# 63-Eu-151 (n, γ) 63-Eu-152

Abundance (%) = 47.81± 0.03

| | | | | | | |
|---|---|---|---|---|---|---|
| Q | = | 6.30677 MeV | $E_{thr}$ | = | 0.0 | |
| $T_{1/2}$ | = | 13.542 y 10 | | | | |
| $E_\gamma$ | = | 121.7825 ± 0.0021 keV | $I_\gamma$ | = | 28.42 ± 0.36 | EC+$\beta^+$ |
| $E_\gamma$ | = | 244.6989 ± 0.0010 keV | $I_\gamma$ | = | 7.49 ± 0.13 | EC+$\beta^+$ |
| $E_\gamma$ | = | 443.976 ± 0.005 keV | $I_\gamma$ | = | 2.776 ± 0.064 | EC+$\beta^+$ |
| $E_\gamma$ | = | 778.903 ± 0.006 keV | $I_\gamma$ | = | 12.96 ± 0.12 | $\beta^-$ |
| $E_\gamma$ | = | 867.388 ± 0.008 keV | $I_\gamma$ | = | 4.153 ± 0.085 | EC+$\beta^+$ |
| $E_\gamma$ | = | 964.131 ± 0.009 keV | $I_\gamma$ | = | 14.34 ± 0.20 | EC+$\beta^+$ |
| $E_\gamma$ | = | 1112.116 ± 0.017 keV | $I_\gamma$ | = | 13.54 ± 0.20 | EC+$\beta^+$ |
| $E_\gamma$ | = | 1408.011 ± 0.014 keV | $I_\gamma$ | = | 20.88 ± 0.11 | EC+$\beta^+$ |
| | | | | | | |
| $T_{1/2}$ | = | 9.274 h 9 | | | | |
| $E_\gamma$ | = | 121.78 ± 0.03 keV | $I_\gamma$ | = | 7.2 ± 1.1 | EC+$\beta^+$ |
| $E_\gamma$ | = | 344.31 ± 0.03 keV | $I_\gamma$ | = | 24.4 ± 0.41 | $\beta^-$ |
| $E_\gamma$ | = | 841.63 ± 0.04 keV | $I_\gamma$ | = | 14.6 ± 2.1 | EC+$\beta^+$ |
| $E_\gamma$ | = | 963.37 ± 0.04 keV | $I_\gamma$ | = | 12.0 ± 1.7 | EC+$\beta^+$ |
| | | | | | | |
| $T_{1/2}$ | = | 96.0 m 1 | | | | |
| $E_\gamma$ | = | 89.847 ± 0.006 keV | $I_\gamma$ | = | 69.93 ± 0.20 | IT |

D-99 (JENDL/D-99) - eval. - Mar 1990 JNDC FR Nuclear Data W.G.
ENDF/B-VI - eval. - Apr 1986 P. Young, E. Arthur.
JENDL-3.2 - eval. - Mar 1989 T. Asami, JNDC FP Nuclear Data W.G.
JEF-2 - eval. - Jun 1982 H. Gruppelaar, H. Rieffe.

**Tabl. 1**

| U-235 | | | | |
|---|---|---|---|---|
| | **D-99** | **ENDF/B-VI** | **JENDL-3** | **JEF-2** |
| 10% | 1.00E-01 | 9.60E-02 | 1.00E-01 | 1.00E-01 |
| 50% | 5.75E-01 | 6.30E-01 | 5.75E-01 | 6.60E-01 |
| 90% | 1.90 | 2.20 | 1.91 | 1.80 |
| **ACS** | **3.85E-01** | **3.62E-01** | **3.86E-01** | **4.66E-01** |

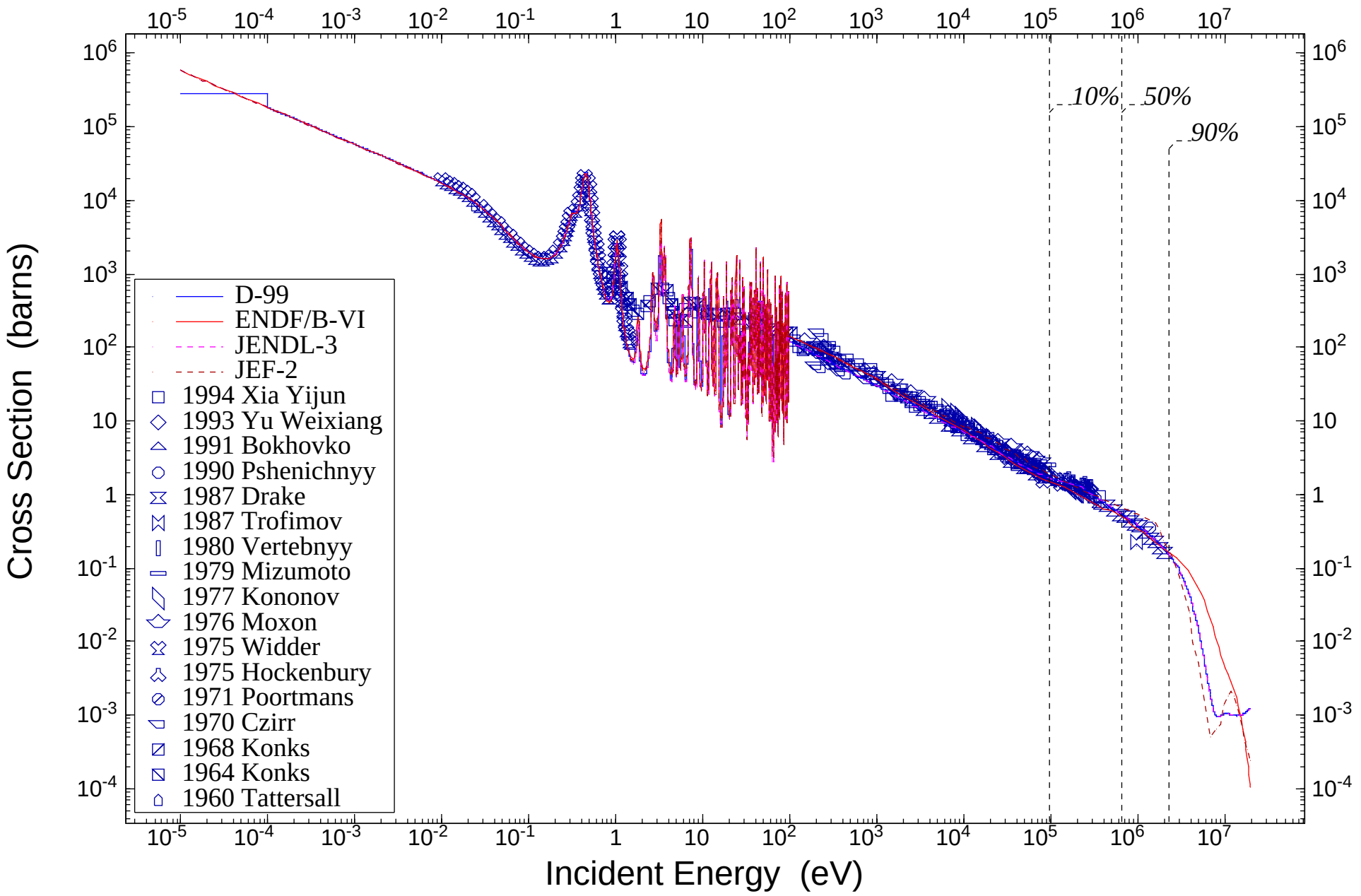
**Tabl. 2**

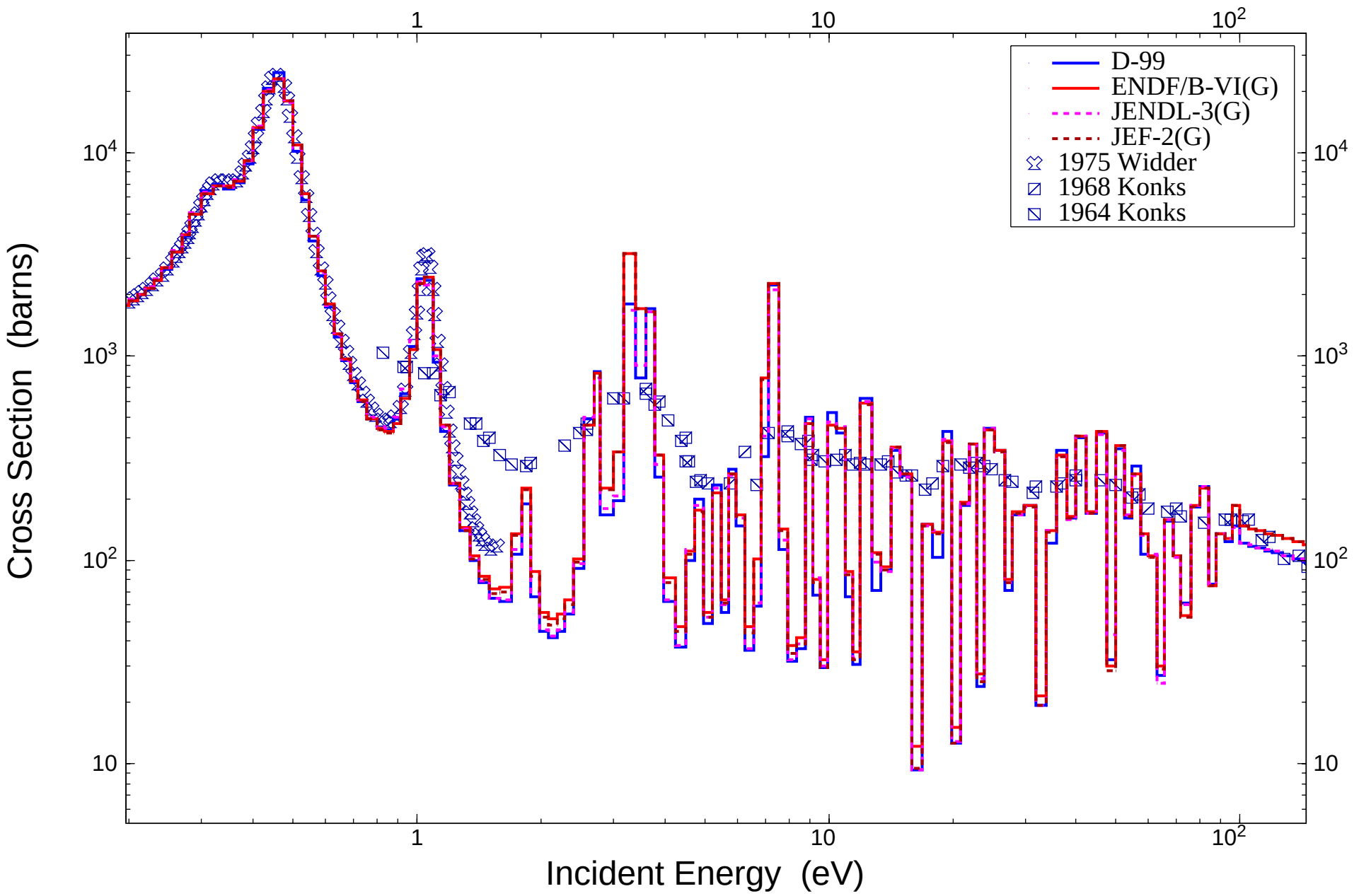
| Cf-252 | | | | |
|---|---|---|---|---|
| | **D-99** | **ENDF/B-VI** | **JENDL-3** | **JEF-2** |
| 10% | 1.10E-01 | 1.10E-01 | 1.13E-01 | 1.15E-01 |
| 50% | 6.00E-01 | 6.60E-01 | 6.00E-01 | 6.90E-01 |
| 90% | 2.00 | 2.40 | 2.00 | 1.80 |
| **ACS** | **3.60E-01** | **3.40E-01** | **3.60E-01** | **4.36E-01** |

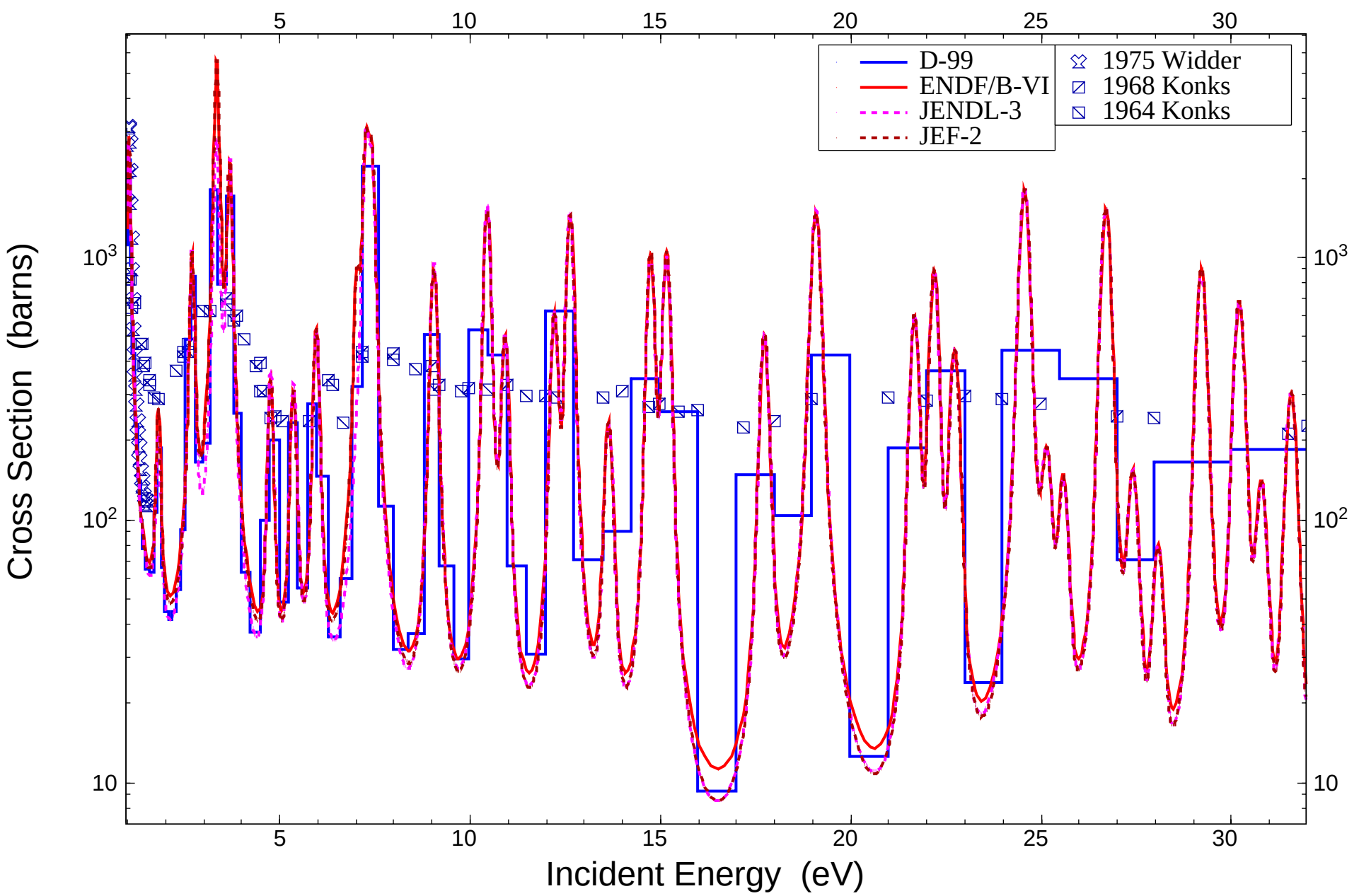
**Tabl. 3**

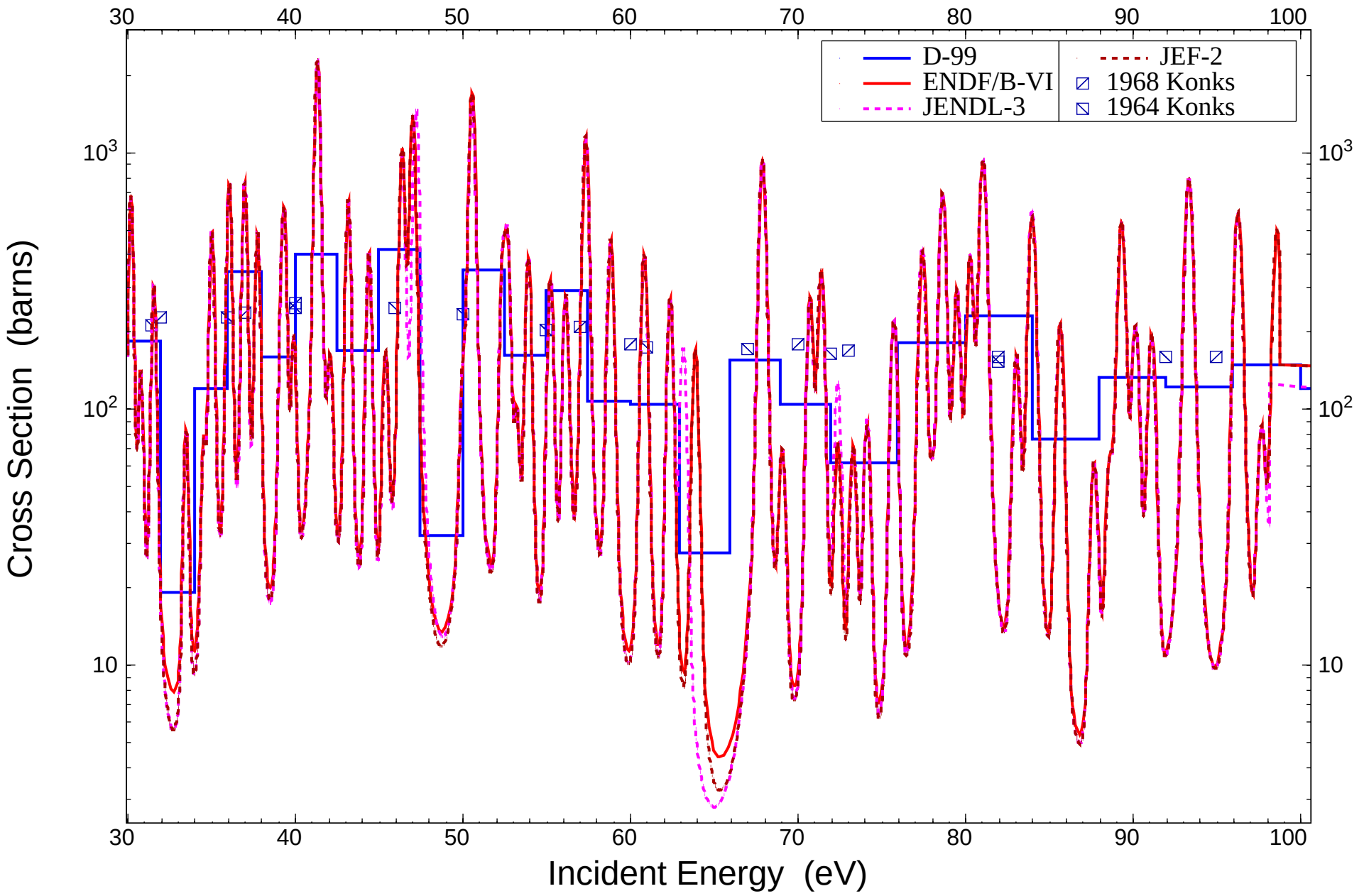
| | | | | | |
|---|---|---|---|---|---|
| 1.4+06 1.4+06 | 1 | 4CCPIJI | J,YF,51,(3),621 | 1990 V.A.PSHENICHNYY, | 41038009 |
| 6.3+03 3.0+05 | 566 | 1USARPI | C,75WASH,2,905 | 1975 R.W.HOCKENBURY, | 10435002 |
| 3.0+03 1.0+05 | 23 | 2JPNJAE | J,NST,16,(10),711 | 1979 M.MIZUMOTO, | 21293002 |
| 5.0+03 3.5+05 | 75 | 4RUSFEI | R,YK-22,29 | 1977 V.N.KONONOV, | 40520014 |
| 3.0+03 2.2+06 | 36 | 1USAORL | J,NSE,95,189 | 1987 D.M.DRAKE, | 12878002 |
| 1.0-02 1.6+00 | 271 | 2SWTWUR | R,EIR-217 | 1975 F.WIDDER | 20437006 |
| 2.0+03 2.0+03 | 1 | 4UKRIJI | J,YK,1/36,32 | 1980 V.P.VERTEBNYY, | 40729029 |
| 8.3-01 4.1+04 | 91 | 4ZZZDUB | R,JINR-1845,100 | 1964 V.A.KONKS, | 40819004 |
| 1.0+02 1.0+05 | 27 | 2UK HAR | J,ANE,3,399 | 1976 M.C.MOXON, | 20489003 |
| 2.5-02 2.5-02 | 1 | 2BLGMOL | J,NP/A,172,489 | 1971 F.POORTMANS, | 20221004 |
| 8.4-01 4.2+04 | 89 | 4ZZZDUB | J,YF,7,(3),493 | 1968 V.A.KONKS, | 40362013 |

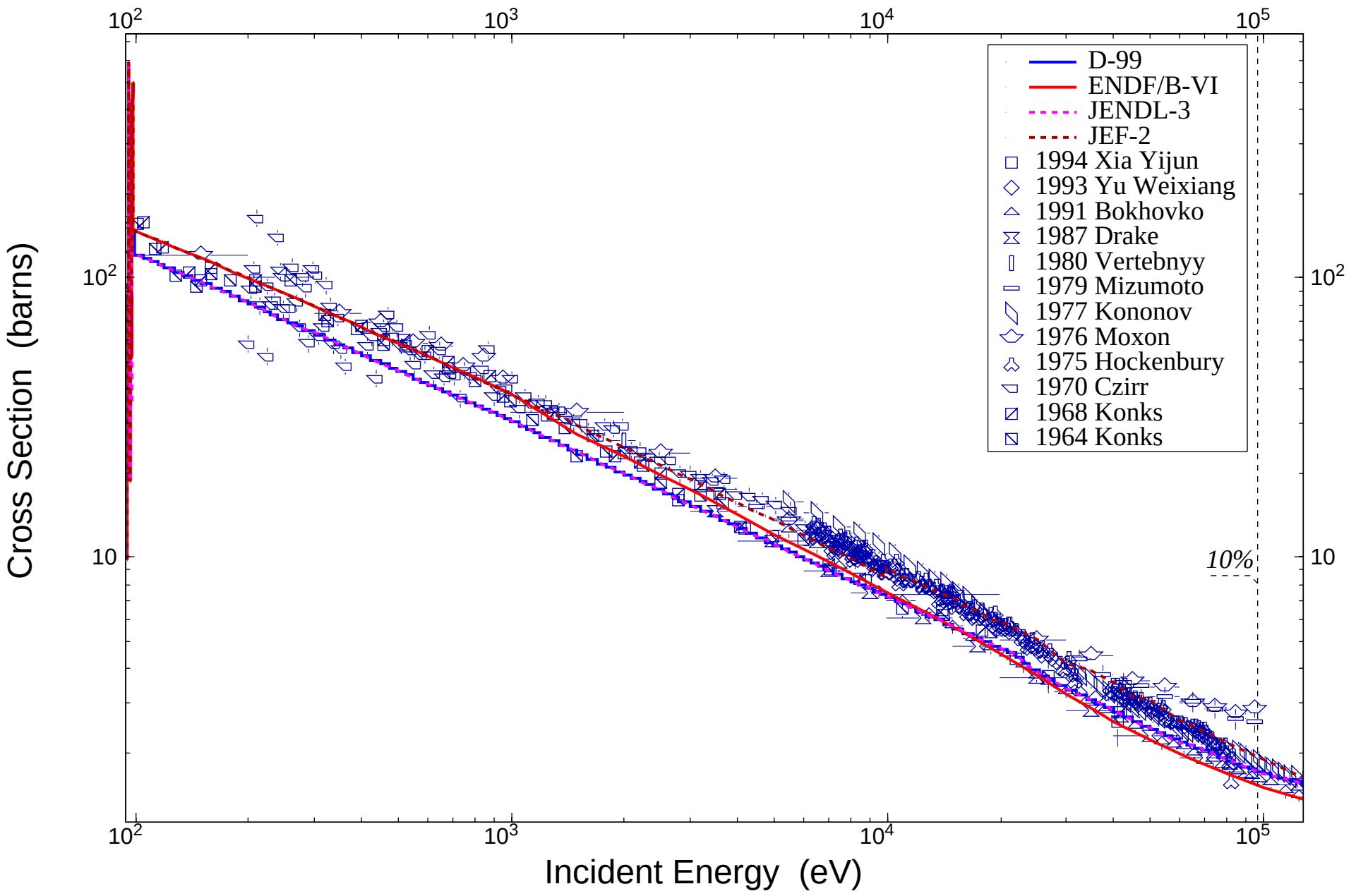
| | | | | | |
|---|---|---|---|---|---|
| | | 4RUSLEB | | | |
| 2.5-02 2.5-02 | 1 | 4CCPIJI | J,IZV,54,(5),1006 | 1990 V.I.GAVRILYUK, | 41104005 |
| 2.0+02 1.3+04 | 98 | 1USALRL | R,UCRL-50804 | 1970 J.B.CZIRR | 10169006 |
| 2.2+04 1.1+06 | 8 | 3CPRSIU | C,94GATLIN,1,251 | 1994 XIA YIJUN, | 32623004 |
| 5.0+03 4.0+05 | 57 | 4RUSFEI | R,FEI-2168-91 | 1991 M.V.BOKHOVKO, | 41148004 |
| 3.6+04 1.1+06 | 2 | 3CPRAEP | J,CNP,15,(1),71 | 1993 YU WEIXIANG, | 32615004 |
| 2.5-02 2.5-02 | 1 | 2UK HAR | J,JNE/A,12,32 | 1960 R.B.TATTERSALL, | 20638050 |
| 1.0+06 1.0+06 | 1 | 4CCPRI | C,87KIEV,3,331 | 1987 YU.N.TROFIMOV | 41001024 |

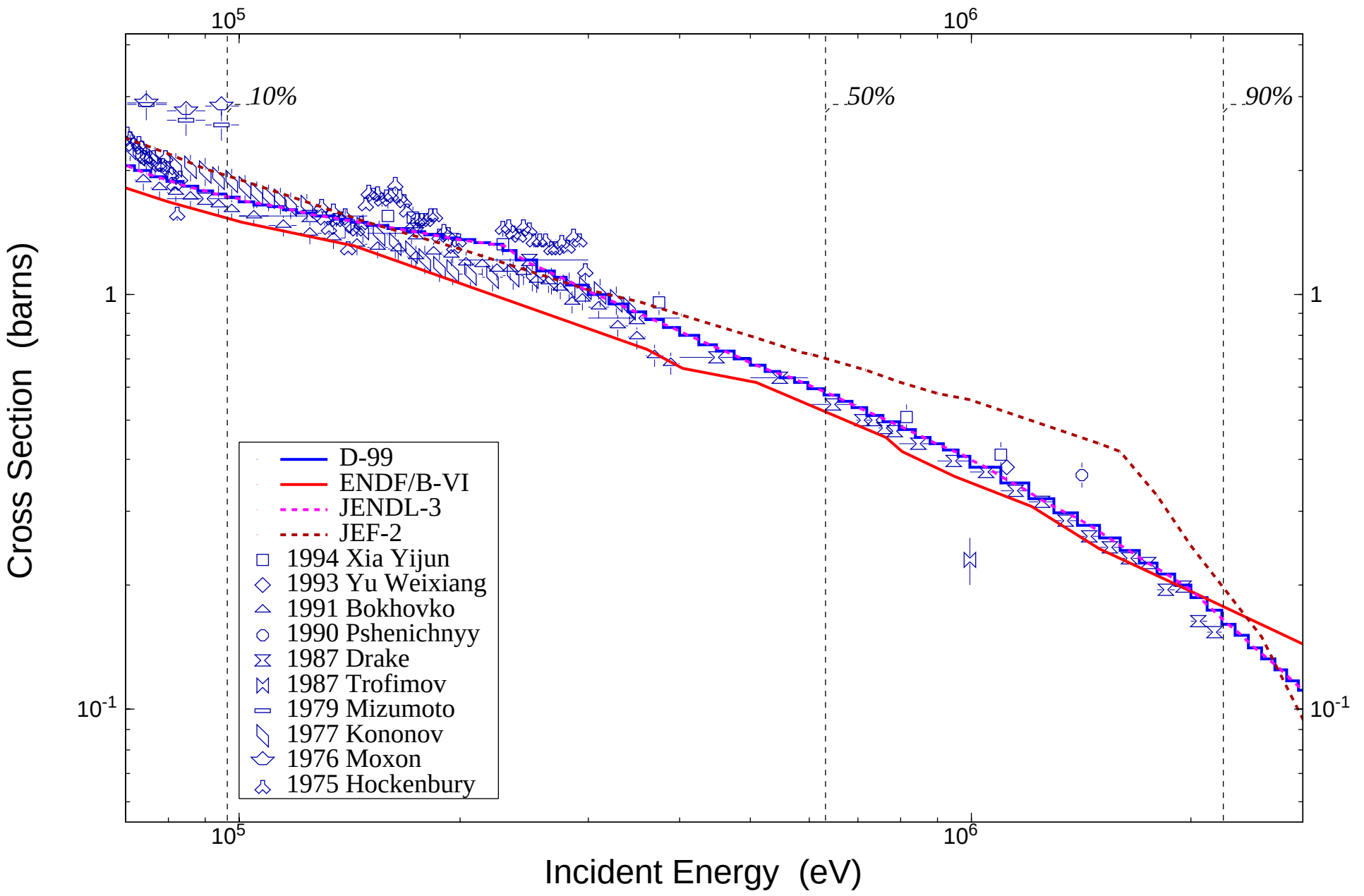

151Eu(n,γ)152Eu
Cross Section (barns)
Incident Energy (eV)
10%
50%
90%
D-99
ENDF/B-VI
JENDL-3
JEF-2
1994 Xia Yijun
1993 Yu Weixiang
1991 Bokhovko
1990 Pshenichnyy
1987 Drake
1987 Trofimov
1980 Vertebnyy
1979 Mizumoto
1977 Kononov
1976 Moxon
1975 Widder
1975 Hockenbury
1971 Poortmans
1970 Czirr
1968 Konks
1964 Konks
1960 Tattersall


$^{151}Eu(n,\gamma)^{152}Eu$
D-99
ENDF/B-VI(G)
JENDL-3(G)
JEF-2(G)
1975 Widder
1968 Konks
1964 Konks
Cross Section (barns)
Incident Energy (eV)
1
10
$10^2$
$10^3$
$10^4$


151Eu(n,γ)152Eu
D-99
ENDF/B-VI
JENDL-3
JEF-2
1975 Widder
1968 Konks
1964 Konks
Cross Section (barns)
Incident Energy (eV)
10
10^2
10^3
5
10
15
20
25
30


151Eu(n,γ)152Eu
D-99
ENDF/B-VI
JENDL-3
JEF-2
1968 Konks
1964 Konks
Cross Section (barns)
Incident Energy (eV)
30
40
50
60
70
80
90
100
10
10^2
10^3


151Eu(n,γ)152Eu
Cross Section (barns)
Incident Energy (eV)
10²
10³
10⁴
10⁵
10
10%
D-99
ENDF/B-VI
JENDL-3
JEF-2
1994 Xia Yijun
1993 Yu Weixiang
1991 Bokhovko
1987 Drake
1980 Vertebnyy
1979 Mizumoto
1977 Kononov
1976 Moxon
1975 Hockenbury
1970 Czirr
1968 Konks
1964 Konks


151Eu(n,γ)152Eu
10%
50%
90%
D-99
ENDF/B-VI
JENDL-3
JEF-2
1994 Xia Yijun
1993 Yu Weixiang
1991 Bokhovko
1990 Pshenichnyy
1987 Drake
1987 Trofimov
1979 Mizumoto
1977 Kononov
1976 Moxon
1975 Hockenbury
Cross Section (barns)
Incident Energy (eV)
10^5
10^6
1
10^-1