.011E-03 | 4.060E-03 | 6.873E-03 | 1.028E-02 |
| 9 | 432.30 | (2.0) -1 | 1.681E-19 | 4.097E-10 | 5.479E-07 | 1.977E-05 | 1.670E-04 | 6.797E-04 | 1.814E-03 | 3.711E-03 | 6.345E-03 | 9.564E-03 |
| 10 | 471.90 | (1.0) -1 | 1.923E-21 | 3.394E-11 | 8.782E-08 | 4.407E-06 | 4.539E-05 | 2.108E-04 | 6.183E-04 | 1.357E-03 | 2.452E-03 | 3.862E-03 |
| 11 | 488.40 | (2.0)(-1) | 6.156E-22 | 2.479E-11 | 8.445E-08 | 4.862E-06 | 5.439E-05 | 2.668E-04 | 8.141E-04 | 1.841E-03 | 3.402E-03 | 5.458E-03 |
| 12 | 535.90 | (1.0)(-1) | 3.196E-24 | 1.384E-12 | 1.040E-08 | 8.897E-07 | 1.262E-05 | 7.254E-05 | 2.478E-04 | 6.099E-04 | 1.204E-03 | 2.036E-03 |
| 13 | 626.60 | (2.0)(-1) | 6.129E-28 | 2.474E-14 | 8.432E-10 | 1.536E-07 | 3.429E-06 | 2.666E-05 | 1.130E-04 | 3.271E-04 | 7.325E-04 | 1.370E-03 |
| 14 | 629.40 | (1.0)(-1) | 2.779E-28 | 1.290E-14 | 4.608E-10 | 8.592E-08 | 1.945E-06 | 1.527E-05 | 6.517E-05 | 1.895E-04 | 4.260E-04 | 7.995E-04 |
| 15 | 678.60 | (3.0) -1 | 4.734E-30 | 2.572E-15 | 2.086E-10 | 5.860E-08 | 1.697E-06 | 1.569E-05 | 7.530E-05 | 2.391E-04 | 5.755E-04 | 1.141E-03 |
| 16 | 737.30 | (1.0) -1 | 5.727E-33 | 5.857E-17 | 1.263E-11 | 5.789E-09 | 2.248E-07 | 2.528E-06 | 1.395E-05 | 4.919E-05 | 1.285E-04 | 2.718E-04 |
| 17 | 764.40 | (2.0) -1 | 6.351E-34 | 2.518E-17 | 8.533E-12 | 4.900E-09 | 2.179E-07 | 2.682E-06 | 1.579E-05 | 5.843E-05 | 1.584E-04 | 3.454E-04 |
| 18 | 873.40 | (3.0) -1 | 1.641E-38 | 1.515E-19 | 3.157E-13 | 4.497E-10 | 3.448E-08 | 6.104E-07 | 4.658E-06 | 2.094E-05 | 6.607E-05 | 1.626E-04 |
| 19 | 906.30 | (2.0) -1 | 4.368E-40 | 2.088E-20 | 7.531E-14 | 1.411E-10 | 1.275E-08 | 2.520E-07 | 2.079E-06 | 9.915E-06 | 3.274E-05 | 8.358E-05 |
| 20 | 970.00 | (4.0) -1 | 1.346E-42 | 1.555E-21 | 1.622E-14 | 5.167E-11 | 6.422E-09 | 1.569E-07 | 1.507E-06 | 8.049E-06 | 2.904E-05 | 7.957E-05 |
| 21 | 1013.00 | (2.0)(-1) | 1.015E-44 | 1.006E-22 | 2.149E-15 | 9.797E-12 | 1.510E-09 | 4.257E-08 | 4.529E-07 | 2.612E-06 | 1.001E-05 | 2.875E-05 |

REFERENCES : /43/

NUCLEUS: PB-205

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 2.5 | -1 | 7.911E-01 | 7.712E-01 | 7.642E-01 | 7.602E-01 | 7.566E-01 | 7.524E-01 | 7.472E-01 | 7.410E-01 | 7.338E-01 | 7.257E-01 |
| 2 | 2.33 | 0.5 | -1 | 2.089E-01 | 2.288E-01 | 2.357E-01 | 2.391E-01 | 2.407E-01 | 2.413E-01 | 2.409E-01 | 2.399E-01 | 2.383E-01 | 2.363E-01 |
| 3 | 262.81 | 1.5 | -1 | 2.035E-12 | 1.010E-06 | 7.990E-05 | 7.103E-04 | 2.631E-03 | 6.282E-03 | 1.166E-02 | 1.849E-02 | 2.638E-02 | 3.494E-02 |
| 4 | 576.21 | 1.5 | -1 | 4.988E-26 | 1.581E-13 | 2.321E-09 | 2.810E-07 | 4.988E-06 | 3.386E-05 | 1.326E-04 | 3.678E-04 | 8.109E-04 | 1.521E-03 |
| 5 | 703.44 | 3.5 | -1 | 2.975E-31 | 5.460E-16 | 6.681E-11 | 2.336E-08 | 7.831E-07 | 8.123E-06 | 4.306E-05 | 1.500E-04 | 3.945E-04 | 8.525E-04 |
| 6 | 761.43 | 2.5 | -1 | 6.762E-34 | 2.254E-17 | 7.252E-12 | 4.110E-09 | 1.842E-07 | 2.318E-06 | 1.411E-05 | 5.448E-05 | 1.553E-04 | 3.580E-04 |
| 7 | 803.50 | (1.5) | (-1) | 6.713E-36 | 1.834E-18 | 1.189E-12 | 9.572E-10 | 5.293E-08 | 7.664E-07 | 5.156E-06 | 2.147E-05 | 6.489E-05 | 1.567E-04 |
| 8 | 987.62 | 4.5 | -1 | 1.693E-43 | 4.605E-22 | 6.425E-15 | 2.398E-11 | 3.330E-09 | 8.906E-08 | 9.288E-07 | 5.373E-06 | 2.097E-05 | 6.215E-05 |
| 9 | 999.10 | (1.5) | (-1) | 2.149E-44 | 1.038E-22 | 1.753E-15 | 7.199E-12 | 1.059E-09 | 2.942E-08 | 3.153E-07 | 1.862E-06 | 7.385E-06 | 2.216E-05 |
| 10 | 1013.84 | 6.5 | 1 | 1.722E-44 | 1.738E-22 | 3.753E-15 | 1.743E-11 | 2.759E-09 | 8.054E-08 | 8.940E-07 | 5.420E-06 | 2.194E-05 | 6.694E-05 |
| 11 | 1043.72 | 3.5 | -1 | 4.960E-46 | 2.229E-23 | 7.922E-16 | 4.719E-12 | 8.674E-10 | 2.797E-08 | 3.334E-07 | 2.132E-06 | 8.996E-06 | 2.837E-05 |
| 12 | 1264.73 | 2.5 | -1 | 9.381E-56 | 2.655E-28 | 3.753E-19 | 1.410E-14 | 7.827E-12 | 5.273E-10 | 1.064E-08 | 1.009E-07 | 5.789E-07 | 2.334E-06 |
| 13 | 1374.30 | (0.5) | -1 | 5.453E-61 | 3.695E-31 | 3.244E-21 | 3.038E-16 | 2.916E-13 | 2.830E-11 | 7.411E-10 | 8.552E-09 | 5.712E-08 | 2.601E-07 |

REFERENCES : /6/, /44/

NUCLEUS: BI-210

| NO | E(KEV) | SPIN | PA | FRACTIONAL POPULATION FOR KT = 10 - 100 KEV | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 1 | 0.0 | 1.0 | -1 | 9.968E-01 | 9.684E-01 | 9.332E-01 | 8.988E-01 | 8.574E-01 | 8.027E-01 | 7.349E-01 | 6.595E-01 | 5.835E-01 | 5.122E-01 |
| 2 | 46.50 | 0.0 | -1 | 3.177E-03 | 3.157E-02 | 6.602E-02 | 9.369E-02 | 1.128E-01 | 1.233E-01 | 1.261E-01 | 1.229E-01 | 1.160E-01 | 1.072E-01 |
| 3 | 271.00 | 9.0 | -1 | 1.074E-11 | 7.999E-06 | 7.055E-04 | 6.501E-03 | 2.404E-02 | 5.554E-02 | 9.694E-02 | 1.412E-01 | 1.820E-01 | 2.158E-01 |
| 4 | 319.40 | 2.0 | -1 | 2.235E-14 | 1.872E-07 | 3.699E-05 | 5.101E-04 | 2.403E-03 | 6.524E-03 | 1.278E-02 | 2.029E-02 | 2.797E-02 | 3.501E-02 |
| 5 | 347.50 | 3.0 | -1 | 1.884E-15 | 6.430E-08 | 2.030E-05 | 3.538E-04 | 1.918E-03 | 5.718E-03 | 1.197E-02 | 1.999E-02 | 2.865E-02 | 3.700E-02 |
| 6 | 433.10 | ( 7.0 ) | -1 | 7.735E-19 | 1.907E-09 | 2.507E-06 | 8.919E-05 | 7.418E-04 | 2.942E-03 | 7.553E-03 | 1.469E-02 | 2.372E-02 | 3.369E-02 |
| 7 | 438.90 | ( 5.0 ) | -1 | 3.176E-19 | 1.047E-09 | 1.515E-06 | 5.658E-05 | 4.844E-04 | 1.959E-03 | 5.099E-03 | 1.002E-02 | 1.631E-02 | 2.331E-02 |
| 8 | 502.10 | 4.0 | -1 | 4.678E-22 | 3.633E-11 | 1.508E-07 | 9.535E-06 | 1.120E-04 | 5.589E-04 | 1.691E-03 | 3.721E-03 | 6.612E-03 | 1.014E-02 |
| 9 | 549.40 | 6.0 | -1 | 5.964E-24 | 4.930E-12 | 4.502E-08 | 4.221E-06 | 6.280E-05 | 3.670E-04 | 1.243E-03 | 2.975E-03 | 5.646E-03 | 9.125E-03 |
| 10 | 563.00 | 2.0 | -1 | 5.888E-25 | 9.607E-13 | 1.101E-08 | 1.156E-06 | 1.840E-05 | 1.125E-04 | 3.936E-04 | 9.655E-04 | 1.867E-03 | 3.063E-03 |
| 11 | 582.00 | 8.0 | -1 | 2.994E-25 | 1.263E-12 | 1.986E-08 | 2.444E-06 | 4.279E-05 | 2.787E-04 | 1.020E-03 | 2.589E-03 | 5.140E-03 | 8.613E-03 |
| 12 | 669.00 | 10.0 | -1 | 6.162E-29 | 2.014E-14 | 1.350E-09 | 3.429E-07 | 9.278E-06 | 8.077E-05 | 3.637E-04 | 1.078E-03 | 2.415E-03 | 4.457E-03 |
| 13 | 915.00 | 8.0 | -1 | 1.034E-39 | 7.422E-20 | 3.002E-13 | 5.923E-10 | 5.482E-08 | 1.084E-06 | 8.764E-06 | 4.030E-05 | 1.271E-04 | 3.083E-04 |
| 14 | 972.00 | ( 2.0 ) | -1 | 1.017E-42 | 1.263E-21 | 1.320E-14 | 4.190E-11 | 5.157E-09 | 1.233E-07 | 1.142E-06 | 5.813E-06 | 1.984E-05 | 5.128E-05 |

REFERENCES : /6/