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INTERNATIONAL ATOMIC ENERGY AGENCY

NUCLEAR DATA SERVICES

DOCUMENTATION SERIES OF THE IAEA NUCLEAR DATA SECTION

ENDL-82

The LLNL Evaluated Neutron Data Library of 1982

Summary of Contents

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ENDL-82

ENDL-82 is the 1982 version of the Evaluated Neutron Data Library of the Lawrence Livermore National Laboratory (LLNL). It contains evaluated neutron reaction data for 94 target materials. All evaluations are "complete" evaluations covering all relevant neutron reactions for incident neutrons up to 20 MeV, giving cross-sections, angular distributions, energy distributions and some related parameters such as the fission-neutron yield or average energy of secondary particles. Resonance-parameters are not given but only cross-section curves with the number of energy points chosen dense enough that linear interpolation is possible.

Format: ENDL-82 is in ENDL Transmittal Format, see IAEA-NDS-53.

This format has been chosen, because some of the data types given are not defined in the ENDF/B format. The predecessor of this library, ENDL-78, had been issued in ENDF/B format; however, some of the data information was lost in the conversion from the LLNL internal format to ENDF/B format. Part of the data in ENDL-82 is still identical with ENDL-78m and the corresponding part of ENDL-78 can, therefore, still be used if the data are preferred in ENDF/B format. For each data table (= data type for a given nuclide) the date of evaluation or date of last change is given in the first header record, and from this date it can be seen whether data have been revised since ENDL-78 or whether they are still the same.

Documentation: For those evaluations that are still the same as in ENDL-78 see the references quoted in IAEA-NDS-11. For the new evaluations and revisions added since 1978, no detailed documentation seems to be available yet. For a brief introduction to ENDL-82 see,

UCRL-50400 vol.4 Rev.1 8 Oct. 1981
by R.J. Howerton, R.E. Dye, S.T. Perkins

Size of library: 237 845 records of 80 char.

Nuclides in ENDL-82

0-n-1
1-H-1
1-D-2
1-T-3
2-He-3
2-He-4
3-Li-6
3-Li-7
4-Be-7
4-Be-9
5-B-10
5-B-11
6-C-12
7-N-14
8-O-16
9-F-19
11-Na-23
12-Mg
13-Al-27
14-Si
15-P-31
16-S-32
17-Cl
18-A
19-K
20-Ca
22-Ti
23-V-51
24-Cr
25-Mn-55
26-Fe
27-Co-59
28-Ni
28-Ni-58
29-Cu
31-Ga
33-As-74
33-As-75
39-Y-88
39-Y-89
40-Zr
41-Nb-93
42-Mo
47-Ag-107
47-Ag-109
48-Cd
50-Sn
56-Ba-138
63-Eu
64-Gd
67-Ho-165
73-Ta-181
74-W
75-Re-185
75-Re-187
78-Pt
79-Au-197
82-Pb
83-Bi-209
90-Th-231
90-Th-232
90-Th-233
91-Pa-233
92-U-233
92-U-234
92-U-235
92-U-236
92-U-237
92-U-238
92-U-239
92-U-240
93-Np-237
94-Pu-238
94-Pu-239
94-Pu-240
94-Pu-241
94-Pu-242
94-Pu-243
95-Am-241
95-Am-242m
95-Am-243
96-Cm-242
96-Cm-243
96-Cm-244
96-Cm-245
96-Cm-246
96-Cm-247
96-Cm-248
97-Bk-249
98-Cf-249
98-Cf-250
98-Cf-251
98-Cf-252
(99)-Fp-120