The JEFF-3.1 Nuclear Data Library

JEFF Report 21

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In these and related tasks, the NEA works in close collaboration with the International Atomic Energy Agency in Vienna, with which it has a Co-operation Agreement, as well as with other international organisations in the nuclear field.

FOREWORD

The Joint Evaluated Fission and Fusion (JEFF) Project is a collaborative effort among the member countries of the NEA Data Bank to develop a reference nuclear data library. The JEFF library contains sets of evaluated nuclear data, mainly for fission and fusion applications; it contains a number of different data types, including neutron and proton interaction data, radioactive decay data, fission yield data, thermal scattering law data and photo-atomic interaction data.

The latest version of the JEFF library, JEFF-3.1, was released by the NEA in May 2005. JEFF-3.1 combines the efforts of the JEFF and EFF/EAF (European Fusion File/European Activation File) working groups who have contributed to this combined fission and fusion library. The neutron general purpose library contains incident neutron data for 381 materials from ^{1}H to ^{255}Fm. The activation library (based on the European Activation File, EAF-2003) contains 774 different targets from ^{1}H to ^{257}Fm. The radioactive decay data library contains data for 3 852 isotopes, of which 226 are stable. The proton special purpose library contains incident proton data for 26 materials from ^{40}Ca to ^{209}Bi. The thermal scattering law library covers 9 materials, and the fission yield library covers 19 isotopes of neutron induced fission yield from ^{232}Th to ^{245}Cm and 3 isotopes with spontaneous fission yields (^{242}Cm, ^{244}Cm and ^{252}Cf).

TABLE OF CONTENTS

Available on CD-ROM

Appendix 1. Selection of data for the JEFF-3.1 general-purpose neutron data file

Appendix 2. Performance reports on the JEFF-3.1 general-purpose neutron data library

    β_{eff} calculations using JEFF-3.1 nuclear data

    Shielding benchmark calculations with MCNP-4c3 using JEFF-3.1 nuclear data

    Criticality safety benchmark calculations with MCNP-4c3 using JEFF-3.1 nuclear data

Appendix 3. List of definitions to the ENDF-6 file format for JEFF-3.1

    Table A3.1. Definitions of file types (MF)

    Table A3.2. Definitions of reaction types (MT)

Introduction

The objective of the OECD Nuclear Energy Agency (NEA) co-ordinated Joint Evaluated Fission and Fusion (JEFF) data project is to develop and promote the use of high quality evaluated nuclear data sets in standard formats for a wide range of scientific and technical applications. The JEFF project assesses the needs for nuclear data improvements and brings together experts in different areas such as experiments, data evaluations, verification and compilation of the data under strict quality assurance procedures, file processing and benchmarking.

JEFF is a collaborative effort among NEA Data Bank member countries. The project maintains close links with other similar international efforts and projects aimed at producing evaluated nuclear data, for example through active participation in the NEA Working Party on International Nuclear Data Evaluation Co-operation (WPEC). While the objective of the JEF-2.2 library (1992) was to achieve improved performance for existing reactors and fuel cycles, its successor, the JEFF-3 project, aims at providing users with a more extensive set of data for a wider range of applications. While existing reactors and fuel cycles remain the essential application areas of the nuclear data library, innovative reactor concepts (Gen-IV systems), transmutation of radioactive waste, fusion, medical applications, and various non-energy related industrial applications are now also envisaged as scientific application areas that will make use of the JEFF data. The European Fusion File (EFF) also contributes to the JEFF project through evaluations and data validation.

Figure 1 illustrates the evolution of the JEFF project, including the latest release of JEFF-3.1. The JEFF-3.1 release consists of the following libraries:

- neutron general-purpose library;

- thermal scattering library;

- neutron activation library;

- decay data library;

- fission yield data library;

- proton special-purpose library.

Figure 1: The evolution of the JEFF project
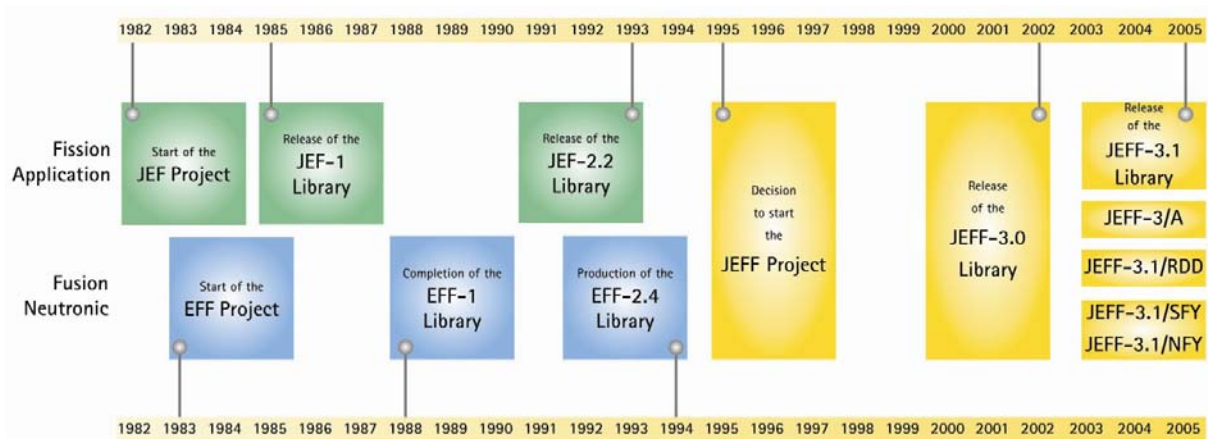
The general-purpose neutron data library

The need for a new library

Following the release of the JEFF-3.0 library in April 2002, various benchmark tests have confirmed the expected performance improvements of this general-purpose neutron data library over JEF-2.2. However, they have also shown that the reactivity of small low-enriched uranium systems, relevant to LWR analyses, is underestimated by about 500 pcm when using JEFF-3.0 data. The ^{238}U inelastic, scattering and capture cross-sections have been identified as the possible reasons for this underestimation. A new ^{238}U evaluation has been assembled, resulting in appreciably improved k_{eff} values. Subgroup 22 of WPEC has contributed significantly to these improvements. Very extensive automated benchmark tests have been conducted, probing the current quality of the new data library. These benchmark tests include for example criticality calculations performed with MCNP, TRIPOLI and APOLLO for an unprecedented set of benchmark cases. Current-day computer power enables future revisions of the JEFF library to be quickly tested with such benchmarking schemes.

It was decided to adopt an eight-time group representation for delayed neutron data, as suggested by Subgroup 6 of WPEC. It is considered that this representation has two advantages – the longest lived, dominant precursors are explicitly represented and the calculation convenience of having the same set of time constants for all fissioning isotopes.

A final justification for releasing JEFF-3.1 is that there was a desire from the nuclear industry (in particular in France) to start validating the new JEFF library in the fall of 2005.

New evaluations

Another reason to develop the JEFF-3.1 general-purpose neutron data library is that a significant number of isotopes have undergone a major revision over the last few years. This holds both for the general-purpose and the special-purpose libraries. This report contains a table with the justification for the choice of the various isotopes for JEFF-3.1 (see Appendix 1). New evaluations are included for the Ti isotopes (IRK Vienna), the Ca, Sc, Fe, Ge, Pb and Bi isotopes (NRG Petten), ^{103}Rh, ^{127}I, ^{129}I, the Hf isotopes, $^{236-238}$U, and ^{241}Am (CEA). For other isotopes, more recent evaluations from other libraries were adopted.

Revised thermal scattering data have been produced for all important moderator and structural materials and this was included in JEFF-3.1.

Various experimental nuclear data activities have taken place during the development of JEFF-3.1. The programme at the nTOF facility at CERN comprised capture and fission cross-section measurements including isotopes of relevance to the thorium fuel cycle and several transuranic isotopes. The measurement programme at IRMM Geel mainly covered neutron data related to waste transmutation and other innovative concepts, as well as basic nuclear physics and standards data.

Thermal scattering law library

The thermal scattering law library contains the following nine evaluations: hydrogen bound in water, zirconium, polyethylene (CH_2) and CaH_2, deuterium bound on D_2O, ^{9}Be, graphite, ^{24}Mg and finally calcium bound in CaH_2. All files are new evaluations, except ^{9}Be and hydrogen in polyethylene, which are from the JEFF-3.0 library. Many of the evaluations are the result of an IAEA co-ordinated project on thermal neutron scattering. Calculations for a variety of temperatures were made with the

LEAPR module of NJOY to obtain thermal scattering data that are accurate over a wider range of energy and momentum transfer. To validate these files on a microscopic level, detailed comparisons with a significant number of measurements of differential and integral neutron cross-sections and other relevant data have been performed. The current models used for these files are able to describe the experimental data reasonably well. The generating and processing chain for the thermal neutron scattering files with NJOY was carefully investigated.

Expected performance relative to JEF-2.2

In the coming years, benchmarking studies will provide quantitative evidence of the JEFF-3.1 library performance with respect to the previous file versions, in particular JEF-2.2. The latter is a "natural" reference, as it has benefited from many years of validation and users' feedback (see JEF Report 17). However, it is already possible to give some indications or trends concerning the JEFF-3.1 *expected* impact on fission reactor applications.

For LWR applications, the longstanding JEF-2.2 problem of ^{236}U under-prediction in actinide inventory calculations has been corrected (increase of the ^{235}U epithermal capture cross-section). Similarly, the underestimation of the ^{242}Pu content and correlated ^{243}Am build-up in spent fuel has been fixed (increase of ^{241}Pu capture and decrease of fission near the 0.3 eV resonance). Reactivity predictions for fresh UOX-fuelled cores should be slightly lower than with JEF-2.2, in agreement with measurements. The reactivity of systems containing significant quantities of ^{27}Al will also be improved (higher thermal capture). For MOX cores, however, JEFF-3.1 will yield larger values than JEF-2.2, thus over-predicting reactivity. Individual fission product poisoning effects should be better predicted with JEFF-3.1 as a result of improved capture cross-sections (^{103}Rh, ^{133}Cs, ^{95}Mo, ^{143}Nd, ^{154}Eu, ^{155}Eu, ^{149}Sm). Important thermal fission product yields used for fission rate normalisation have been revised for a better agreement with measurements (increased ^{235}U yield of ^{137}Cs, decrease ^{239}Pu yield of ^{148}Nd).

For fast reactor applications, the reactivity of un-irradiated uranium systems should no longer be overestimated (larger ^{235}U capture). On the other hand, the reactivity of plutonium-fuelled fast reactors should still be underestimated, being even lower than with JEF-2.2 as a result of the changes in the ^{238}U inelastic scattering. ^{241}Pu build-up should be improved (lower ^{240}Pu capture cross-section above 100 eV), as well as the ^{238}Pu, ^{242}Pu, ^{242}Cm and ^{242m}Am produced from ^{241}Am (branching ratio of 0.85, lower capture cross-section above 20 keV). Calculated sodium-void effects should no longer require *a posteriori* corrections (revised ^{23}Na inelastic and elastic cross-sections). Finally, steel reflector effects should also be better predicted (improved ^{56}Fe and ^{52}Cr scattering cross-sections).

Compared with JEF-2.2, a better agreement between JEFF-3.1-based calculations and measurements is expected in neutron transmission applications containing the following materials: Fe, ^{16}O, ^{9}Be, W, Na.

Initial testing of the JEFF-3.1 file has also indicated that further improvements will be needed, in particular for ^{237}Np capture, ^{239}Pu fission and capture, ^{242}Pu capture, ^{241}Am capture, ^{56}Fe scattering, fission product cross-sections (fast range), decay data and yields of short-lived fission products.

Benchmarking and quality assurance

Present status

Extensive benchmarking of the JEFF-3.1 data library is now under way for both the general-purpose and the special-purpose sub-libraries. In order to avoid further delays in the publication of the present

report, only results from the extensive benchmarking effort on criticality, effective delayed neutron parameters, and shielding using a Monte Carlo approach (MCNP) are reported on here (see Appendix 2). At a later stage, a wider validation of benchmark results using different methods (deterministic and Monte Carlo), codes and for various integral quantities, can be expected.

A quality assurance procedure has been developed at NEA for the assembly, basic testing and loading of the JEFF-3.1 library into a database. Verifications performed at the loading stage include format checks (CHECKR), physics checks (FIZCON and PSYCHE), processing using different versions of NJOY and graphical comparisons with other data libraries. Specific tools were developed within this framework (e.g. the JANIS data display program and database loading programs) and existing programs (e.g. FIZCON, INTER) were extended to enable more stringent consistency checks.

The library format and contents

Each material in the JEFF-3.1 library is given in the ENDF-6 format. This format stores nuclear data in various sections or files (MF). Each file contains data for different reactions (MT). Appendix 3 gives the list of MF and MT numbers and their meaning in the ENDF-6 format.

Table 1 provides the list of materials in the neutron general-purpose library and the origin of the file. A material corresponds to a nucleus of a single isotope or to a nucleus of a natural element. A nucleus is either in its ground state or in an isomeric state. In the first column of Table 1, the material is represented as ZZZ-SY-AAA where AAA and ZZZ are the atomic charge and mass given as three-digit integers. SY is the symbol of the material represented with two characters. Note that AAA is equal to zero when the material represents a natural element. In addition, when the nucleus is in its first isomeric state, the letter "M" is appended to the end of the column (e.g. 95-Am-242M). The materials are classified in ascending atomic charge order. The second column provides the material number used to identify the isotope or the element in the library. The third column gives the source library from where the data originates. The forth to sixth columns specify the laboratory that performed the evaluation, the date of the evaluation and the authors.

Table 2 provides the same information as Table 1, for neutron thermal scattering data in JEFF-3.1. The following compounds are included: hydrogen bound in water, zirconium, polyethylene (CH_2) and CaH_2, deuterium bound on D_2O, ^9Be, graphite, ^{24}Mg and finally calcium bound in CaH_2.

Table 3 provides some details concerning the available cross-section data in the general-purpose neutron data library. The first two columns identify the material, and the third column lists the MTs found in file 1 (MF=1, general information). Reactions (MTs) for which cross-section data are available (MF=3, reaction cross-sections) are listed in the forth column. Columns 5 through 7 provide the list of reactions for which angular distributions, energy distributions or energy-angle distributions are given in MF=4, 5 and 6 respectively. Table 4 gives the list of materials for which photon production data is available (MF = 12 to 15) in the general-purpose neutron data library. Table 5 provides information on available covariance data in MF=31 to 36 in the general-purpose neutron data library, and Table 6 gives details on resonance data given in MF=2. The third column of Table 6 states whether resonance data is present, and the forth column gives the formalism used. The remaining columns give details on the resonance parameters in the resolved resonance range (RRR) and the unresolved resonance range (URR) with the energy of the first three s-wave resonances.

Table 7 lists the contents of MF=1 and MF=7 of the thermal scattering law library. Table 8 lists similarly the contents of the proton special purpose library, with information from MF=1, 3 and 6.

Table 9, finally, gives simple integral neutron cross-section data from the neutron general-purpose library of JEFF-3.1 calculated with the INTER-7.0 computer code. All input parameters are listed as well.

Outlook

For the next release, JEFF-3.2, we foresee more efforts on fission product evaluations, minor actinide evaluations, and inclusion of more covariance data in the files.

Activation library, JEFF-3.1/A

Summary

The activation data library in ENDF-6 format, JEFF-3.1/A, is based on the European Activation File (EAF-2003). The JEFF-3.1/A library contains 12 617 excitation functions involving 774 different targets from ^{1}H to ^{257}Fm, atomic numbers Z=1 to Z=100, in the energy range 10^{-5} eV to 20 MeV. Uniquely, an uncertainty file is also provided that quantifies the degree of confidence placed in the data for each reaction channel.

Background

Calculations of the activation of materials, arising from the operation of fusion devices producing large fluxes of neutrons from the D-T reaction, play an important role in fusion technology studies. In order to have confidence in the results of such calculations, it is necessary that the inventory code and the data libraries be thoroughly validated. This is accomplished by comparing the predictions of the code system with activation measurements made on materials relevant to fusion technology in well-characterised neutron fields.

The European Activation File (EAF) project has been an ongoing process performed through European and world-wide co-operation, leading to the creation of successive EAF versions. The EAF-2003 release [1] has benefited from the generation and maintenance of comprehensive activation files and the development of the new processing code SAFEPAQ-II [2]. Therefore, the JEFF project has adopted this version of the activation files for the JEFF-3.1/A library.

Library description

The EAF nuclear data library has been developed as part of the European Fusion Development Agreement (EFDA) Fusion Technology Programme. A series of measurements on fusion-relevant materials in several complementary neutron fields have been carried out over the last few years. In addition, analyses of measurements, carried out outside Europe and outside the fusion programme, have been undertaken.

Cross-section validation exercises, performed against both experimental data and systematics, enable a comprehensive assessment of the data. The SAFEPAQ-II software is used to apply a series of modifications to the original source data. A very important set of modifications concerns re-normalisation and branching using experimental or systematic data. A total of 3 225 reactions (26% of all the reactions) have thus been changed. This is a challenging task as the source contains non-threshold reactions with an energy-dependent branching ratio.

Validation using integral data has been performed by means of direct comparison with measurements of sample materials under fusion-relevant neutron spectra. Irradiations have been carried out at ENEA FNG, FZK Isochron-cyclotron, Sergiev Posad SNEG-13 and JAERI FNS and integral C/E comparisons made (C/E is the ratio of the library value to the experimental value). The results of these benchmark exercises, in concurrence with differential data, have indicated where modifications to the data should be applied.

The results from the experiments used to validate the activation data are presented in a series of tables in Ref. [3], including the pathways responsible for production of the various radionuclides. In cases where a single pathway dominates, it is possible to extract the effective cross-section for the reaction and compare this with the library value calculated in the same neutron spectrum. About 290 reactions from the JEFF-3.1/A library are plotted in the reference. The graphs include uncertainty estimates as well as experimental differential data from the EXFOR database. C/E graphs showing the available integral data are also given and, using these graphs, a statement is made indicating whether the EAF data are consistent with the experimental data or whether changes to data would be needed. It should be noted that most of the measurements were carried out with fusion-relevant materials, resulting in small uncertainties for activities produced in major nuclides, but larger uncertainties for activities produced in minor nuclides or impurities.

Radioactive decay data library, JEFF-3.1/RDD

Summary

Radioactive decay data forms an integral part of the nuclear data requirements for nuclear applications. The JEFF-3.1 decay data library contains 3 852 nuclides from neutron to ^{272}Rg. The decay data sub-group of the JEFF Project decided that a completely new start should be made in the construction of this library compared to the previous versions. The JEFF-3.1/RDD library is described in detail in JEFF Report 20 [4]. Some background information concerning the evolution of the project is provided below.

Data sources available

The basis for the selection of isotopes were taken from the NUBASE-2003 file [5], which contains basic nuclear properties, hence all known isomers were identified from here. Three evaluated libraries, from within Europe, were used to replace individual NUBASE files, for almost 600 nuclei in all. Two libraries originated from the UK (UKPADD-6.4 and UKHEDD-2.4) [7] and the third from the Decay Data Evaluation Project (DDEP) [8] conducted by the Laboratoire National Henri Bequerel (LNHB) at Saclay, France.

Files were also selected from the ENSDF library [9] – these files contain decay data derived from basic nuclear structure data. Approximately 900 nuclei, containing sufficient data to allow calculation of their energy balance to a consistency of better than 1%, were selected from ENSDF.

The JEFF-3.1 library stores all data in the internationally-accepted ENDF-6 format [6]. Recent enhancements, allowing the storage of basic nuclear properties for stable nuclei (i.e. spin and parity), have been adopted in this library. The isotopic abundances for all appropriate nuclei (taken from NUBASE-2003) have been added as the last line in the comments section (MF=1, MT=451) whilst an unused field in the format is investigated.

Throughout the compilation process the library has followed NEA quality assurance procedures and been checked with the standard ENDF utility codes STANEF, CHECKR and FIZCON [10]. Significant enhancements to the FIZCON code have been added for the verification of decay data [11] and minor corrections to the latest versions (7.00/7.01) have also been implemented following problems noted in checking this JEFF library, most notably the checking of the symbol field for meta-stable states and the inclusion of stable nuclei. Users should be warned that earlier versions of the checking codes, e.g. version 6.11, should not be used in testing this library.

Fission yield libraries, JEFF-3.1/NFY and SFY

The fission product yield libraries include independent and cumulative yields for neutron-induced fission of ^{232}Th, ^{233,234,235,236,238}U, ^{237,238}Np, ^{238,239,240,241,242}Pu, ^{241,242m,243}Am, ^{243,244,245}Cm and spontaneous fission of ^{242,244}Cm and ^{252}Cf. The data represent a development of the UKFY3 file described in Ref. [12], which was itself developed from earlier UK evaluations described in Refs. [13-15].

The principle changes from earlier libraries include an extended experimental database, calculation of the cumulative yields using the JEFF-3.1 decay data, improved calculation of uncertainties in the yields, improved adjustment to the physical constraints and the inclusion of new ternary yield data for ^{3}H and ^{4}He from Serot, Wagemans, *et al*. [16].

Proton special-purpose library

The proton special purpose library consists of 26 evaluated isotopes. The data are based primarily on a theoretical analysis with the nuclear model code TALYS [17]. The nuclear model parameters of TALYS have been adjusted to reproduce the existing experimental data. For several materials that are of key importance to transmutation programs (ADS), valuable experimental data was provided by the EU FP5 HINDAS project. Together, this results in data files that provide a complete representation of nuclear data needed for transport, damage, heating, radioactivity and shielding applications over the incident proton energy range from 1 to 200 MeV. This collection of isotopic evaluations is created by running TALYS with input parameters that do not, or only slightly, deviate from the default values.

These isotopic evaluations are thus of comparable quality. The same set of nuclear models is used and, equally important, the same ENDF-6 formatting procedures for each isotope. These data files are complete in their description of reaction channels, and use a compact method to store the data.

All transport data for particles, photons and residual nuclides are filed using a combination of MF=1, MF=3 and MF=6. This includes cross-sections, angular distributions, double-differential spectra, photon production cross-sections, and residual production (activation) cross-sections. These evaluations can thus be used as both transport and activation libraries.

The files have been checked by the BNL checking codes CHECKR, FIZCON and PSYCHE and have been successfully processed into an MCNP library by the processing code NJOY.

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The following scientists and institutes have contributed to the successful release of the JEFF-3.1 nuclear data libraries.

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WORKING PAPERS FROM JEFF MEETINGS 2002-2005

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JEFF documents

JEF/DOC-1125   ALEPH-DLG 1.1.0 Creating Cross-section Libraries for MCNP(X) and ALEPH, *W. Haeck, B. Verboomen*
JEF/DOC-1124   Thermal Neutron Scattering Data at Low Temperatures, *M. Mattes*
JEF/DOC-1123   Sensitivities of k_{eff} Calculated with Monte Carlo Methods: Theory and First Results, *R. Perel*
JEF/DOC-1122   Qualification of JEFF-3.1 Evaluations: LWR Reactivity and Fuel Inventory Prediction, *D. Bernard*
JEF/DOC-1121   Assessing Uncertainties in the Continuum Region with the Backward-forward Monte Carlo Method: Example n+89Y Evaluation, *E. Bauge*
JEF/DOC-1120   Documentation for the JEFF-3.1 Decay Data Library, *M. Kellett*
JEF/DOC-1119   Recently Launched IAEA Nuclear Data Section Projects, *M. Kellett*
JEF/DOC-1118   TRIPOLI-4.4 Benchmarks, *C. Jouanne*
JEF/DOC-1117   Photonuclear Data Evaluation of Uranium-235, *I. Raskinyte*
JEF/DOC-1116   Experimental Activities at n_TOF CERN, *F. Gunsing*
JEF/DOC-1115   Fission Products for BUC Applications, *L. Leal*
JEF/DOC-1114   Present Status of JEFF-3.1 Benchmarking with ERANOS-2.0, *J. Tommasi*
JEF/DOC-1113   Status of ^{238}U Resolved and Unresolved Evaluation and Impact of JEFF-3.1 in Burn-up Calculation, *A. Courcelle*
JEF/DOC-1112   TRIPOLI-4.4 – JEFF-3.1 & ENDB/B-VII b1 with the ICSBEP Criticality Models, *J-Ch. Sublet, C. Jouanne, Y. Peneliau, F-X. Hugot*
JEF/DOC-1111   ECCOLIB-JEFF-3.1 Libraries, *J-Ch. Sublet, C.J. Dean, D. Plisson-Rieunier*
JEF/DOC-1110   Analysis of New Data for Hydrogen Bound in Zirconium Introduced in TRIGA Cores, *R. Dagan*
JEF/DOC-1109   Validation of the JEFF-3.1 Fission Yields and Decay Data by Decay Heat and Fission Product Inventories, *R. Mills*
JEF/DOC-1108   Benchmark Calculations for Fast Reactors Using JEFF-3.1, ENDF/B-VII and JENDL-3.3, *D-H. Kim*
JEF/DOC-1107   Criticality Safety Benchmark Calculations with MCNP-4C3 Using JEFF-3.1 Nuclear Data, *S. Van der Marck*
JEF/DOC-1106   Shielding Benchmark Calculations with MCNP-4C3 Using JEFF-3.1 Nuclear Data, *S. Van der Marck*
JEF/DOC-1105   Beta-eff Calculations Using JEFF-3.1 Nuclear Data, *S. Van der Marck*
JEF/DOC-1104   Experimental Activities at IRMM, *P. Rullhusen*

JEF/DOC-1103*	Review of Spectral Data for Important Nuclides in JEFF-3.1 Decay Data Files, *C. Dean*
JEF/DOC-1103	Review of Spectral Data for Important Nuclides in JEFF-3.1 Decay Data Files, *C. Dean*
JEF/DOC-1102	Proposal for an Optimized European Multigroup Mesh: The SHEM-281g Mesh, *A. Santamarina*
JEF/DOC-1101	The New OECD-NEA High Priority Request List for Nuclear Data, *A. Plompen*
JEF/DOC-1100	Neutron (n,xn?) Cross-section Measurements for ^{52}Cr, ^{209}Bi and ^{206,207,208}Pb from Threshold Up to 20 MeV, *C. Mihailescu*
JEF/DOC-1099	Verification and Validation of a Multi-temperature JEFF-3.1 Library for MCNP(X), *W. Haeck*
JEF/DOC-1098	Minutes of the Meeting of the Sub-group on Decay Data and Fission Yields, May 2005, *Y. Rugama*
JEF/DOC-1097	Minutes JEFF Meeting, May 2005, *Y. Rugama*
JEF/DOC-1096	Impact of Nuclear Data Uncertainties on a GEN IV-Thorium-reactor at Equilibrium. Proposition of an Update of the High Priority List, *A. Bidaud*
JEF/DOC-1095	Analysis of MASURCA-1A′/-1B Experiments, *J. Tommasi, R. Jacqmin*
JEF/DOC-1094	Recent Activities on Innovative Radionuclide Production for Metabolic Radiotherapy and PET and on Relevant Experimental and Evaluated Nuclear Data, *E. Menapace*
JEF/DOC-1093	JEFF: The Next Twenty Years?, *M. Salvatores*
JEF/DOC-1092	Some Questions Related to Data Accuracies and Covariances, *H. Weigmann*
JEF/DOC-1091	The Development of Nuclear Data Libraries in Western Europe and the JEF Project, *J. Rowlands*
JEF/DOC-1090	JEFF-3.1 Decay Data and Pulse Fission calculations, *Huynh T.D.*
JEF/DOC-1089	A New Neutron + ^{235}U Evaluation from 2.25 keV Up to 30 MeV, *P. Romain, B. Morillon*
JEF/DOC-1088	A New Neutron-deuterium Data Evaluation, *R. Lazaukas*
JEF/DOC-1087	JENDL-3.3 and JEFF-3.1 NJOY99.90 Deterministic Code Module Updates, *J-Ch. Sublet, K. Kosako*
JEF/DOC-1086	Revised Evaluation of the ^{241}Am Isotope, *O. Bouland, D. Bernard*
JEF/DOC-1085	Summary Record of the JEFF Scientific Co-ordination Group Meeting, *NEA Secretariat*
JEF/DOC-1084	TRIPOLI-4.4 & JEFF-3.1, ENDF/B-VII b0 and JENDl-3.3 with the ICSBEP Criticality Models, *J-Ch. Sublet, C. Jouanne, Y. Peneliau, F-X. Hugot*
JEF/DOC-1083	COGEND: A Code to Generate Nuclear Decay Scheme Data in ENDF-6 Format, *R.J. Perry, C.J. Dean*
JEF/DOC-1082	Update of Previous LWR Cross-section Library Comparison Calculations at VTT, *J. Leppanen*
JEF/DOC-1081	COGEND: Improvements to the Processing of Continuous Spectra, *R.J. Perry*
JEF/DOC-1080	Comparisons Between JEFF31 and JEF-2, *C. Mounier*
JEF/DOC-1079	Brief Report on ^{95}Mo, ^{99}Tc and ^{245}Cm: JEFF-3.1 Status, *O. Serot*
JEF/DOC-1078	Comparative Study of Certain Aspects of the JENDL3.3, JEF-2.2 (UKFY2) and JEFF-3.1 (UKFY3.6) Fission Yields files, *O. Serot*
JEF/DOC-1077	Low Neutron Cross-sections of the Hafnium Isotopes, *G. Noguere*
JEF/DOC-1076	Neutron Data Evaluation of Iodine-127 and Iodine-129 Isotopes, *E. Dupont, G. Noguere, E. Bauge*
JEF/DOC-1075	ORNL-CEA Evaluation of ^{238}U Resonance Parameters Up to 20 keV, *A. Courcelle*

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* Presentation.

JEF/DOC-1074   New Evaluation of ^{238}U Cross-section in the Unresolved Range (20 keV-150 keV), *A. Courcelle*

JEF/DOC-1073   Delayed Neutron Yield and Relative Abundance Data for some Minor Isotopes, Missing from Current Compilations, *J. Rowlands*

JEF/DOC-1072   Assessment and Evaluation of Decay Data for EAF-2004/05, *A.L. Nichols, R.J. Perry*

JEF/DOC-1071   Comparison of Fission and Radiative Capture Cross-section Data for ^{235}U and ^{238}U, *M. Venhart*

JEF/DOC-1070   Initial Bechmarking of the JEFF-3.1 Fission Yields and Decay Data, *R. Mills*

JEF/DOC-1069   Test of JEFF-3.1 with MCNP: Criticality and Beta-effective Benchmarks, *A. Hogenbirk*

JEF/DOC-1068   VALDUC with JEFF-3.1T4 ^{235}U and ^{238}U, *C. Dean, R.J. Perry*

JEF/DOC-1067   Status of the Photonuclear Activation File (PAF): Reaction Cross-sections, Fission Fragments and Delayed Neutron, *D. Ridikas*

JEF/DOC-1066   Recent Activities of the IAEA Nuclear Data Section, *M. Kellett*

JEF/DOC-1065   The JEFF-3.1 Decay Data Library, *M. Kellett*

JEF/DOC-1064   Experimental Activities at IRMM, *P. Rullhusen*

JEF/DOC-1063   Proposal for Nuclear Data Dispersion Matrix, *G. Palmiotti, M. Salvatores, Argonne National Laboratory*

JEF/DOC-1062   Systematic Comparison of Evaluated Nuclear Data Files, *J. Leppanen*

JEF/DOC-1061   Evaluation of the Resonance Region for ^{58}Fe, *M.C. Moxon*

JEF/DOC-1060   Theoretical Models and Relevant Calculations of Photon Production and Photonuclear Reaction Data, *E. Menapace, G. Maino, F. Groppi*

JEF/DOC-1059   Comparison Between Theoretical Calculation and Experimental Results of Excitation Functions for Production of Relevant Biomedical Radionuclides, *E. Menapace,C. Birattari, M.L. Bonardi, F. Groppi, S. Morzenti, C. Zona*

JEF/DOC-1058   Sensitivity and Uncertainty Analysis of a Thorium Molten Salt Reactor, *A. Bidaud*

JEF/DOC-1057   Current Projects of the IAEA-NDS, *A. Trkov*

JEF/DOC-1056   Short comments on the resolved range of ^{166}Er and ^{167}Er in JEFF-3.0: Proposals for JEFF-3.1, *A. Courcelle, C. Chabert, O. Serot*

JEF/DOC-1055   Review of the Most Reactor Relevant Fission Product Cumulated Yields, *O. Serot, B. Roque, A. Santamarina*

JEF/DOC-1054   Progress on ^{99}Tc Evaluation, *F. Gunsing, O. Serot*

JEF/DOC-1053   Thermal Neutron Scattering Cross-section for H in CaH_2 and Ca in CaH_2, *O. Serot*

JEF/DOC-1052 ^{56}Fe Benchmarking Results, *R. Jacqmin*

JEF/DOC-1051   Benchmark Results for ^{233}U and Thorium, *S. van der Marck*

JEF/DOC-1050   Proposal for a Revised ^{241}Am Evaluation in JEFF-3.1, *O. Bouland, A. Santamarina*

JEF/DOC-1049   Proposal for General Purpose Library JEFF-3.1T, *A. Koning, J-Ch. Sublet*

JEF/DOC-1048   Assembly and Feedback of the JEFF-3.0T3 Radioactive Decay Data File, *M. Kellett*

JEF/DOC-1047   A Survey on Nuclear Data Status and Needs for Special Purposes, Following Items Discussed in Previous JEFF Meetings and NEA-NSC Workshop on "R&D Needs", *E. Menapace*

JEF/DOC-1046   JEFF Meeting Presentation, *I. Kodeli*

JEF/DOC-1045   VALDUC with JEFF-3.1 Hydrogen, *C. Dean, S. Connolly*

JEF/DOC-1044   TRIPOLI4.3 Benchmarks, *C. Jouanne*

JEF/DOC-1043   JEFF-3.0/JEF-2 Improvement on Fuel Inventory Prediction. Trends from Integral Experiments and Proposal for JEFF-3.1 Evaluations, *D. Bernard*

JEF/DOC-1042   Summary Record of the JEFF Scientific Co-ordination Group Meeting, *NEA Secretariat*

JEF/DOC-1041   Summary Record of the Joint JEFF/EFF/EAF Meeting, *NEA Secretariat*

JEF/DOC-1040	Summary Record of the Decay Data and Fission Yields Meeting, *NEA Secretariat*
JEF/DOC-1039	LWR Cross-section Library Comparison Calculations at VTT, *J. Leppanen*
JEF/DOC-1038	From JEFF-3.0 to JEFF-3.1T: The Way Forward, *A. Koning, J-Ch. Sublet*
JEF/DOC-1037	Report from the CSEWG Meeting, *A. Koning*
JEF/DOC-1036	Overview of the ^{238}U Evaluation in the Resolved Resonance Range, *H. Derrien, A. Courcelle, L. Leal, N. Larson*
JEF/DOC-1035	Experimental Activities at IRMM, *P. Rullhusen*
JEF/DOC-1034	ICSBEP JEFF-3.1T Benchmarkings: Preliminary Results, *J-Ch. Sublet, C. Jouanne, Y. Peneliau*
JEF/DOC-1033	On the Use of S(α,β) Tables for Isotopes with Pronounced Resonances, *R. Dagan*
JEF/DOC-1032	Benchmarking of Uranium-238 Evaluations Against Spherical Transmission and (n,xn)-reaction Rxperimental Data, *S. Simakov (presented at ND2004)*
JEF/DOC-1031	Status of the UKFY3 Fission Yield Evaluation December 2004, *R. Mills*
JEF/DOC-1030	Use of JEFF-3T3 Decay Data with FISPACT-2003, *R. Forrest*
JEF/DOC-1029	Status of UK Decay Data Evaluations, *C. Dean*
JEF/DOC-1028	Comparison of Evaluated Data Libraries: "Chosen Physical Constants of Chosen Nuclides in Spent Fuel", *M. Venhart, V. Chrapciak*, Comenius University Bratislava, Department of Nuclear Physics and Biophysics, Study in Diploma Thesis
JEF/DOC-1027	The Testing of Recent JEF(F) Decay Data and Fission Product Yields Files for Irradiated Nuclear Fuel Decay Heat Calculations, *Drs. R.W. Mills, D.R. Parker*, BNFL Sellafield
JEF/DOC-1026	Experimental Validation of the APOLLO2 Code for High Burn-up MOX Fuels. JEF-2.2 Results and JEFF-3.0 Improvements, *D. Bernard, et al.*
JEF/DOC-1025	Summary Record of the Joint JEFF/EFF/EAF Meeting, 11-12 May 2004, *A. Nouri*
JEF/DOC-1024	Summary Record of JEFF Scientific Co-ordination Group Meeting, 12 May 2004, *A. Nouri*
JEF/DOC-1023	Recent Nuclear Data Activities at the IAEA Nuclear Data Section, *A. Trkov*
JEF/DOC-1022	Summary Record of the Decay Data and Fission Yields Meeting, 10 May 2004, *A. Nouri*
JEF/DOC-1021	Thermal Neutron Scattering Data, *M. Mattes, J. Keinert*
JEF/DOC-1020	Working Group Experimental Activities, *P. Rullhusen*
JEF/DOC-1019	Experimental Activities at IRMM, Activity Report May 2004, *P. Rullhusen*
JEF/DOC-1018	Implementation of the Delayed Neutron Data Recommendation, *A. Nouri*
JEF/DOC-1017	Benchmarking pre-JEFF-3.1 ^{238}U, *S.C. van der Marck*
JEF/DOC-1016	New Evaluations for All Ca and Ge Isotopes, *M.C. Duijvestijn, A.J. Koning*
JEF/DOC-1015	New Data Evaluations for the Fe isotopes, *A.J. Koning, M.C. Duijvestijn*
JEF/DOC-1014	Evaluation of ^{238}U Resonance Parameters from 0 to 20 keV, *H. Derrien, A. Courcelle, et al.*
JEF/DOC-1013	^{238}U Effective Capture Integral Calculations Using Recent Resonance Parameters Sets, *A. Courcelle*
JEF/DOC-1012	JEFF-3.0 Based APOLL02 Library – Processing and Validation, *S. Mengelle*
JEF/DOC-1011	JEFF-3.0 Feedbacks – Pre-JEFF-3.1 Proposals, *J-Ch. Sublet, B. Roque, F. Laugier, J. Tommasi*
JEF/DOC-1010	TRIPOLI-4.3 JEFF-3.0, Pre-JEFF-3.1 Benchmarkings, *J-Ch. Sublet, C. Jouanne, Y. Peneliau*
JEF/DOC-1009	Testing of BRC ^{238}U Evaluations with Fast Benchmarks, *E. Dupont, B. Morillon, P. Romain, J-Ch. Sublet*
JEF/DOC-1008	JEF-2.2 and JEFF-3.0 Comparison: Prediction of Isotopic Concentrations and Reactivity for Thermal Lattices Configurations, *A. Courcelle, D. Bernard, A. Santamarina*

JEF/DOC-1007	First Conclusions of the WPEC/Subgroup-22 Nuclear Data for Improved LEU-LWR Reactivity Predictions, *A. Courcelle, et al.*
JEF/DOC-1006	Mg Thermal Neutron Scattering Cross-sections, *C. Mounier*
JEF/DOC-1005	CaHx Thermal Neutron Scattering Cross-sections, *O. Serot*
JEF/DOC-1004	Neutron Data Evaluation of Rhodium, *E. Dupont, E. Bauge, S. Hilaire, A. Koning*
JEF/DOC-1003	On the Importance of the New Formula for the Double Differential Scattering Kernel, *R. Dagan*
JEF/DOC-1002	Final results of the Evaluation of All Important Neutron Induced Reactions on ^{46,47,48,49,50}Ti Including Full Covariance Information, *S. Tagesen, H. Vonach*
JEF/DOC-1001	Motivation for New Measurements on Am Isotopes, *O. Bouland*
JEF/DOC-1000	Comparative Study of the Independent Fission Yields in JEF-2.2 (UKFY2) and JEFF3T2 (UKFY 3.4), *O. Serot, R. Mills*
JEF/DOC-999	Progress on the Production of UKFY3.5, *R. Mills*
JEF/DOC-998	Modifications to COGEND to Process β-n and β-α Decay Data, *R. Perry*
JEF/DOC-997	COGEND: A Code to Generate Nuclear Decay Scheme Data in ENDF-6 Format, *R. Perry, C. Dean*
JEF/DOC-996	JEFF-3.0/DD T3 Library – Assembly and First Verification, *M.A. Kellett, O. Bersillon*
JEF/DOC-995	Summary Record of the JEFF Scientific Co-ordination Group, 19 Nov. 2003, *A. Nouri*
JEF/DOC-994	Summary Record of the Joint JEFF/EFF/EAF Meeting, 18-19 Nov. 2003, *A. Nouri*
JEF/DOC-993	Summary Record of the JEFF Experimentalist Sub-group Meeting, 17 Nov. 2003, *A. Nouri*
JEF/DOC-992	Summary Record of the Sub-group on Decay Data and Fission Yields, 17 Nov. 2003, *A. Nouri*
JEFDOC-991	Status of Decay Data Evaluations, *M.A. Kellett, C.J. Dean*
JEFDOC-990	Status of UK Decay Data Evaluations, *C.J. Dean*
JEFDOC-989	Measurement Needs for Thermal Reactor Applications: A Short List, Nov. 2003, *A. Courcelle*
JEFDOC-988	New Nuclear Data Libraries for Pb and Bi, November 2003, *A.J. Koning, M.C. Duijvestijn, R. Klein Meulekamp, S. van der Marck, A. Hogenbirk*
JEFDOC-987	First Validation of the New BRC ^{238}U Evaluated File, November 2003, *M.J. Lopez Jimenez.*
JEFDOC-986	Iodine-127 and Iodine-129 Neutron Capture and Total Cross-sections from 0.5 eV to 100 keV for Nuclear Waste Transmutation Studies, New version from Jan. 2005, *G. Noguère, A. Brusegan, A. Leprêtre, N. Hérault, E. Macavero, O. Bouland, G. Rudolf*
JEFDOC-985	Experimental Activities at IRMM, Nov. 2003, *P. Rullhusen*
JEFDOC-984	Impressions from the CSEWG Meeting, Nov. 2003, *A. Koning*
JEFDOC-983	ENDF-6 Formatted Neutron Activation File Improvements, November 2003, *P. Dos-Santos-Uzarralde, J-Ch. Sublet*
JEFDOC-982	The JEFF-3.0/A Neutron Activation File, Nov. 2003, *J-Ch. Sublet, A.J. Koning, R.A. Forrest, J. Kopecky*
JEFDOC-981	Milestones for the Development of the JEFF-3 Decay Data File, Nov. 2003, *O. Bersillon*
JEFDOC-980	Experimental Test of the Crystal Lattice Model of the R-Matrix Code SAMMY, Nov. 2003, *A. Courcelle, et al.*
JEFDOC-979	Summary Report of the WPEC/Subgroup-22 "Nuclear Data for LEU-LWR Reactivity Prediction", Nov. 2003, *A Courcelle, et al.*
JEFDOC-978	Improvements of Isotopic Ratios Prediction Through Takahama-3 Chemical Assays with the JEFF-3.0 Nuclear Data Library, Nov. 2003, *A. Courcelle, et al.*

JEFDOC-977	JEF-2.2 Nuclear Data Statistical Adjustment Using Post-irradiation Experiments, Nov. 2003, *A. Courcelle, et al*.
JEFDOC-976	Delayed Neutron Data in 8 Time Groups, Nov. 2003, *J.L. Rowlands*
JEFDOC-975	Spectral Index Calculations for Dimple, TRX, Proteus, Godiva, Jezebel and Skidoo, Nov. 2003, *S.C. van der Marck, A. Hogenbirk*
JEFDOC-974	Criticality Results for Many Benchmark Cases – The Releases JEFF-3.0, ENDF-B/VI.8, JENDL-3.3, and ENDF-B/VII-prelim, Nov. 2003, *S.C. van der Marck, A. Hogenbirk*
JEFDOC-973	Benchmark Results for the Effective Delayed Neutron Fraction, Nov. 2003, *S.C. van der Marck, R. Klein Meulekamp*
JEFDOC-972	The Thermal Activation Cross-section of ^{58}Fe, May 2003, *M. Moxon*
JEFDOC-971	Summary Record of the April 2003 JEFF SCG Meeting, *A. Nouri*
JEFDOC-970	Summary Record of the April 2003 JEFF Meeting, *A. Nouri*
JEFDOC-969	Summary Content of the JEFF-3.0 General Purpose Library, April 2003, *A. Nouri*
JEFDOC-968	^{235}U Evaluations Used in Molten Salt Project (MOST), April 2003, *Kophazi, Szieberth, Fehér, de Leege*
JEFDOC-967	JEFF-3.0 Feedback: Status April 2003, *A. Nouri*
JEFDOC-966	Comparison of Thermal Cross-sections and Resonance Integrals for Dosimetry Reactions, April 2003, *A. Trkov*
JEFDOC-965	Investigation of ^{238}U Inelastic Data from JEF-2.2, JEFF-3.0, ENDF/B-VI.2 and ENDF/B-VI.8, April 2003, *O. Litaize, O. Serot, E. Dupont*
JEFDOC-964	Brief Report on ^{99}Tc: Status and Recommendation, April 2003, *O. Serot, F. Gunsing*
JEFDOC-963	Progress on ^{52}Cr Inelastic Scattering and Zr Activation Cross-sections, April 2003, *A. Plompen*
JEFDOC-962	Modifications to COGEND, April 2003, *R. Perry*
JEFDOC-961	Further Analysis of JEFF-3T2 Decay Data Using FIZCON, April 2003, *R. Perry, C. Dean*
JEFDOC-960	Installation and Testing of FIZCON6.13, April 2003, *R. Perry*
JEFDOC-959	Specification and Maintenance Document for Decay Data Checking in FIZCON, April 2003, *M. Grimstone, R. Perry, C. Dean*
JEFDOC-958	Preliminary Testing of the JEFF-3T2RDD Decay Data Starter File, April 2003, *R. Forrest*
JEFDOC-957	Nuclides of Importance to Decay Heat Calculations, April 2003, *R. Mills*
JEFDOC-956	Preliminary Analysis of JEFF-3.0 vs. JEF-2 Trends in Fast Spectrum Experiments, April 2003, *E. Dupont*
JEFDOC-955	Criticality Benchmark Results – The New Releases JEFF-3.0, ENDF/B-VI.8 and JENDL-3.3, April 2003, *S. van der Marck, A. Hogenbirk*
JEFDOC-954	Needs for ^{238}U Cross-section Measurements to Improve LWR Reactivity Prediction, April 2003, *A. Courcelle*
JEFDOC-953	Analysis of Hellstrand Experimental Correlations, April 2003, *A. Courcelle, et al.*
JEFDOC-952	Summary Report of the WPEC/Subgroup 22, Nuclear Data for Improved LEU-LWR Reactivity Prediction, April 2003, *A. Courcelle*
JEFDOC-951	Microscopic Evaluation of Eu Isotopes, April 2003, *E. Bauge*
JEFDOC-950	MONK8B Analysis of the Hellstrand Experiment, April 2003, *D. Hanlon, C.J. Dean*
JEF/DOC-949	The Generation of Beta Spectra from ENDF6 Evaluations, April 2003, *C.J. Dean*
JEF/DOC-948	Measurements of Thermal Neutron Capture Cross-sections of ^{241}Am, ^{242gs}Am, ^{243}Am and ^{242}Pu, April 2003, *F. Marie*
JEFDOC-947	Comparison of ^{133}Cs and ^{153}Eu Neutron Capture from New Evaluations to JEF-2.2 for a Range of Thermal Reactors, April 2003, *R. Mills*

JEFDOC-946	Evaluation of the Neutron Cross-section for ^{153}Eu, April 2003, *M.C. Moxon*
JEFDOC-945	Evaluation of the Neutron Cross-section for ^{133}Cs, April 2003, *M.C. Moxon*
JEFDOC-944	Summary Records of the JEFF Meeting, December 2002, *A. Nouri*
JEFDOC-943	Calculation of the VALDUC Lattices with Revised ^{235}U Data, April 2003, *D. Hanlon*
JEFDOC-942	Nuclear Data Networking: Minutes of the Informal Meeting Between OECD/NEA Data Bank and EC/DG Research, 17 February 2003
JEFDOC-941	Summary Records of the JEFF/SCG Meeting, December 2002, *A. Nouri*
JEFDOC-940	Cross-section Covariance Data Available in Recent Evaluated Nuclear Data Libraries, *I. Kodeli*
JEFDOC-939	Status of IRDF-2002 Development, *A. Nichols*
JEFDOC-938	Cross-section Evaluation for the System n + ^{238}U, *M.J. Lopez*
JEFDOC-937	Status of the CERN-nTOF Facility, *H. Leeb*
JEFDOC-936	Status of ^{99}Tc Evaluation, *F. Gunsing*
JEFDOC-935	Nuclear Data Status and Needs for Medical Applications, *E. Menapace*
JEFDOC-934	JEFF-3.0: NJOY99 and CALENDF-2002 Processing – Viewpoint, Prospect and Solutions, *J-Ch. Sublet, P. Ribon*
JEFDOC-933	Validation of Depletion Calculation Through Takahama-3 Chemical Assays with JEFF-3.0, *A. Courcelle, A. Santamarina*
JEFDOC-932	Brief Progress Report of the WPEC-SG22, *A. Courcelle*
JEFDOC-931	Motivation for New ^{241}Am Measurements, *O. Bouland*
JEFDOC-930	Status of the JANIS Software, December 2002, *A. Nouri*
JEFDOC-929	SAMQUA – A Program for Generating All Possible Combinations of Quantum Numbers Leading to the Same Compound Nucleus State in the Framework of the R-matrix Code SAMMY, *O. Bouland, R. Babut, N.M. Larson*
JEFDOC-928	MYRRHA: A European Multipurpose ADS for R&D. Pre-design Phase Completion, April 2002, *N. Messaoudi*
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EFFDOC-958	Report of the IAEA TC Meeting on Nuclear Data for IFMIF, Karlsruhe, 4 October 2005, *U. Fischer, R. Forrest, A. Mengoni*
EFFDOC-957	Theoretical Calculations of Covariance Matrices for Li Isotopes, *H. Leeb, M.T. Pigni*
EFFDOC-956	Measurement of Tritium Production Rates and of Neutron and Gamma-ray Flux Spectra in the TBM Mock-up, *K. Seidel*
EFFDOC-955	Validation Experiment of Gamma-activities of Tantalum Irradiated in Fusion Peak Neutron Field, *K. Seidel*
EFFDOC-954	Monte-Carlo-based Transport and Sensitivity/Uncertainty Analyses of the Tritium Production in the HCPB Breeder Blanket Mock-up Experiment, *U. Fischer, D. Leichtle, R. Perel*
EFFDOC-953	Evaluation of ^{181}Ta Cross-sections for the EFF Data Library Up to 150 MeV, *P. Pereslavtsev*
EFFDOC-952	First Benchmark Analyses of Ta Evaluated Data for Fusion Neutron Transport Calculations, *S.P. Simakov, U. Fischer*
EFFDOC-951	Analyses of the NPI/Rez Validation Experiment for Ta Activation Cross-sections in an IFMIF-like Neutron Spectrum, *S.P. Simakov, et al.*
EFFDOC-950	Deterministic 3-D Analysis of HCPB Breeder Blanket Mock-up Experiment, *I. Kodeli*
EFFDOC-949	Comparison of Covariance Matrices Calculated by A. Koning (2005) and Covariance Matrices from Evaluation of Experimental Data for ^{56}Fe, *S. Tagesen, H. Vonach*
EFFDOC-948	Nuclear Decay Heat in Molybdenum Measurements and Analysis, *M. Pillon*

EFFDOC-947	Validation Report for EAF-2005 and Deuteron Data, *R. Forrest*
EFFDOC-946	Validation Experiment on Tantalum Activation in the NPI p-D_2O Neutron Field of IFMIF-like Spectrum, *M. Honusek*
EFFDOC-945	Validation Experiment on Tungsten Activation in the NPI p-D_2O Neutron Field of IFMIF-like Spectrum, *E. Simeckova*
EFFDOC-944	Experimental Determination of the NPI p-D_2O Neutron Source Spectrum for Activation Benchmark Tests, *P. Bém*
EFFDOC-943	Comparison of new ^{48}Ti Measurements with 2002 Evaluation, *S. Tagesen*
EFFDOC-942	Evaluation of ^{182,183,184,186}W Neutron Cross-sections Up to 20 MeV for Combination with the FZK Theoretical 150 MeV Evaluation, *S. Tagesen*
EFFDOC-941	Progress on Deuteron-induced Activation Cross-section Evaluation by Means of Optical Model Potential Analysis, *M. Avrigeanu*
EFFDOC-940	Progress on Calculation of the Activation Cross-sections for Ta and Hf up to 60 MeV, *V. Avrigeanu*
EFFDOC-939	Release of EAF-2005.1 Library, *J. Kopecky*
EFFDOC-938	Status of the TBM Neutronics Experiment, *P. Batistoni*
EFFDOC-937	Summary Record of the EFF/EAF Monitor Group Meeting, May 2005, *H. Henriksson*
EFFDOC-936	Evaluation of All Important Neutron Cross-sections for ^{184}W Including Full Covariance Information, *S. Tagesen*
EFFDOC-935	New Evaluation of d+Li Data Up to 50 MeV for IFMIF, *P. Pereslavtsev*
EFFDOC-934	Progress Report of TU Dresden, *K. Seidel*
EFFDOC-933	HCPB Breeder Blanket Mock-up Experiment Pre-analysis Using TORT Code, *I. Kodeli*
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EFFDOC-931	Testing of New W Data Evaluations for EFF-3, *U. Fischer*
EFFDOC-930	Benchmark Analyses of Ti JEFF-3.1T Data for Fusion Applications, *U. Fischer*
EFFDOC-929	Benchmark Analyses of Pb JEFF-3.1T Data for Fusion Applications, *S. Simakov*
EFFDOC-928	Activation Cross-sections of the Hf and Ta Stable Isotopes and their Sensitivity to Nuclear Reaction Mechanisms, *M. Avrigeanu, V. Avrigeanu, R.A. Forrest, F.L. Roman*
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EFFDOC-926	Testing MCSEN Track-length Sensitivity Calculations for the TBM Mock-up Experiment, *R. Perel*
EFFDOC-925	Status of Test Blanket Module (TBM) Neutronics Experiment, *P. Batistoni*
EFFDOC-924	Validation of EAF-2005 – New Tools, *J. Kopecky*
EFFDOC-923	Summary Record of the EFF/EAF Monitor Group Meeting, November 2004, *H. Henriksson*
EFFDOC-922	Validation Analyses of IEAF-2001 Activation Cross-section Data for SS-316 and F82H Steels Irradiated in a White d-Li Neutron Field, *S.P. Simakov, et al.* (Presented at the ND2004 in Santa Fe, USA)
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EFFDOC-920	Nuclear Data for Fusion Energy Technologies: Requests, Status and Development Needs, *U. Fischer, et al.* (Presented at the ND2004 in Santa Fe, USA)
EFFDOC-919	TALYS, Monte Carlo and Covariances, *A.J. Koning*
EFFDOC-918	HCPB Breeder Blanket Mock-up Experiment Analysis Using DORT and SUSD3D Codes, *I. Kodeli*
EFFDOC-917	Nuclear Decay Heat in Tantalum – Measurements and Analysis, *M. Pillon* (presented by P. Batistoni)

EFFDOC-916	Validation Experiment of Gamma Activities of Pb Irradiated in Fusion Peak Neutron Field, *R. Eichin, R.A. Forrest, H. Freiesleben, K. Seidel, S. Unholzer*
EFFDOC-915	Implementation and Testing of Sensitivity Calculations of Monte Carlo Track Length Estimators in MCSEN, *R. Perel* (presented by U. Fischer)
EFFDOC-914	Analysis of Rez Data for Dosimetry Foils Using EAF-2004, *R. Forrest*
EFFDOC-913	Analysis of the NPI Validation Experiment for Tungsten Activation Cross-sections in an IFMIF-like Neutron Spectrum, *S. Simakov, et al.*
EFFDOC-912	Evaluation of n + ^{182,183,184,186}W Cross-sections for EFF Up to 150 MeV, *P. Pereslavtsev, U. Fischer*
EFFDOC-911	First Benchmark Analyses for Ti Data Evaluations, *U. Fischer, S. Simakov*
EFFDOC-910	Activation Benchmark Tests at the NPI Fast Neutron Facility, *P. Bém*
EFFDOC-909	Status of EAF-2005, *J. Kopecky*
EFFDOC-908	Status of Neutronics Experiment on a Mock-up of a Test Blanket Module (TBM), *P. Batistoni*
EFFDOC-907	Calculation of D-Li Cross-sections for Energies Up to 50 MeV Using Realistic Nucleon-nucleon Interactions, *M. Avrigeanu*
EFFDOC-906	Development of Theoretical Tools and Their Use to Calculate Cross-sections Relevant to the EAF and EFF Files, *V. Avrigeanu*
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EFFDOC-904	Radiation Shielding and Dosimetry Experiments Updates in the SINBAD Database, *I. Kodeli, H. Hunter, E. Sartori*
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EFFDOC-897	Re-analysis of TUD Benchmark Experiment on Tungsten Using JENDL-3.3 Data, *U. Fischer*
EFFDOC-896	Status of TBM Neutronics Experiment, 10 May 2004, *P. Batistoni*
EFFDOC-895	International Benchmark Comparison on Tritium Measurements, 10 May 2004, *P. Batistoni*
EFFDOC-894	Progress Report of TU Dresden, 10 May 2004, *K. Seidel*
EFFDOC-893	Progress Report on Fast-neutron Reaction Analysis for Fusion Low-activation Materials, 10 May 2004, *V. Avrigeanu*
EFFDOC-892	New Actions for EAF-2005, 10 May 2004, *J. Kopecky*
EFFDOC-891	Summary Record of the EFF/EAF Monitor Group Meeting, 17 November 2003, *M.A. Kellett*
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EFFDOC-889	Inelastic Scattering on ^{52}Cr with the n,n′g Technique, *A.J.M. Plompen*
EFFDOC-888	Covariance Determination for Evaluations Including Extensive Modelling, *H. Leeb*
EFFDOC-887	Calculation of Deuterium-lithium Cross-sections for Energies Up to 50 MeV Using Realistic Nucleon-nucleon Interactions, *M. Avrigeanu*
EFFDOC-886	Pre-analysis of TBM Experiment Using DORT and SUSD3D Codes, *I. Kodeli*

EFFDOC-885   Tungsten Benchmark Experiments: Re-analysis Using JENDL-3.3, *I. Kodeli*

EFFDOC-884   TBM Neutronics Experiment: Design of the Measurements of Tritium Production and of Neutron and Gamma-ray Flux Spectra, *K. Seidel*

EFFDOC-883   Validation Experiment of Gamma Activities of Yttrium Irradiated in Fusion Peak Neutron Field, *K. Seidel*

EFFDOC-882   Validation of EASY-2003, *R.A. Forrest*

EFFDOC-881   EASY-2004, *R.A. Forrest, J. Kopecky*

EFFDOC-880   Progress Report on Fast-neutron Reaction Analysis for Fusion Low-activation Materials, *V. Avrigeanu*

EFFDOC-879   Status of the Evaluation of all Ti Isotopes, *S. Tagesen, H. Vonach*

EFFDOC-878   Modification to GLUCS to Avoid a Systematic Underestimation of Cross-sections (In Particular with Inconsistent and Highly Correlated Experimental Data), *S. Tagesen, H. Vonach*

EFFDOC-877   Design of TBM Neutronics Experiment, *P. Batistoni*

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EFFDOC-873   Sensitivity Calculation of Monte-Carlo Track-length Estimators for Cross-section Sensitivity and Uncertainty Analyses, *R. Perel*

EFFDOC-872   Evaluation of n + ^{184}W Cross-section Data for EFF Up to 150 MeV, *P. Pereslavtsev*

EFFDOC-871   Measurement and Analysis of Nuclear Decay Heat in Yttrium, *M. Pillon*

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EFFDOC-869   Production of ^{62m}Co in Copper Irradiated in the Karlsruhe d-Be Neutron Field, *U. von Möllendorff, S. Simakov*

EFFDOC-868   Summary Record of the EFF/EAF Monitor Group Meeting, 29 April 2003, *M.A. Kellett*

EFFDOC-867   Analysis of FNG Benchmark Experiment on Tungsten Using DORT, TWODANT and SUSD3D Deterministic Codes, *I. Kodeli*

EFFDOC-866   Recent Progress in the SINBAD Project, *I. Kodeli*

EFFDOC-865   Progress Towards EASY-2004, *R.A. Forrest*

EFFDOC-864   Design of TBM Neutronics Experiment (2003), *P. Batistoni*

EFFDOC-863   Final Report on the Tungsten Experiment (2002), *P. Batistoni, M. Angelone, L. Petrizzi, M. Pillon*

EFFDOC-862   Preliminary Measurements and Analysis of Nuclear Decay Heat in Sc, Sm, Gd and Dy, *M. Pillon*

EFFDOC-861   EAF-2003 Versus ^{252}Cf Integral Data, *J. Kopecky*

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EFFDOC-859   Validation Analyses of IEAF-2001 Activation Cross-section Data for SS-316 Steel, *S. Simakov, et al*.

EFFDOC-858   Measurement and Analysis of Induced Activation in CuCrZr Irradiated in Fusion Peak Neutron Field, *R. Eichin, R.A. Forrest, H. Freiesleben, S.A. Goncharov, V.D. Kovalchuk, D.V. Markovskij, D.V. Maximov, K. Seidel, S. Unholzer*

EFFDOC-857   Measurement and Analysis of Neutron and Gamma-ray Flux Spectra in Tungsten, *H. Freiesleben, C. Negoita, K. Seidel, S. Unholzer, U. Fischer, D. Leichtle, M Angelone, P. Batistoni, M. Pillon*

EFFDOC-856	Comparison of Different Existing Cross-section Calculations for ^{46,47,49,50}Ti, *H. Vonach, S. Tagesen*
EFFDOC-855	Results of Inclusion of New Geel Data for ^{58}Ni into the Recent Evaluation, *H. Vonach, S. Tagesen*
EFFDOC-854	Progress Report on Fast-neutron Analysis for Fusion Low-activation Materials, *V. Avrigeanu*
EFFDOC-853	Progress Report on Calculation of D-Li Cross-sections for Energies Up to 50 MeV, *M. Avrigeanu*
EFFDOC-852	Nuclear Data for Design Analyses of the Test Blanket Modules in ITER: Review and Recommendations for EFF/JEFF Evaluations, *U. Fischer*
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EFFDOC-850	Neutronics and Nuclear Data: Status and Perspectives for Fusion Technology Applications (presented at the Dresden Workshop on Fast Neutron Physics in September 2002), *U. Fischer*
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EFFDOC-848	Processed Covariance Matrices for ^{28}Si, Evaluation EFF-3.0, *I. Kodeli*
EFFDOC-847	Processed Covariance Matrices for ^{56}Fe, Evaluation JEFF-3.0/EFF-3.1, *I. Kodeli*
EFFDOC-846	ALARA/IEAF-2001: Validation and Application for IFMIF Activation and Transmutation Analyses, *S. Simakov*
EFFDOC-845	Monte Carlo Sensitivity Analysis of FNS and KANT Be Experiments Using the ^{9}Be EFF3.0/NMOD=5 Evaluation, *R. Perel*
EFFDOC-844	Benchmark Analysis of EFF and FENDL Carbon Cross-section Data, *D. Leichtle*
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EFFDOC-842	Status of EAF libraries, *R.A. Forrest*
EFFDOC-841	A Complementary Report on Decay Heat Estimate for Fusion-relevant Materials Based on EAF-99 and FENDL/A-2 Libraries in Comparison with FNS-JAERI Experiments, *E. Menapace*
EFFDOC-840	FNS Experimental Validation of the Decay Power Calculation Code and Nuclear Databases – FISPACT-2001 and EAF-99 & EAF-2001 & EAF-2001 Decay Libraries – 7 Hours Irradiation, *J-Ch. Sublet, F. Maekawa*
EFFDOC-839	New FNS Experimental Validation of the Decay Power Calculation Code and Nuclear Databases – FISPACT-2001 and EAF-99 & EAF-2001 & EAF-2001 Decay Libraries – 5 Minutes Irradiation, *J-Ch. Sublet, F. Maekawa*
EFFDOC-838	Measurement and Analysis of Nuclear Decay Heat in CuCrZr, *M. Pillon*
EFFDOC-837	ZZ-VITAMIN-J/COVA/EFF-3 Cross-section Covariance Matrix Library, *I. Kodeli*
EFFDOC-836	Progress Report of TUD, *K. Seidel*
EFFDOC-835	Completion of Model Calculation of Fast Neutron Reaction Cross-sections for all Stable Isotopes of Ni and Mo, *V. Avrigeanu, M. Avrigeanu, T. Glodariu*
EFFDOC-834	Inelastic Scattering of ^{58}Ni and Progress with Activation Measurements, paper from PHYSOR'2002 supplied, *A. Plompen*
EFFDOC-833	Status of the Complete Evaluation of all Important Neutron Reactions on ^{48}Ti Including Full Covariance Information, *H. Vonach, S. Tagesen*
EFFDOC-832	Final Full Documentation of the Evaluations of ^{58}Ni, ^{60}Ni and ^{28}Si, *H. Vonach, S. Tagesen*
EFFDOC-831	Progress Report on W Experiment at FNG, *P. Batistoni*
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EFFDOC-829	Summary Record of the EFF/EAF Monitor Group Meeting, 25 April 2002, *M.A. Kellett*

EFFDOC-828 Needs for Nuclear Data Development and Improvement in the Fusion Technology Program in 2003-2006 and Beyond, *P. Batistoni, U. Fischer, R.A. Forrest*

EFFDOC-827 Measurements on Neutron-irradiated Chromium (report sent to EFDA), *M. Pillon, M. Angelone*

EFFDOC-826 Neutronics and Nuclear Data for the IFMIF Neutron Source (ISFNT-6 paper), *U. Fischer, S.P. Simakov, A. Konobeev, P. Pereslavtsev, P. Wilson*

EFFDOC-825 Nuclear Data for the IFMIF Neutron Source – Status and Future Plans (presented to the JEFF IE group), *U. Fischer*

EFFDOC-824 Status of the New Evaluation of Neutron Cross-sections for ^{12}C and ^{16}O, A. Mengoni

EFFDOC-823 Progress with Ni Cross-section Measurements, *A. Plompen*

EFFDOC-822 Measurement and Analysis of Neutron and Gamma-ray Flux Spectra in SiC, *H. Freiesleben, C. Negoita, K. Seidel, S. Unholzer, Y. Chen, U. Fischer, M. Angelone, P. Batistoni, M. Pillon*

EFFDOC-821 Activation Experiment with Tungsten in Fusion Peak Neutron Field, *K. Seidel, R.A. Forrest, H. Freiesleben, S.A. Goncharov, V.D. Kovalchuk, D.V. Markovskij, D.V. Maximovich, S. Unholzer, R. Weigel*

EFFDOC-820 Validation of the EASY-2001 Activation System (ISFNT-6 paper), *R.A. Forrest, M. Pillon, U. von Möllendorff, K. Seidel*

EFFDOC-819 EAF-2001 Validation Against Integral Experiments, *J. Kopecky*

EFFDOC-818 Deterministic Transport, Sensitivity and Uncertainty Analysis of SiC Benchmark Experiment Using EFF-3 and FENDL-2 Evaluations, *I. Kodeli*

EFFDOC-817 First Results from Monte Carlo Sensitivity Calculations Using the ^{9}Be EFF3.05 Evaluation, *D. Leichtle*

EFFDOC-816 EAF-2001 in ENDF-6 Format and NJOY99-68 Processing, *J-Ch. Sublet, A.J. Koning, R.E. MacFarlane*

EFFDOC-815 Monte Carlo Transport, Sensitivity and Uncertainty Analyses for the TUD Benchmark Experiment on SiC, *U. Fischer, R. Perel, Y. Chen*

EFFDOC-814 Analysis of the Shutdown Dose Rate Experiment: Comparison of Results with EFF/EAF, JENDL and FENDL Libraries, *P. Batistoni*

EFFDOC-813 Final Results of the Analysis of Benchmark Experiment on SiC, *P. Batistoni*

EFFDOC-812 Measurements of Decay Heat and Validation of the European Activation Code System for Fusion Power Plant Applications, *M. Pillon*

EFFDOC-811 Measurements on Neutron-irradiated Chromium, *M. Pillon*

EFFDOC-810 Summary Record of the EFF/EAF Monitor Group Meeting, 20 November 2001, *M.A. Kellett*

TABLES

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
1-H-1	125	ENDF/B-VI.8	LANL	EVAL-FEB98	G.M. Hale, P.G. Young
1-H-2	128	ENDF/B-VI.8	LANL	EVAL-FEB97	P.G. Young, G.M. Hale, M.B.Chadwick
1-H-3	131	JEFF-3.0	CNDC	EVAL-JAN91	Zhuang Youxiang
2-He-3	225	JEFF-3.0	LANL	EVAL-MAY90	G. Hale, D. Dodder, P. Young
2-He-4	228	JENDL-3.3	JAERI	EVAL-FEB87	K. Shibata
3-Li-6	325	JEFF-3.0	LANL	EVAL-APR89	G.M. Hale, P.G. Young
3-Li-7	328	JEFF-3.0	ECN	EVAL-AUG90	Birmingham, Petten, Geel, LASL
4-Be-9	425	EFF3 MOD6	IRK, VIENNA	EVAL-JAN97	Vienna, Obninsk
5-B-10	525	JEFF-3.0	LANL	EVAL-NOV89	G.M. Hale, P.G. Young
5-B-11	528	ENDF/B-VI.8	LANL	EVAL-MAY89	P.G. Young
6-C-0	600	ENDF/B-VI.8	LANL, ORNL	EVAL-JUN96	M.B. Chadwick, P.G. Young, C.Y. Fu
7-N-14	725	ENDF/B-VI.8	LANL	EVAL-JUN97	M.B. Chadwick, P.G. Young
7-N-15	728	JEFF-3.0	LANL	EVAL-SEP83	E. Arthur, P. Young, G. Hale
8-O-16	825	ENDF/B-VI.8	LANL	EVAL-APR01	Hale, Young, Chadwick, Caro, Lubitz
8-O-17	828	JEFF-3.0	NEA	RCOM-JUN91	JEF SCG
9-F-19	925	Pre-ENDF/B-VII	CNDC, ORNL	EVAL-JUN90	Z.X. Zhao, C.Y. Fu, D.C. Larson
11-Na-22	1122	JEFF-3.0	NEA	RCOM-JUN83	Scientific Co-ordination Group
11-Na-23	1125	JEFF-3.0	NEA	EVAL-APR99	E. Fort, *et al.*
12-Mg-24	1225	JENDL-3.3	DEC, NEDAC	EVAL-MAR87	M. Hatchya (DEC), T. Asami (NEDAC)
12-Mg-25	1228	JENDL-3.3	DEC, NEDAC	EVAL-MAR87	M. Hatchya (DEC), T. Asami (NEDAC)
12-Mg-26	1231	JENDL-3.3	DEC, NEDAC	EVAL-MAR87	M. Hatchya (DEC), T. Asami (NEDAC)
13-Al-27	1325	JEFF-3.0	LANL	EVAL-FEB97	M.B. Chadwick, P.G. Young
14-Si-28	1425	JEFF-3.0	IRK	EVAL-MAY96	S. Tagesen, H. Vonach, A. Trkov
14-Si-29	1428	JENDL-3.3	TIT, JAERI	EVAL-MAR88	H. Kitazawa,Y. Harima, T. Fukahori
14-Si-30	1431	JENDL-3.3	TIT, JAERI	EVAL-MAR88	H. Kitazawa, Y. Harima, T. Fukahori
15-P-31	1525	JENDL-3.3	FUJI E.C.	EVAL-MAY87	H. Nakamura
16-S-32	1625	JENDL-3.3	FUJI E.C.	EVAL-MAY87	H. Nakamura
16-S-33	1628	JENDL-3.3	FUJI E.C.	EVAL-MAY87	H. Nakamura
16-S-34	1631	JENDL-3.3	FUJI E.C.	EVAL-MAY87	H. Nakamura
16-S-36	1637	JENDL-3.3	FUJI E.C.	EVAL-MAY87	H. Nakamura

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
17-Cl-35	1725	Pre-ENDF/B-VII	ORNL	EVAL-OCT03	R. Sayer, K. Guber, L. Leal, N. Larson
17-Cl-37	1731	Pre-ENDF/B-VII	ORNL	EVAL-OCT03	R. Sayer, K. Guber, L. Leal, N. Larson
18-Ar-36	1825	JEFF-3.0	NEA	RCOM-JUN83	Scientific Co-ordination Group
18-Ar-38	1831	JEFF-3.0	NEA	RCOM-JUN83	Scientific Co-ordination Group
18-Ar-40	1837	JENDL-3.3	KHI	EVAL-MAR94	T. Watanabe
19-K-39	1925	JENDL-3.3	FUJI E.C.	EVAL-MAY87	H. Nakamura
19-K-40	1928	JENDL-3.3	FUJI E.C.	EVAL-MAY87	H. Nakamura
19-K-41	1931	JENDL-3.3	FUJI E.C.	EVAL-MAY87	H. Nakamura
20-Ca-40	2025	New eval.	NRG	EVAL-OCT04	A.J. Koning
20-Ca-42	2031	New eval.	NRG	EVAL-OCT04	A.J. Koning
20-Ca-43	2034	New eval.	NRG	EVAL-OCT04	A.J. Koning
20-Ca-44	2037	New eval.	NRG	EVAL-OCT04	A.J. Koning
20-Ca-46	2043	New eval.	NRG	EVAL-OCT04	A.J. Koning
20-Ca-48	2049	New eval.	NRG	EVAL-OCT04	A.J. Koning
21-Sc-45	2125	New eval.	NRG	EVAL-OCT04	A.J. Koning
22-Ti-46	2225	New eval.	IRK	EVAL-JAN04	Vienna: S. Tagesen, H. Vonach
22-Ti-47	2228	New eval.	IRK	EVAL-JAN04	Vienna: S. Tagesen, H. Vonach
22-Ti-48	2231	New eval.	IRK	EVAL-JAN04	Vienna: S. Tagesen, H. Vonach
22-Ti-49	2234	New eval.	IRK	EVAL-JAN04	Vienna: S. Tagesen, H. Vonach
22-Ti-50	2237	New eval.	IRK	EVAL-JAN04	Vienna: S. Tagesen, H. Vonach
23-V-0	2300	JEFF-3.0	ECN	EVAL-OCT91	Gruppelaar, van der Kamp, Kopecky, Nierop
24-Cr-50	2425	JEFF-3.0	ORNL	EVAL-NOV89	D.C. Hetrick, N.M. Larson, Fu
24-Cr-52	2431	New eval.	IRK, CEA	EVAL-DEC95	S. Tagesen, H. Vonach, O. Bouland
24-Cr-53	2434	JEFF-3.0	ORNL	EVAL-NOV89	Shibata, D.C. Hetrick, N.M. Larson, Fu
24-Cr-54	2437	JEFF-3.0	ORNL	EVAL-NOV89	D.C. Hetrick, N.M. Larson, Fu
25-Mn-55	2525	JENDL-3.3	JAERI, MAPI	EVAL-MAR87	K. Shibata,T. Hojuyama
26-Fe-54	2625	New eval.	NRG	EVAL-OCT04	A.J. Koning
26-Fe-56	2631	New eval.	NRG	EVAL-FEB04	European Joint Collaboration
26-Fe-57	2634	NRG-2004	NRG	EVAL-OCT04	A.J. Koning
26-Fe-58	2637	NRG-2004	NRG	EVAL-OCT04	A.J. Koning

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
27-Co-58	2722	JEFF-3.0	NEA	RCOM-JUN83	Scientific Co-ordination Group
27-Co-58M	2723	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
27-Co-59	2725	JEFF-3.0	ANL, ORNL	EVAL-JUL89	A. Smith, G. Desaussure
28-Ni-58	2825	JEFF-3.0	IRK, IIS	EVAL-AUG99	European Joint Collaboration
28-Ni-59	2828	JEFF-3.0	NEA, ECN	RCOM-NOV87	Gruppelaar,van der Kamp, Kopecky, Nierop
28-Ni-60	2831	JEFF-3.0	IRK, IIS	EVAL-JAN00	European Joint Collaboration
28-Ni-61	2834	ENDF/B-VI.8	LANL,ORNL	EVAL-SEP97	S. Chiba, M.B. Chadwick, Hetrick
28-Ni-62	2837	ENDF/B-VI.8	LANL,ORNL	EVAL-SEP97	S. Chiba, M.B. Chadwick, Hetrick
28-Ni-64	2843	ENDF/B-VI.8	LANL, ORNL	EVAL-SEP97	S. Chiba, M.B. Chadwick, Hetrick
29-Cu-63	2925	ENDF/B-VI.8	LANL, ORNL	EVAL-FEB98	A.J. Koning, M..B. Chadwick, Hetrick
29-Cu-65	2931	ENDF/B-VI.8	LANL, ORNL	EVAL-FEB98	A.J. Koning, M..B. Chadwick, Hetrick
30-Zn-0	3000	JEFF-3.0	FEI	EVAL-DEC89	M.N. Nikolaev, S.V. Zabrodskaja
31-Ga-0	3100	JEFF-3.0	KHI	EVAL-MAR94	T. Watanabe
32-Ge-70	3225	New eval.	NRG	EVAL-DEC04	A.J. Koning
32-Ge-72	3231	New eval.	NRG	EVAL-DEC04	A.J. Koning
32-Ge-73	3234	New eval.	NRG	EVAL-DEC04	A.J. Koning
32-Ge-74	3237	New eval.	NRG	EVAL-OCT04	A.J. Koning
32-Ge-76	3243	New eval.	NRG	EVAL-OCT04	A.J. Koning
33-As-75	3325	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
34-Se-74	3425	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
34-Se-76	3431	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
34-Se-77	3434	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
34-Se-78	3437	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
34-Se-79	3440	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
34-Se-80	3443	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
34-Se-82	3449	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
35-Br-79	3525	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
35-Br-81	3531	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
36-Kr-78	3625	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
36-Kr-80	3631	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
36-Kr-82	3637	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
36-Kr-83	3640	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
36-Kr-84	3643	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
36-Kr-85	3646	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
36-Kr-86	3649	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
37-Rb-85	3725	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
37-Rb-86	3728	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
37-Rb-87	3731	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
38-Sr-84	3825	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
38-Sr-86	3831	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
38-Sr-87	3834	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
38-Sr-88	3837	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
38-Sr-89	3840	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
38-Sr-90	3843	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
39-Y-89	3925	JEFF-3.0	ANL, LLNL	EVAL-JAN86	R. Howerton (LLNL), A. Smith (ANL)
39-Y-90	3928	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
39-Y-91	3931	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
40-Zr-90	4025	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
40-Zr-91	4028	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
40-Zr-92	4031	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
40-Zr-93	4034	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
40-Zr-94	4037	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
40-Zr-95	4040	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
40-Zr-96	4043	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
41-Nb-93	4125	ENDF/B-VI.8	LANL, ANL	EVAL-DEC97	M. Chadwick, P. Young, D.L. Smith
41-Nb-94	4128	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
41-Nb-95	4131	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
42-Mo-92	4225	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
42-Mo-94	4231	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
42-Mo-95	4234	Pre-ENDF/B-VII	BNL, KAERI	EVAL-OCT03	Lee, Oh, Mughabghab, Oblozinsky

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
42-Mo-96	4237	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
42-Mo-97	4240	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
42-Mo-98	4243	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
42-Mo-99	4246	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
42-Mo-100	4249	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
43-Tc-99	4331	New eval.	CEA, NRG	EVAL-FEB05	Gunsing, Serot, Koning
44-Ru-96	4425	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
44-Ru-98	4431	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
44-Ru-99	4434	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
44-Ru-100	4437	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
44-Ru-101	4440	JEFF-3.0	NEA	RCOM-JUL86	H. Gruppelaar
44-Ru-102	4443	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
44-Ru-103	4446	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
44-Ru-104	4449	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
44-Ru-105	4452	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
44-Ru-106	4455	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
45-Rh-103	4525	New eval.	CAD, BRC, +	EVAL-FEB05	E. Dupont, E. Bauge, M.C. Moxon
45-Rh-105	4531	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
46-Pd-102	4625	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
46-Pd-104	4631	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
46-Pd-105	4634	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
46-Pd-106	4637	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
46-Pd-107	4640	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
46-Pd-108	4643	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
46-Pd-110	4649	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
47-Ag-107	4725	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
47-Ag-109	4731	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
47-Ag-110m	4735	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
47-Ag-111	4737	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
48-Cd-106	4825	JEFF-3.0	UA, ANL, +	EVAL-AUG94	J. McCabe, A.B. Smith, +

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
48-Cd-108	4831	JEFF-3.0	UA, ANL, +	EVAL-AUG94	J. McCabe, A.B. Smith, +
48-Cd-110	4837	JEFF-3.0	UA, ANL	EVAL-AUG94	J. McCabe, A.B. Smith
48-Cd-111	4840	JEFF-3.0	UA, ANL	EVAL-AUG94	J. McCabe, A.B. Smith
48-Cd-112	4843	JEFF-3.0	UA, ANL, +	EVAL-AUG94	J. McCabe, A.B. Smith, +
48-Cd-113	4846	JEFF-3.0	UA, ANL	EVAL-AUG94	J. McCabe, A.B. Smith
48-Cd-114	4849	JEFF-3.0	UA, ANL, +	EVAL-AUG94	J. McCabe, A.B. Smith, +
48-Cd-115m	4853	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
48-Cd-116	4855	JEFF-3.0	UA, ANL, +	EVAL-AUG94	J. McCabe, A.B. Smith, +
49-In-113	4925	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
49-In-115	4931	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-112	5025	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-114	5031	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-115	5034	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-116	5037	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-117	5040	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-118	5043	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-119	5046	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-120	5049	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-122	5055	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-123	5058	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
50-Sn-124	5061	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
50-Sn-125	5064	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
50-Sn-126	5067	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
51-Sb-121	5125	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
51-Sb-123	5131	JENDL-3.3	JNDC	EVAL-AUG89	JNDC FP Nuclear Data WG
51-Sb-124	5134	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
51-Sb-125	5137	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
51-Sb-126	5140	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
52-Te-120	5225	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
52-Te-122	5231	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
52-Te-123	5234	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
52-Te-124	5237	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
52-Te-125	5240	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
52-Te-126	5243	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
52-Te-127m	5247	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
52-Te-128	5249	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
52-Te-129m	5253	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
52-Te-130	5255	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
52-Te-132	5261	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
53-I-127	5325	New eval.	CAD, BRC, +	EVAL-FEB05	G. Noguere, E. Dupont, E. Bauge
53-I-129	5331	New eval.	CAD, BRC, +	EVAL-FEB05	G. Noguere, E. Dupont, E. Bauge
53-I-130	5334	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
53-I-131	5337	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
53-I-135	5349	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
54-Xe-124	5425	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
54-Xe-126	5431	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
54-Xe-128	5437	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
54-Xe-129	5440	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
54-Xe-130	5443	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
54-Xe-131	5446	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar
54-Xe-132	5449	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
54-Xe-133	5452	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
54-Xe-134	5455	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
54-Xe-135	5458	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
54-Xe-136	5461	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
55-Cs-133	5525	JEFF-3.0	BNL, KAERI, +	EVAL-AUG99	S.Y. Oh, S. Mughabghab, R. Schenter
55-Cs-134	5528	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
55-Cs-135	5531	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
55-Cs-136	5534	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
55-Cs-137	5537	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
56-Ba-130	5625	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
56-Ba-132	5631	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
56-Ba-134	5637	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
56-Ba-135	5640	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
56-Ba-136	5643	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
56-Ba-137	5646	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
56-Ba-138	5649	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
56-Ba-140	5655	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
57-La-138	5725	JENDL-3.3	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
57-La-139	5728	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
57-La-140	5731	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
58-Ce-140	5837	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar
58-Ce-141	5840	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
58-Ce-142	5843	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
58-Ce-143	5846	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
58-Ce-144	5849	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
59-Pr-141	5925	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
59-Pr-142	5928	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
59-Pr-143	5931	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
60-Nd-142	6025	JEFF-3.0	NEA	RCOM-JUL82	Scientific Co-ordination Group
60-Nd-143	6028	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
60-Nd-144	6031	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
60-Nd-145	6034	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
60-Nd-146	6037	JEFF-3.0	NEA	RCOM-JUL83	H. Gruppelaar, E. Menapace
60-Nd-147	6040	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
60-Nd-148	6043	JEFF-3.0	NEA	RCOM-JUL82	H. Gruppelaar, E. Menapace
60-Nd-150	6049	JEFF-3.0	NEA	RCOM-JUN82	H. Gruppelaar, E. Menapace
61-Pm-147	6149	JEFF-3.0	NEA	RCOM-JUN83	H. Gruppelaar, E. Menapace
61-Pm-148	6152	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
61-Pm-148m	6153	JEFF-3.0	NEA	RCOM-JUN82	H. Gruppelaar, E. Menapace

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
61-Pm-149	6155	JEFF-3.0	NEA	RCOM-JUN82	H. Gruppelaar, E. Menapace
61-Pm-151	6161	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
62-Sm-144	6225	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
62-Sm-147	6234	JEFF-3.0	NEA	RCOM-JUN83	H. Gruppelaar, E. Menapace
62-Sm-148	6237	JEFF-3.0	NEA	RCOM-JUN82	H. Gruppelaar, E. Menapace
62-Sm-149	6240	JEFF-3.0	BNL+KAERI	EVAL-AUG99	J.H.Chang and S.F.Mughabghab
62-Sm-150	6243	JEFF-3.0	NEA	RCOM-JUN82	H. Gruppelaar, E. Menapace
62-Sm-151	6246	JEFF-3.0	NEA	RCOM-JUN82	H. Gruppelaar, E. Menapace
62-Sm-152	6249	JEFF-3.0	NEA	RCOM-JUN83	H. Gruppelaar, E. Menapace
62-Sm-153	6252	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
62-Sm-154	6255	JEFF-3.0	NEA	RCOM-JUN82	H. Gruppelaar, E. Menapace
63-Eu-151	6325	JEFF-3.0	NEA	RCOM-JUN82	H. Gruppelaar, H.CH. Rieffe
63-Eu-152	6328	JEFF-3.0	JNDC	EVAL-DEC90	JNDC FP Nuclear Data WG
63-Eu-153	6331	JEFF-3.0	JEARI, JNDC	EVAL-MAR89	T. Asami, JNDC FP ND WG
63-Eu-154	6334	JEFF-3.0	ORNL, BNL	EVAL-MAY89	R.Q. Wright, H. Takahashi
63-Eu-155	6337	JEFF-3.0	ORNL, HEDL	EVAL-DEC88	Wright, Prince, Schenter
63-Eu-156	6340	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
63-Eu-157	6343	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
64-Gd-152	6425	JEFF-3.0	JNDC	EVAL-MAR90	JNDC FP Nuclear Data WG
64-Gd-154	6431	JEFF-3.0	NEA	RCOM-JUN82	E. Menapace, *et al.*
64-Gd-155	6434	JEFF-3.0	NEA	RCOM-JUL86	Scientific Co-ordination Group
64-Gd-156	6437	JEFF-3.0	NEA	RCOM-JUN82	E. Menapace, *et al.*
64-Gd-157	6440	JEFF-3.0	NEA	RCOM-JUN82	E. Menapace, *et al.*
64-Gd-158	6443	JEFF-3.0	NEA	RCOM-JUN82	E. Menapace, *et al.*
64-Gd-160	6449	JEFF-3.0	NEA	RCOM-JUN82	E. Menapace, *et al.*
65-Tb-159	6525	JEFF-3.0	NEA	RCOM-JUN83	H. Gruppelaar, E. Menapace
65-Tb-160	6528	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
66-Dy-160	6637	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
66-Dy-161	6640	ENDF/B-VI.8	ORNL, HEDL	EVAL-OCT74	Wright, Schenter, Schmittroth
66-Dy-162	6643	ENDF/B-VI.8	ORNL, HEDL	EVAL-OCT74	Wright, Schenter, Schmittroth

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
66-Dy-163	6646	ENDF/B-VI.8	ORNL, HEDL	EVAL-OCT74	Wright, Schenter, Schmittroth
66-Dy-164	6649	ENDF/B-VI.8	ORNL, BNW	EVAL-JUN67	Wright, Leonard, Stewart
67-Ho-165	6725	ENDF/B-VI.8	LANL	EVAL-APR88	P.G. Young, E.D. Arthur
68-Er-162	6825	JENDL-3.3	TIT	EVAL-SEP00	A.K.M. Harun, A.R. Rashid, +
68-Er-164	6831	JENDL-3.3	TIT	EVAL-SEP00	A.K.M. Harun, A.R. Rashid, +
68-Er-166	6837	JENDL-3.3	TIT	EVAL-SEP00	A.K.M. Harun, A.R. Rashid, +
68-Er-167	6840	JENDL-3.3	TIT	EVAL-SEP00	A.K.M. Harun, A.R. Rashid, +
68-Er-168	6843	JENDL-3.3	TIT	EVAL-SEP00	A.K.M. Harun, A.R. Rashid, +
68-Er-170	6849	JENDL-3.3	TIT	EVAL-SEP00	A.K.M. Harun, A.R. Rashid, +
71-Lu-175	7125	ENDF/B-VI.8	ORNL, BNW	EVAL-MAR98	R.Q. Wright, Leonard-Stewart
71-Lu-176	7128	ENDF/B-VI.8	ORNL, BNW	EVAL-MAR98	R.Q. Wright, Leonard-Stewart
72-Hf-174	7225	JENDL-3.3 + New eval.	NAIG+	EVAL-JAN05	G. Noguere (CAD)
72-Hf-176	7231	JENDL-3.3 + New eval.	NAIG+	EVAL-JAN05	G. Noguere (CAD)
72-Hf-177	7234	JENDL-3.3 + New eval.	NAIG+	EVAL-JAN05	G. Noguere (CAD)
72-Hf-178	7237	JENDL-3.3 + New eval.	NAIG+	EVAL-JAN05	G. Noguere (CAD)
72-Hf-179	7240	JENDL-3.3 + New eval.	NAIG+	EVAL-JAN05	G. Noguere (CAD)
72-Hf-180	7243	JENDL-3.3 + New eval.	NAIG+	EVAL-JAN05	G. Noguere (CAD)
73-Ta-181	7328	JENDL-3.3	NAIG	EVAL-MAR87	N. Yamamuro
73-Ta-182	7331	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
74-W-182	7431	JENDL-3.3	KHI, NEDAC	EVAL-MAR87	T. Watanabe (KHI), T. Asami (NEDAC)
74-W-183	7434	JENDL-3.3	KHI, NEDAC	EVAL-MAR87	T. Watanabe (KHI), T. Asami (NEDAC)
74-W-184	7437	JENDL-3.3	KHI, NEDAC	EVAL-MAR87	T. Watanabe (KHI), T. Asami (NEDAC)
74-W-186	7443	JENDL-3.3	KHI, NEDAC	EVAL-MAR87	T. Watanabe (KHI), T. Asami (NEDAC)
75-Re-185	7525	JEFF-3.0	ORNL, LANL	EVAL-MAR90	L.W. Weston, P.G. Young
75-Re-187	7531	JEFF-3.0	ORNL, LANL	EVAL-MAR90	L.W. Weston, P.G. Young
76-Os-0	7600	JEFF-3.0 + Corrections	FEI	EVAL-JAN90	M.N. Nikolaev
77-Ir-191	7725	ENDF/B-VI.8	ORNL	EVAL-MAR95	R.Q. Wright, R.R. Spencer
77-Ir-193	7731	ENDF/B-VI.8	ORNL	EVAL-MAR95	R.Q. Wright, R.R. Spencer
78-Pt-0	7800	JEFF-3.0 + Corrections	NEA, LLNL	EVAL-OCT83	R.J. Howerton
79-Au-197	7925	JEFF-3.0	LANL	EVAL-JAN84	P.G. Young

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
80-Hg-196	8025	JENDL-3.3	JNDC	EVAL-SEP97	K. Shibata, T. Fukahori, S. Chiba, +
80-Hg-198	8031	JENDL-3.3	JNDC	EVAL-SEP97	K. Shibata, T. Fukahori, S. Chiba, +
80-Hg-199	8034	JENDL-3.3	JNDC	EVAL-SEP97	K. Shibata, T. Fukahori, S. Chiba, +
80-Hg-200	8037	JENDL-3.3	JNDC	EVAL-SEP97	K. Shibata, T. Fukahori, S. Chiba, +
80-Hg-201	8040	JENDL-3.3	JNDC	EVAL-SEP97	K. Shibata, T. Fukahori, S. Chiba, +
80-Hg-202	8043	JENDL-3.3	JNDC	EVAL-SEP97	K. Shibata, T. Fukahori, S. Chiba, +
80-Hg-204	8049	JENDL-3.3	JNDC	EVAL-SEP97	K. Shibata, T. Fukahori, S. Chiba, +
81-Tl-0	8100	JEFF-3.0	SIU	EVAL-DEC93	Zhou Yiming, Ma Gonggui
82-Pb-204	8225	New eval.	NRG	EVAL-DEC04	A.J. Koning
82-Pb-206	8231	New eval.	NRG	EVAL-DEC04	A.J. Koning
82-Pb-207	8234	New eval.	NRG	EVAL-DEC04	A.J. Koning
82-Pb-208	8237	New eval.	NRG	EVAL-DEC04	A.J. Koning
83-Bi-209	8325	New eval.	NRG	EVAL-DEC04	A.J. Koning
88-Ra-223	8825	JENDL-3.3	TIT	EVAL-AUG88	N. Takagi
88-Ra-224	8828	JENDL-3.3	TIT	EVAL-AUG88	N. Takagi
88-Ra-225	8831	JENDL-3.3	TIT	EVAL-AUG88	N. Takagi
88-Ra-226	8834	JENDL-3.3	TIT	EVAL-AUG88	N. Takagi
89-Ac-225	8925	JENDL-3.3	TIT	EVAL-AUG88	N. Takagi
89-Ac-226	8928	JENDL-3.3	TIT	EVAL-AUG88	N. Takagi
89-Ac-227	8931	JENDL-3.3	TIT	EVAL-AUG88	N. Takagi
90-Th-227	9025	JENDL-3.3	TIT	EVAL-AUG88	N. Takagi
90-Th-228	9028	JENDL-3.3	KINKI U.	EVAL-JUN87	T. Ohsawa
90-Th-229	9031	JEFF-3.0	TIT, NEA	EVAL-AUG88	N. Takagi
90-Th-230	9034	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
90-Th-232	9040	ENDF/B-VI.8 + New eval.	MINSK	EVAL-JUN01	V.M. Maslov, *et al.*
90-Th-233	9043	JENDL-3.3	KINKI U.	EVAL-JUL87	T. Ohsawa
90-Th-234	9046	JENDL-3.3	KINKI U.	EVAL-JUL87	T. Ohsawa
91-Pa-231	9131	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
91-Pa-232	9134	ENDF/B-VI.8	ORNL, TIT	EVAL-DEC99	R.Q. Wright, N. Takagi
91-Pa-233	9137	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
92-U-232	9219	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
92-U-233	9222	NDL 3.3 + ENDF/B-VI.4	SAEl, +	Eval-MAR00	T. Mutsunobu, T. Kawano
92-U-234	9225	New eval.	MINSK, +	EVAL-SEP02	V.M. Maslov, *et al.*
92-U-235	9228	JEFF-3.0	ORNL, LANL, +	EVAL-NOV89	Weston, Young, Poenitz, Lubitz
92-U-236	9231	New eval.	BRC, +	EVAL-NOV04	Lopez, Jimenez, Morillon, Romain
92-U-237	9234	New eval.	BRC ,+	EVAL-NOV04	Lopez, Jimenez, Morillon, Romain
92-U-238	9237	New eval.	BRC, ORNL, +	EVAL-OCT04	Lopez, Jimenez, Morillon, Romain
93-Np-235	9340	JENDL-3.3	JAERI	EVAL-MAR95	T. Nakagawa
93-Np-236	9343	JENDL-3.3	JAERI	EVAL-MAR93	T. Nakagawa
93-Np-237	9346	JENDL 3.3	JAERI	EVAL-Jan01	T. Nakagawa, O. Iwamoto
93-Np-238	9349	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
93-Np-239	9352	JEFF-3.0	ORNL	EVAL-DEC88	R.Q. Wright
94-Pu-236	9428	JENDL-3.3	JAERI	EVAL-FEB02	O. Iwamoto
94-Pu-237	9431	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
94-Pu-238	9434	JEFF-3.0	MAPI, JAERI	EVAL-MAR89	T. Kawakita, T. Nakagawa
94-Pu-239	9437	JEFF-3.0	BRC, CAD, +	EVAL: ROMA	In, Morillon, Dos Santos, Uzarralde
94-Pu-240	9440	JEFF-3.0 + New eval.	BRC, CAD	EVAL-JUL04	Bouland, Derrien, Morillon, Romain
94-Pu-241	9443	JEFF-3.0	JAERI	EVAL-OCT87	Y. Kikuchi, N. Sekine, T. Nakagawa
94-Pu-242	9446	JEFF-3.0	ENEA, IJS	EVAL-OCT98	A. Ventura. S. Masetti, A. Trkov
94-Pu-243	9449	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
94-Pu-244	9452	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
94-Pu-246	9458	JENDL-3.3	JAERI	EVAL-MAR95	T. Nakagawa
95-Am-241	9543	VALUATION	CAD, NEA, +	EVAL-APR05	Bouland, Bernard, Rugama, *et al.*
95-Am-242g	9546	JENDL-3.3	MINSK, +	EVAL-FEB97	V.M. Maslov, *et al.*
95-Am-242m	9547	JENDL-3.3	MINSK, BYEL	EVAL-DEC96	V.M. Maslov, *et al.*
95-Am-243	9549	JENDL-3.3	MINSK, JAERI	EVAL-JAN02	V.M. Maslov, +, T. Nakagawa
95-Am-244	9552	JENDL-3.3	JAERI	EVAL-MAR88	T. Nakagawa
95-Am-244m	9553	JENDL-3.3	JAERI	EVAL-MAR88	T. Nakagawa
96-Cm-240	9625	JENDL-3.3	JAERI	EVAL-OCT95	T. Nakagawa, T. Liu
96-Cm-241	9628	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group

Table 1. Origin of evaluations in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
96-Cm-242	9631	JEFF-3.0	NEA	RCOM-JUN82	E. Menapace
96-Cm-243	9634	JEFF-3.0	JAERI	EVAL-MAR89	T. Nakagawa
96-Cm-244	9637	ENDF/B-VI.8	HEDL, SRL, +	EVAL-APR78	Mann, Benjamin, Howerton, *et al.*
96-Cm-245	9640	JENDL-3.3	MINSK,BYEL	EVAL-NOV95	V.M. Maslov, *et al.*
96-Cm-246	9643	JEFF-3.0	MINSK BYEL	EVAL-FEB96	
96-Cm-247	9646	JEFF-3.0	JAERI	EVAL-MAR89	T. Nakagawa, Y. Kikuchi
96-Cm-248	9649	JEFF-3.0	JAERI	EVAL-MAR84	Y. Kikuchi, T. Nakagawa
96-Cm-249	9652	JENDL-3.3	JAERI	EVAL-OCT95	T. Nakagawa, T. Liu
96-Cm-250	9655	JENDL-3.3	JAERI	EVAL-OCT95	T. Nakagawa, T. Liu
97-Bk-247	9746	JENDL-3.3	JAERI	EVAL-JUN95	T. Nakagawa, T. Liu
97-Bk-249	9752	JENDL-3.3	JAERI	EVAL-MAR85	Y. Kikuchi, T. Nakagawa
97-Bk-250	9755	JEFF-3.0	JAERI	EVAL-MAR87	T. Nakagawa
98-Cf-249	9852	JENDL-3.3	JAERI	EVAL-JUL95	T. Nakagawa, T. Liu
98-Cf-250	9855	JENDL-3.3	JAERI	EVAL-MAR86	T. Nakagawa
98-Cf-251	9858	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
98-Cf-252	9861	JEFF-3.0	NEA	RCOM-JUN82	Scientific Co-ordination Group
98-Cf-254	9867	JEFF-3.0	TIT	EVAL-AUG87	N. Takagi
99-Es-253	9913	JEF-2.2	NEA	RCOM-JUN82	Scientific Co-ordination Group
99-Es-254	9914	JENDL-3.3	TIT	EVAL-AUG87	N. Takagi
99-Es-255	9916	JENDL-3.3	TIT	EVAL-AUG87	N. Takagi
100-Fm-255	9936	JENDL-3.3	TIT	EVAL-AUG87	N. Takagi

Table 2. Origin of evaluations in the JEFF-3.1 thermal scattering law library

Material	MAT	Data source	Laboratory	Evaluation	Author(s)
H(H$_2$O)	1	New eval.	IKE	EVAL-JAN04	J. Keinert, M. Mattes
H(ZrH)	7	New eval.	IKE	EVAL-JAN05	J. Keinert
H(CaH$_2$)	8	New eval.	CEA, ILL	EVAL-OCT04	O. Serot (CEA Cadarache)
D(D$_2$O)	11	New eval.	IKE	EVAL-FEB04	J. Keinert, Mattes
^{4}Be	26	JEFF-3.0	IKE	EVAL-DEC89	J. Keinert, M. Mattes
Graphite	31	New eval.	IKE	EVAL-JAN05	J. Keinert, M. Mattes
H(CH$_2$)	37	JEFF-3.0	IKE	EVAL-SEP81	J. Keinert, M. Mattes
^{24}Mg	52	New eval.	CEA	EVAL-SEP03	C. Mounier
Ca(CaH$_2$)	59	New eval.	CEA, ILL	EVAL-OCT04	O. Serot (CEA Cadarache)

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6.

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
1	^{1}H	451	1, 2, 102	2		
1	^{2}H	451	1-3, 16, 102	2		16
1	^{3}H	451	1, 2, 16, 17	2, 16	16	17
2	^{3}He	451	1, 2, 102-104	2		
2	^{4}He	451	1, 2	2		
3	^{6}Li	451	1, 2, 4, 24, 51-81, 102, 103, 105	2, 24, 51-81, 105	24	
3	^{7}Li	451	1, 2, 4, 16, 24, 25, 28, 51-53, 91, 102, 104	2, 51, 52		16, 24, 25, 28, 53, 91
4	^{9}Be	451	1, 2, 102-105, 107, 875-890	2		107, 875-890
5	^{10}B	451	1, 2, 4, 51-85, 102-104, 107, 113, 600-605, 800, 801	2, 51-85		
5	^{11}B	451	1, 2, 4, 16, 22, 28, 51-60, 91, 102, 103, 105, 107	2, 51-60		16, 22, 28, 91, 103, 107
6	^{nat}C	451	1-5, 28, 51-62, 91, 102-104, 107	2, 28, 51-62, 91	28, 91	5
7	^{14}N	451	1, 2, 4, 5, 16, 51-77, 102-105, 107, 108, 600-606, 650-653, 700, 701, 800-810	2, 51-77		5, 16
7	^{15}N	451	1, 2, 4, 16, 22, 28, 51-57, 91, 102-105, 107	2, 16, 22, 28, 51-57, 91	16, 22, 28, 91	
8	^{16}O	451	1-5, 16, 22, 23, 28, 32, 41, 44, 45, 51-57, 91, 102-105, 107, 108, 112, 600-603, 650-669, 700-709, 749, 800-803	2, 51-57, 600-603, 650-669, 700-709, 800-803		5, 16, 22, 23, 28, 32, 41, 44, 45, 91, 108, 112, 749
8	^{17}O	451	1, 2, 4, 16, 22, 28, 51-62, 91, 102-104, 107	2, 16, 22, 28, 51-62, 91	16, 22, 28, 91	
9	^{19}F	451	1-4, 16, 22, 28, 51-71, 91, 102-105, 107	2, 51-71	16, 22, 28, 91	16, 22, 28, 91, 103, 107
11	^{22}Na	451	1, 2, 4, 16, 22, 28, 51-61, 91, 102-104, 107, 108, 251	2, 16, 22, 28, 51-61, 91	16, 22, 28, 91	
11	^{23}Na	451	1, 2, 4, 16, 22, 28, 51-77, 91, 102, 103, 107, 251	2, 16, 22, 28, 51-77, 91	16, 22, 28, 91	
12	^{24}Mg	451	1, 2, 4, 16, 22, 28, 51-61, 91, 102, 103, 107	2, 16, 22, 28, 51-61, 91	16, 22, 28, 91	
12	^{25}Mg	451	1, 2, 4, 16, 22, 28, 51-67, 91, 102, 103, 107	2, 16, 22, 28, 51-67, 91	16, 22, 28, 91	
12	^{26}Mg	451	1, 2, 4, 16, 22, 28, 51-63, 91, 102, 103, 107	2, 16, 22, 28, 51-63, 91	16, 22, 28, 91	
13	^{27}Al	451	1-5, 16, 22, 28, 32, 33, 45, 51-89, 91, 102-105, 107, 108, 111, 112, 117, 600-619, 649-669, 699-710, 749, 800-819, 849	2		5, 16, 22, 28, 32, 33, 45, 51-89, 91, 108, 111, 112, 117, 600-619, 649-669, 699-710, 749, 800-819, 849
14	^{28}Si	451	1-4, 16, 22, 28, 51-67, 91, 102-107, 111, 600-613, 649, 800-815, 849	2		16, 22, 28, 51-67, 91, 600-613, 649, 800-815, 849
14	^{29}Si	451	1, 2, 4, 16, 22, 28, 51-79, 91, 102, 103, 107, 111, 203, 207	2, 51-79		16, 22, 28, 91, 203, 207
14	^{30}Si	451	1, 2, 4, 16, 22, 28, 51-69, 91, 102, 103, 107, 111, 203, 207	2, 51-69		16, 22, 28, 91, 203, 207

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
15	^{31}P	451	1, 2, 4, 16, 22, 28, 51-56, 91, 102, 103, 107	2, 16, 22, 28, 51-56, 91	16, 22, 28, 91	
16	^{32}S	451	1, 2, 4, 16, 22, 28, 51-56, 91, 102, 103, 107	2, 16, 22, 28, 51-56, 91	16, 22, 28, 91	
16	^{33}S	451	1, 2, 4, 16, 22, 28, 51-57, 91, 102, 103, 107	2, 16, 22, 28, 51-57, 91	16, 22, 28, 91	
16	^{34}S	451	1, 2, 4, 16, 22, 28, 51-55, 91, 102, 103, 107	2, 16, 22, 28, 51-55, 91	16, 22, 28, 91	
16	^{36}S	451	1, 2, 4, 16, 22, 28, 51-55, 91, 102, 103, 107	2, 16, 22, 28, 51-55, 91	16, 22, 28, 91	
17	^{35}Cl	451	1, 2, 4, 16, 22, 28, 32, 51-80, 91, 102-105, 107, 111, 112, 600-629, 649-680, 699-730, 749, 800-820, 849	2			16, 22, 28, 32, 51-80, 91, 111, 112, 600-629, 649-680, 699-730, 749, 800-820, 849
17	^{37}Cl	451	1, 2, 4, 16, 17, 22, 28, 32, 51-77, 91, 102-105, 107, 649-661, 699-715, 749, 800-805, 849	2			16, 17, 22, 28, 32, 51-77, 91, 649-661, 699-715, 749, 800-805, 849
18	^{36}Ar	451	1, 2, 4, 16, 22, 28, 51-71, 91, 102-104, 107, 108, 251, 252	2, 16, 22, 28, 51-71, 91	16, 22, 28, 91		
18	^{38}Ar	451	1, 2, 4, 16, 22, 28, 51-69, 91, 102-104, 107, 108, 251, 252	2, 16, 22, 28, 51-69, 91	16, 22, 28, 91		
18	^{40}Ar	451	1, 2, 4, 16, 17, 22, 28, 51-75, 91, 102-107	2, 16, 17, 22, 28, 51-75, 91	16, 17, 22, 28, 91		
19	^{39}K	451	1, 2, 4, 16, 22, 28, 51-54, 91, 102, 103, 107	2, 16, 22, 28, 51-54, 91	16, 22, 28, 91		
19	^{40}K	451	1, 2, 4, 16, 22, 28, 51-55, 91, 102, 103, 107	2, 16, 22, 28, 51-55, 91	16, 22, 28, 91		
19	^{41}K	451	1, 2, 4, 16, 22, 28, 51, 52, 91, 102, 103, 107	2, 16, 22, 28, 51, 52, 91	16, 22, 28, 91		
20	^{40}Ca	451	1-5, 16, 22, 28, 29, 44, 45, 51-70, 91, 102-108, 111, 112, 115, 117, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2			5, 16, 22, 28, 29, 44, 45, 51-70, 91, 102, 108, 111, 112, 115, 117, 600-610, 649-655, 699-705, 749-755, 799-810, 849,
20	^{42}Ca	451	1-5, 16, 22, 28, 29, 32, 51-70, 91, 102-108, 111, 112, 115, 117, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2			5, 16, 22, 28, 29, 32, 51-70, 91, 102, 108, 111, 112, 115, 117, 600-610, 649-655, 699-705, 749-755, 799-810, 849
20	^{43}Ca	451	1-5, 16, 17, 22, 24, 28, 32, 41, 51-70, 91, 102-108, 111, 112, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2			5, 16, 17, 22, 24, 28, 32, 41, 51-70, 91, 102, 108, 111, 112, 600-610, 649-655, 699-705, 749-755, 799-810, 849
20	^{44}Ca	451	1-5, 16, 17, 22, 28, 51-70, 91, 102-108, 111, 600-610, 649-655, 699-705, 749-752, 800-810, 849	2			5, 16, 17, 22, 28, 51-70, 91, 102, 108, 111, 600-610, 649-655, 699-705, 749-752, 800-810, 849
20	^{46}Ca	451	1-5, 16, 17, 22, 28, 51-70, 91, 102-105, 107, 600-610, 649-655, 699-705, 749, 800-804, 849	2			5, 16, 17, 22, 28, 51-70, 91, 102, 600-610, 649-655, 699-705, 749, 800-804, 849
20	^{48}Ca	451	1-5, 16, 17, 22, 28, 51-70, 91, 102-105, 107, 600-604, 649-655, 699-705, 749, 800-803, 849	2			5, 16, 17, 22, 28, 51-70, 91, 102, 600-604, 649-655, 699-705, 749, 800-803, 849
21	^{45}Sc	451	1-5, 16, 22, 28, 32, 33, 41, 51-70, 91, 102-108, 111, 112, 117, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2			5, 16, 22, 28, 32, 33, 41, 51-70, 91, 102, 108, 111, 112, 117, 600-610, 649-655, 699-705, 749-755, 799-810, 849

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
22	^{46}Ti	451	1-4, 16, 22, 28, 51-70, 91, 102-107, 111, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2		16, 22, 28, 51-70, 91, 102, 111, 600-610, 649-655, 699-705, 749-755, 799-810, 849
22	^{47}Ti	451	1-4, 16, 22, 28, 51-70, 91, 102-107, 111, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2		16, 22, 28, 51-70, 91, 102, 111, 600-610, 649-655, 699-705, 749-755, 799-810, 849
22	^{48}Ti	451	1-4, 16, 22, 28, 51-70, 91, 102-107, 111, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2		16, 22, 28, 51-70, 91, 102, 111, 600-610, 649-655, 699-705, 749-755, 799-810, 849
22	^{49}Ti	451	1-4, 16, 22, 28, 51-70, 91, 102-107, 111, 600-610, 649-655, 699-705, 749-753, 799-810, 849	2		16, 22, 28, 51-70, 91, 102, 111, 600-610, 649-655, 699-705, 749-753, 799-810, 849
22	^{50}Ti	451	1-4, 16, 22, 28, 51-70, 91, 102-107, 600-610, 649-655, 699-705, 749-751, 800-810, 849	2		16, 22, 28, 51-70, 91, 102, 600-610, 649-655, 699-705, 749-751, 800-810, 849
23	^{nat}V	451	1, 2, 4, 16, 22, 28, 32, 51-74, 91, 102-107, 111, 112	2, 32, 51-74	32	16, 22, 28, 91, 103, 107
24	^{50}Cr	451	1-4, 16, 22, 28, 51-56, 91, 102-104, 107	2		16, 22, 28, 51-56, 91, 103, 107
24	^{52}Cr	451	1-4, 16, 22, 28, 51-60, 91, 102-107	2		16, 22, 28, 51-60, 91, 103, 107
24	^{53}Cr	451	1-4, 16, 22, 28, 51-63, 91, 102, 103, 107	2		16, 22, 28, 51-63, 91, 103, 107
24	^{54}Cr	451	1-4, 16, 51-54, 91, 102, 103, 107	2		16, 51-54, 91, 103, 107
25	^{55}Mn	451	1, 2, 4, 16, 22, 28, 51-66, 91, 102-107, 203-207	2, 51-66		16, 22, 28, 91, 203-207
26	^{54}Fe	451	1-5, 16, 22, 28, 44, 51-70, 91, 102-108, 111, 112, 115, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2		5, 16, 22, 28, 44, 51-70, 91, 102, 108, 111, 112, 115, 600-610, 649-655, 699-705, 749-755, 799-810, 849
26	^{55}Fe	451	1-5, 16, 22, 28, 51-82, 91, 102-107, 600-613, 649, 800-810, 849	2, 51-82, 600-613, 800-810		5, 16, 22, 28, 91, 649, 849
26	^{57}Fe	451	1-5, 16, 17, 22, 24, 28, 32, 41, 51-70, 91, 102-108, 111, 112, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2		5, 16, 17, 22, 24, 28, 32, 41, 51-70, 91, 102, 108, 111, 112, 600-610, 649-655, 699-705, 749-755, 799-810, 849
26	^{58}Fe	451	1-5, 16, 17, 22, 28, 51-70, 91, 102-108, 600-610, 649-655, 699-705, 749-752, 800-810, 849	2		5, 16, 17, 22, 28, 51-70, 91, 102, 108, 600-610, 649-655, 699-705, 749-752, 800-810, 849
27	^{58}Co	451	1, 2, 4, 16, 22, 28, 51-62, 91, 102-104, 107, 251	2, 16, 22, 28, 51-62, 91	16, 22, 28, 91	
27	^{58m}Co	451	1, 2, 4, 16, 22, 28, 51-62, 91, 102-104, 107, 251	2, 16, 22, 28, 51-62, 91	16, 22, 28, 91	
27	^{59}Co	451	1, 2, 4, 16, 22, 28, 32, 33, 51-69, 91, 102-108, 111, 112	2, 16, 22, 28, 32, 33, 51-69, 91	16, 22, 28, 32, 33, 91	
28	^{58}Ni	451	1-4, 16, 22, 28, 51-58, 91, 102-107, 112	2		16, 22, 28, 51-58, 91, 103, 107
28	^{59}Ni	451	1-3, 16, 22, 28, 32, 34, 102-107, 111	2, 16, 22, 28, 32, 34	16, 22, 28, 32, 34	
28	^{60}Ni	451	1-4, 16, 22, 28, 51-61, 91, 102-107	2		16, 22, 28, 51-61, 91, 103, 107
28	^{61}Ni	451	1-5, 16, 28, 51-58, 91, 102, 103, 107, 111	2		5, 16, 28, 51-58, 91, 103, 107
28	^{62}Ni	451	1-5, 16, 22, 28, 51-54, 91, 102-104, 107	2		5, 16, 22, 28, 51-54, 91, 103, 107

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
28	^{64}Ni	451	1-5, 16, 22, 28, 51, 52, 91, 102-104, 107	2		5, 16, 22, 28, 51, 52, 91, 103, 107
29	^{63}Cu	451	1-5, 16, 22, 28, 51-72, 91, 102-104, 106, 107	2		5, 16, 22, 28, 51-72, 91, 103, 107
29	^{65}Cu	451	1-5, 16, 22, 28, 51-63, 91, 102-107	2		5, 16, 22, 28, 51-63, 91, 103, 107
30	^{nat}Zn	451	1, 2, 4, 16, 17, 22, 28, 51, 91, 102, 103, 105, 107, 251-253	2, 16, 17, 22, 28, 51, 91	16, 17, 22, 28, 91	
31	^{nat}Ga	451	1, 2, 4, 16, 17, 22, 28, 32, 51-88, 91, 102-107, 111, 251	2, 16, 17, 22, 28, 32, 51-88, 91	16, 17, 22, 28, 32, 91	
32	^{70}Ge	451	1-5, 16, 22, 24, 28, 29, 32, 44, 45, 51-70, 91, 102-108, 111, 112, 115, 117, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2		5, 16, 22, 24, 28, 29, 32, 44, 45, 51-70, 91, 102, 108, 111, 112, 115, 117, 600-610, 649-655, 699-705, 749-755, 799-810, 849
32	^{72}Ge	451	1-5, 16, 17, 22, 24, 28, 32, 51-70, 91, 102-108, 111, 112, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2		5, 16, 17, 22, 24, 28, 32, 51-70, 91, 102, 108, 111, 112, 600-610, 649-655, 699-705, 749-755, 799-810, 849
32	^{73}Ge	451	1-5, 16, 17, 22, 24, 28, 32, 33, 41, 51-70, 91, 102-108, 111, 112, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2		5, 16, 17, 22, 24, 28, 32, 33, 41, 51-70, 91, 102, 108, 111, 112, 600-610, 649-655, 699-705, 749-755, 799-810, 849
32	^{74}Ge	451	1-5, 16, 17, 22, 28, 32, 51-70, 91, 102-107, 111, 600-610, 649-655, 699-705, 749-754, 800-810, 849	2		5, 16, 17, 22, 28, 32, 51-70, 91, 102, 111, 600-610, 649-655, 699-705, 749-754, 800-810, 849
32	^{76}Ge	451	1-5, 16, 17, 22, 28, 51-70, 91, 102-105, 107, 600-610, 649-655, 699-705, 749, 800-804, 849	2		5, 16, 17, 22, 28, 51-70, 91, 102, 600-610, 649-655, 699-705, 749, 800-804, 849
33	^{75}As	451	1, 2, 4, 51-63, 91, 102-107, 111, 251-253	2, 51-63, 91	91	
34	^{74}Se	451	1, 2, 4, 91, 102-107, 111, 251-253	2, 91	91	
34	^{76}Se	451	1, 2, 4, 51-54, 91, 102-107, 111, 251-253	2, 51-54, 91	91	
34	^{77}Se	451	1, 2, 4, 51-60, 91, 102-107, 111, 251-253	2, 51-60, 91	91	
34	^{78}Se	451	1, 2, 4, 51-59, 91, 102-107, 111, 251-253	2, 51-59, 91	91	
34	^{79}Se	451	1, 2, 4, 16, 17, 22, 28, 32, 51-79, 91, 102-107	2, 16, 17, 22, 28, 32, 51-79, 91	16, 17, 22, 28, 32, 91	
34	^{80}Se	451	1, 2, 4, 51-58, 91, 102-107, 111, 251-253	2, 51-58, 91	91	
34	^{82}Se	451	1, 2, 4, 51-53, 91, 102-107, 111, 251-253	2, 51-53, 91	91	
35	^{79}Br	451	1, 2, 4, 51-61, 91, 102-107, 111, 251-253	2, 51-61, 91	91	
35	^{81}Br	451	1, 2, 4, 51-54, 91, 102-107, 111, 251-253	2, 51-54, 91	91	
36	^{78}Kr	451	1, 2, 4, 16, 51-53, 91, 102-107, 111, 251-253	2, 16, 51-53, 91	16, 91	
36	^{80}Kr	451	1, 2, 4, 16, 51-56, 91, 102-107, 111, 251-253	2, 16, 51-56, 91	16, 91	
36	^{82}Kr	451	1, 2, 4, 16, 51-59, 91, 102-107, 111, 251-253	2, 16, 51-59, 91	16, 91	
36	^{83}Kr	451	1, 2, 4, 16, 17, 51-56, 91, 102-107, 111, 251-253	2, 16, 17, 51-56, 91	16, 17, 91	

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
36	^{84}Kr	451	1, 2, 4, 16, 51-63, 91, 102-107, 111, 251-253	2, 16, 51-63, 91	16, 91	
36	^{85}Kr	451	1, 2, 4, 51, 91, 102-107, 111	2, 51, 91	91	
36	^{86}Kr	451	1, 2, 4, 16, 17, 51-64, 91, 102-107, 111, 251-253	2, 16, 17, 51-64, 91	16, 17, 91	
37	^{85}Rb	451	1, 2, 4, 51-53, 91, 102-107, 111, 251-253	2, 51-53, 91	91	
37	^{86}Rb	451	1, 2, 4, 51, 91, 102-107, 111	2, 51, 91	91	
37	^{87}Rb	451	1, 2, 4, 51, 52, 91, 102-107, 111, 251-253	2, 51, 52, 91	91	
38	^{84}Sr	451	1, 2, 4, 91, 102-107, 111	2, 91	91	
38	^{86}Sr	451	1, 2, 4, 51-57, 91, 102-107, 111, 251-253	2, 51-57, 91	91	
38	^{87}Sr	451	1, 2, 4, 51-57, 91, 102-107, 111, 251-253	2, 51-57, 91	91	
38	^{88}Sr	451	1, 2, 4, 51-55, 91, 102-107, 111, 251-253	2, 51-55, 91	91	
38	^{89}Sr	451	1, 2, 4, 51-62, 91, 102-107, 111	2, 51-62, 91	91	
38	^{90}Sr	451	1, 2, 4, 51-54, 91, 102-107, 111	2, 51-54, 91	91	
39	^{89}Y	451	1, 2, 4, 16, 22, 28, 51-62, 91, 102-107	2, 16, 22, 28, 51-62, 91	16, 22, 28, 91	
39	^{90}Y	451	1, 2, 4, 51, 52, 91, 102-107, 111	2, 51, 52, 91	91	
39	^{91}Y	451	1, 2, 4, 51-58, 91, 102, 104-107, 111	2, 51-58, 91	91	
40	^{90}Zr	451	1-4, 16, 22, 28, 32, 51-57, 91, 102-107, 111, 203-207	2, 51-57		16, 22, 28, 32, 91, 203-207
40	^{91}Zr	451	1-4, 16, 17, 22, 28, 32, 51-64, 91, 102-107, 203-207	2, 51-64		16, 17, 22, 28, 32, 91, 203-207
40	^{92}Zr	451	1-4, 16, 17, 22, 28, 32, 33, 51-67, 91, 102-105, 107, 203-205, 207	2, 51-67		16, 17, 22, 28, 32, 33, 91, 203-205, 207
40	^{93}Zr	451	1, 2, 4, 16, 22, 28, 51-62, 91, 102-107, 111, 251, 252	2, 16, 22, 28, 51-62, 91	16, 22, 28, 91	
40	^{94}Zr	451	1-4, 16, 17, 22, 28, 32, 51-64, 91, 102-105, 107, 203-205, 207	2, 51-64		16, 17, 22, 28, 32, 91, 203-205, 207
40	^{95}Zr	451	1, 2, 4, 16, 51-64, 91, 102-107, 111, 251, 252	2, 16, 51-64, 91	16, 91	
40	^{96}Zr	451	1-4, 16, 17, 22, 28, 51-57, 91, 102-105, 107, 203-205, 207	2, 51-57		16, 17, 22, 28, 91, 203-205, 207
41	^{93}Nb	451	1, 2, 4, 5, 16, 17, 22, 28, 32, 33, 51-73, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 33, 51-73, 91	16, 17, 22, 28, 32, 33, 91	5
41	^{94}Nb	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-79, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-79, 91	16, 17, 22, 28, 32, 33, 91	
41	^{95}Nb	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-70, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-70, 91	16, 17, 22, 28, 32, 33, 91	
42	^{100}Mo	451	1, 2, 4, 16, 17, 22, 28, 51-54, 91, 102-105, 107, 203-205, 207	2, 51-54		16, 17, 22, 28, 91, 203-205, 207

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
42	92Mo	451	1, 2, 4, 16, 22, 28, 51-66, 91, 102-107, 111, 203-207	2, 51-66		16, 22, 28, 91, 203-207
42	94Mo	451	1, 2, 4, 16, 17, 22, 28, 51-69, 91, 102-107, 111, 203-207	2, 51-69		16, 17, 22, 28, 91, 203-207
42	95Mo	451	1, 2, 4, 16, 17, 22, 28, 51-54, 91, 102, 103, 107, 112, 600, 601, 649, 800-805, 849	2, 51-54, 600, 601, 800-805		16, 17, 22, 28, 91, 102, 649, 849
42	96Mo	451	1, 2, 4, 16, 17, 22, 28, 51-67, 91, 102-105, 107, 203-205, 207	2, 51-67		16, 17, 22, 28, 91, 203-205, 207
42	97Mo	451	1, 2, 4, 16, 17, 22, 28, 51-63, 91, 102-107, 203-207	2, 51-63		16, 17, 22, 28, 91, 203-207
42	98Mo	451	1, 2, 4, 16, 17, 22, 28, 51-64, 91, 102-105, 107, 203-205, 207	2, 51-64		16, 17, 22, 28, 91, 203-205, 207
42	99Mo	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-66, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 33, 51-66, 91	16, 17, 22, 28, 32, 33, 91	
43	99Tc	451	1-5, 16, 17, 22, 24, 28, 32, 33, 41, 51-70, 91, 102-108, 111, 112, 600-610, 649-655, 699-705, 749-755, 799-810, 849	2		5, 16, 17, 22, 24, 28, 32, 33, 41, 51-70, 91, 102, 108, 111, 112, 600-610, 649-655, 699-705, 749-755, 799-810, 849
44	100Ru	451	1, 2, 4, 51-57, 91, 102-107, 111, 251-253	2, 51-57, 91	91	
44	101Ru	451	1, 2, 4, 16, 17, 22, 28, 51-65, 91, 102, 103, 107, 251-253	2, 16, 17, 22, 28, 51-65, 91	16, 17, 22, 28, 91	
44	102Ru	451	1, 2, 4, 51-69, 91, 102-107, 111	2, 51-69, 91	91	
44	103Ru	451	1, 2, 4, 16, 51-89, 91, 102-107, 111, 251, 252	2, 16, 51-89, 91	16, 91	
44	104Ru	451	1, 2, 4, 51, 52, 91, 102-107, 111, 251-253	2, 51, 52, 91	91	
44	105Ru	451	1, 2, 4, 51-59, 91, 102-107, 111	2, 51-59, 91	91	
44	106Ru	451	1, 2, 4, 51-54, 91, 102-107, 111	2, 51-54, 91	91	
44	96Ru	451	1, 2, 4, 91, 102-107, 111, 251-253	2, 91	91	
44	98Ru	451	1, 2, 4, 91, 102-107, 111, 251-253	2, 91	91	
44	99Ru	451	1, 2, 4, 51-62, 91, 102-107, 111, 251-253	2, 51-62, 91	91	
45	103Rh	451	1-5, 11, 16, 17, 22, 24, 25, 28, 29, 32-34, 37, 41, 42, 44, 45, 51-65, 91, 102-108, 111, 112, 115-117, 600-615, 649-665, 699-715, 749-765, 799-815, 849	2		5, 11, 16, 17, 22, 24, 25, 28, 29, 32-34, 37, 41, 42, 44, 45, 51-65, 91, 108, 111, 112, 115-117, 600-615, 649-665, 699-715, 749-765, 799-815, 849
45	105Rh	451	1, 2, 4, 51-53, 91, 102	2, 51-53, 91, 102	91	
46	102Pd	451	1, 2, 4, 91, 102-107, 111, 251-253	2, 91	91	
46	104Pd	451	1, 2, 4, 16, 51-64, 91, 102-107, 111, 251, 252	2, 16, 51-64, 91	16, 91	
46	105Pd	451	1, 2, 4, 16, 51-91, 102-107, 111, 251, 252	2, 16, 51-91	16, 91	
46	106Pd	451	1, 2, 4, 16, 51-70, 91, 102-107, 111, 251, 252	2, 16, 51-70, 91	16, 91	

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
46	107Pd	451	1, 2, 4, 16, 51-67, 91, 102-107, 111, 251, 252	2, 16, 51-67, 91	16, 91	
46	108Pd	451	1, 2, 4, 16, 51-60, 91, 102-107, 111, 251, 252	2, 16, 51-60, 91	16, 91	
46	110Pd	451	1, 2, 4, 16, 51-60, 91, 102-107, 111, 251, 252	2, 16, 51-60, 91	16, 91	
47	107Ag	451	1, 2, 4, 16, 51-56, 91, 102-107, 111, 251-253	2, 16, 51-56, 91	16, 91	
47	109Ag	451	1, 2, 4, 16, 51-64, 91, 102-107, 111, 251, 252	2, 16, 51-64, 91	16, 91	
47	110mAg	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-79, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-79, 91	16, 17, 22, 28, 32, 33, 91	
47	111Ag	451	1, 2, 4, 51-60, 91, 102-107, 111	2, 51-60, 91	91	
48	106Cd	451	1, 2, 4, 16, 22, 28, 32, 33, 51-55, 91, 102-107	2, 16, 22, 28, 32, 33, 51-55, 91	16, 22, 28, 32, 33, 91	
48	108Cd	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-60, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-60, 91	16, 17, 22, 28, 32, 33, 91	
48	110Cd	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-64, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-64, 91	16, 17, 22, 28, 32, 33, 91	
48	111Cd	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-61, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-61, 91	16, 17, 22, 28, 32, 33, 91	
48	112Cd	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-58, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-58, 91	16, 17, 22, 28, 32, 33, 91	
48	113Cd	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-62, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-62, 91	16, 17, 22, 28, 32, 33, 91	
48	114Cd	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-60, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-60, 91	16, 17, 22, 28, 32, 33, 91	
48	115mCd	451	1, 2, 4, 91, 102-107, 111	2, 91	91	
48	116Cd	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-56, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-56, 91	16, 17, 22, 28, 32, 33, 91	
49	113In	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-74, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-74, 91	16, 17, 22, 28, 32, 33, 91	
49	115In	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-63, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 33, 51-63, 91	16, 17, 22, 28, 32, 33, 91	
50	112Sn	451	1, 2, 4, 16, 17, 22, 28, 51-73, 91, 102-107, 111	2, 16, 17, 22, 28, 51-73, 91	16, 17, 22, 28, 91	
50	114Sn	451	1, 2, 4, 16, 17, 22, 28, 51-76, 91, 102-107	2, 16, 17, 22, 28, 51-76, 91	16, 17, 22, 28, 91	
50	115Sn	451	1, 2, 4, 16, 17, 22, 28, 32, 51-66, 91, 102-107	2, 16, 17, 22, 28, 32, 51-66, 91	16, 17, 22, 28, 32, 91	
50	116Sn	451	1, 2, 4, 16, 17, 22, 28, 51-60, 91, 102-105, 107	2, 16, 17, 22, 28, 51-60, 91	16, 17, 22, 28, 91	
50	117Sn	451	1, 2, 4, 16, 17, 22, 28, 32, 51-62, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 51-62, 91	16, 17, 22, 28, 32, 91	
50	118Sn	451	1, 2, 4, 16, 17, 22, 28, 51-57, 91, 102-105, 107	2, 16, 17, 22, 28, 51-57, 91	16, 17, 22, 28, 91	
50	119Sn	451	1, 2, 4, 16, 17, 22, 28, 32, 51-70, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 51-70, 91	16, 17, 22, 28, 32, 91	
50	120Sn	451	1, 2, 4, 16, 17, 22, 28, 51-66, 91, 102-105, 107	2, 16, 17, 22, 28, 51-66, 91	16, 17, 22, 28, 91	
50	122Sn	451	1, 2, 4, 16, 17, 22, 28, 51-59, 91, 102-105, 107	2, 16, 17, 22, 28, 51-59, 91	16, 17, 22, 28, 91	
50	123Sn	451	1, 2, 4, 51-59, 91, 102-107, 111	2, 51-59, 91	91	
50	124Sn	451	1, 2, 4, 16, 17, 22, 28, 51-70, 91, 102-105, 107	2, 16, 17, 22, 28, 51-70, 91	16, 17, 22, 28, 91	
50	125Sn	451	1, 2, 4, 51-53, 91, 102-107, 111	2, 51-53, 91	91	

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
50	126Sn	451	1, 2, 4, 51-60, 91, 102-107, 111	2, 51-60, 91	91	
51	121Sb	451	1, 2, 4, 16, 17, 22, 28, 51-63, 91, 102-105, 107, 203-205, 207	2, 51-63		16, 17, 22, 28, 91, 203-205, 207
51	123Sb	451	1, 2, 4, 16, 17, 22, 28, 51-58, 91, 102-105, 107, 203-205, 207	2, 51-58		16, 17, 22, 28, 91, 203-205, 207
51	124Sb	451	1, 2, 4, 51-58, 91, 102-105, 107, 111	2, 51-58, 91	91	
51	125Sb	451	1, 2, 4, 51-69, 91, 102-107, 111	2, 51-69, 91	91	
51	126Sb	451	1, 2, 4, 51-55, 91, 102-107, 111	2, 51-55, 91	91	
52	120Te	451	1, 2, 4, 91, 102-107, 111, 251-253	2, 91	91	
52	122Te	451	1, 2, 4, 51-54, 91, 102-107, 111, 251-253	2, 51-54, 91	91	
52	123Te	451	1, 2, 4, 51-58, 91, 102-107, 111, 251-253	2, 51-58, 91	91	
52	124Te	451	1, 2, 4, 51-61, 91, 102-107, 111, 251-253	2, 51-61, 91	91	
52	125Te	451	1, 2, 4, 51-56, 91, 102-107, 111, 251-253	2, 51-56, 91	91	
52	126Te	451	1, 2, 4, 51-63, 91, 102-107, 111, 251-253	2, 51-63, 91	91	
52	127mTe	451	1, 2, 4, 91, 102	2, 91, 102	91	
52	128Te	451	1, 2, 4, 51-59, 91, 102-107, 111, 251	2, 51-59, 91	91	
52	129mTe	451	1, 2, 4, 91, 102-107, 111	2, 91	91	
52	130Te	451	1, 2, 4, 51-60, 91, 102-107, 111, 251-253	2, 51-60, 91	91	
52	132Te	451	1, 2, 4, 51-56, 91, 102-107, 111	2, 51-56, 91	91	
53	127I	451	1-5, 11, 16, 17, 22, 24, 25, 28, 32-34, 37, 41, 42, 44, 45, 51-65, 91, 102-108, 111, 112, 115-117, 600-615, 649-665, 699-715, 749-765, 799-815, 849	2		5, 11, 16, 17, 22, 24, 25, 28, 32-34, 37, 41, 42, 44, 45, 51-65, 91, 108, 111, 112, 115-117, 600-615, 649-665, 699-715, 749-765, 799-815, 849
53	129I	451	1-5, 11, 16, 17, 22, 24, 25, 28, 32-34, 37, 41, 42, 44, 45, 51-65, 91, 102-107, 111, 112, 115-117, 600-615, 649-665, 699-715, 749-765, 799-805, 849	2		5, 11, 16, 17, 22, 24, 25, 28, 32-34, 37, 41, 42, 44, 45, 51-65, 91, 111, 112, 115-117, 600-615, 649-665, 699-715, 749-765, 799-805, 849
53	130I	451	1, 2, 4, 91, 102-107, 111	2, 91	91	
53	131I	451	1, 2, 4, 51-54, 91, 102-107, 111	2, 51-54, 91	91	
53	135I	451	1, 2, 4, 91, 102	2, 91	91	
54	124Xe	451	1, 2, 4, 16, 17, 51-54, 91, 102-107, 111	2, 16, 17, 51-54, 91	16, 17, 91	
54	126Xe	451	1, 2, 4, 16, 17, 51-54, 91, 102-107, 111	2, 16, 17, 51-54, 91	16, 17, 91	
54	128Xe	451	1, 2, 4, 16, 17, 51-53, 91, 102-107, 111	2, 16, 17, 51-53, 91	16, 17, 91	
54	129Xe	451	1, 2, 4, 16, 17, 51-56, 91, 102-107, 111	2, 16, 17, 51-56, 91	16, 17, 91	

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
54	^{130}Xe	451	1, 2, 4, 16, 17, 51-56, 91, 102-107, 111	2, 16, 17, 51-56, 91	16, 17, 91	
54	^{131}Xe	451	1, 2, 4, 16, 17, 51-56, 91, 102-107, 111, 251-253	2, 16, 17, 51-56, 91	16, 17, 91	
54	^{132}Xe	451	1, 2, 4, 16, 17, 51-54, 91, 102-107, 111, 251-253	2, 16, 17, 51-54, 91	16, 17, 91	
54	^{133}Xe	451	1, 2, 4, 51, 91, 102-107, 111	2, 51, 91	91	
54	^{134}Xe	451	1, 2, 4, 16, 17, 51-53, 91, 102-107, 111, 251-253	2, 16, 17, 51-53, 91	16, 17, 91	
54	^{135}Xe	451	1, 2, 4, 51, 91, 102	2, 51, 91	91	
54	^{136}Xe	451	1, 2, 4, 16, 17, 51-53, 91, 102-107, 111	2, 16, 17, 51-53, 91	16, 17, 91	
55	^{133}Cs	451	1, 2, 4, 16, 51-55, 91, 102, 103, 107	2, 16, 51-55, 91	16, 91	
55	^{134}Cs	451	1, 2, 4, 51-55, 91, 102-107, 111, 251-253	2, 51-55, 91	91	
55	^{135}Cs	451	1, 2, 4, 16, 51-68, 91, 102-107, 111, 251, 252	2, 16, 51-68, 91	16, 91	
55	^{136}Cs	451	1, 2, 4, 91, 102-107, 111, 251-253	2, 91	91	
55	^{137}Cs	451	1, 2, 4, 16, 51-60, 91, 102-107, 111, 251, 252	2, 16, 51-60, 91	16, 91	
56	^{130}Ba	451	1, 2, 4, 16, 17, 22, 28, 32, 51-57, 91, 102-107, 111	2, 16, 17, 22, 28, 32, 51-57, 91	16, 17, 22, 28, 32, 91	
56	^{132}Ba	451	1, 2, 4, 16, 17, 22, 28, 51-60, 91, 102-107	2, 16, 17, 22, 28, 51-60, 91	16, 17, 22, 28, 91	
56	^{134}Ba	451	1, 2, 4, 16, 17, 22, 28, 51-63, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 51-63, 91	16, 17, 22, 28, 91	
56	^{135}Ba	451	1, 2, 4, 16, 17, 22, 28, 32, 51-57, 91, 102-107	2, 16, 17, 22, 28, 32, 51-57, 91	16, 17, 22, 28, 32, 91	
56	^{136}Ba	451	1, 2, 4, 16, 17, 22, 28, 51-60, 91, 102-105, 107	2, 16, 17, 22, 28, 51-60, 91	16, 17, 22, 28, 91	
56	^{137}Ba	451	1, 2, 4, 16, 17, 22, 28, 32, 51-58, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 51-58, 91	16, 17, 22, 28, 32, 91	
56	^{138}Ba	451	1, 2, 4, 16, 17, 22, 28, 51-69, 91, 102-105, 107	2, 16, 17, 22, 28, 51-69, 91	16, 17, 22, 28, 91	
56	^{140}Ba	451	1, 2, 4, 16, 17, 91, 102-107, 111, 251, 252	2, 16, 17, 91	16, 17, 91	
57	^{138}La	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-65, 91, 102-107	2, 16, 17, 22, 28, 32, 33, 51-65, 91, 102-107	16, 17, 22, 28, 32, 33, 91	
57	^{139}La	451	1, 2, 4, 16, 51-73, 91, 102-107, 111, 251, 252	2, 16, 51-73, 91	16, 91	
57	^{140}La	451	1, 2, 4, 51-56, 91, 102, 104-107, 111	2, 51-56, 91	91	
58	^{140}Ce	451	1, 2, 4, 51-58, 91, 102-107, 111	2, 51-58, 91	91	
58	^{141}Ce	451	1, 2, 4, 16, 51-62, 91, 102-107, 111, 251, 252	2, 16, 51-62, 91	16, 91	
58	^{142}Ce	451	1, 2, 4, 16, 17, 51-56, 91, 102-107, 111, 251, 252	2, 16, 17, 51-56, 91	16, 17, 91	
58	^{143}Ce	451	1, 2, 4, 91, 102-107, 111	2, 91	91	
58	^{144}Ce	451	1, 2, 4, 16, 17, 51-68, 91, 102-107, 111, 251, 252	2, 16, 17, 51-68, 91	16, 17, 91	
59	^{141}Pr	451	1, 2, 4, 16, 51-74, 91, 102-107, 111, 251, 252	2, 16, 51-74, 91	16, 91	
59	^{142}Pr	451	1, 2, 4, 91, 102-107, 111	2, 91	91	

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
59	143Pr	451	1, 2, 4, 51-56, 91, 102-107, 111	2, 51-56, 91	91	
60	142Nd	451	1, 2, 4, 51-58, 91, 102-107, 111, 251-253	2, 51-58, 91	91	
60	143Nd	451	1, 2, 4, 16, 51-76, 91, 102-107, 111, 251, 252	2, 16, 51-76, 91	16, 91	
60	144Nd	451	1, 2, 4, 16, 51-64, 91, 102-107, 111, 251, 252	2, 16, 51-64, 91	16, 91	
60	145Nd	451	1, 2, 4, 16, 51-64, 91, 102-107, 111, 251, 252	2, 16, 51-64, 91	16, 91	
60	146Nd	451	1, 2, 4, 16, 51-63, 91, 102-107, 111, 251, 252	2, 16, 51-63, 91	16, 91	
60	147Nd	451	1, 2, 4, 51-53, 91, 102-107, 111, 251-253	2, 51-53, 91	91	
60	148Nd	451	1, 2, 4, 16, 51-57, 91, 102-107, 111, 251, 252	2, 16, 51-57, 91	16, 91	
60	150Nd	451	1, 2, 4, 16, 17, 22, 28, 51-59, 91, 102-107, 111, 251-253	2, 16, 17, 22, 28, 51-59, 91	16, 17, 22, 28, 91	
61	147Pm	451	1, 2, 4, 16, 51-61, 91, 102-107, 111, 251, 252	2, 16, 51-61, 91	16, 91	
61	148Pm	451	1, 2, 4, 91, 102	2, 91	91	
61	148mPm	451	1, 2, 4, 91, 102, 251-253	2, 91	91	
61	149Pm	451	1, 2, 4, 51-56, 91, 102-107, 111	2, 51-56, 91	91	
61	151Pm	451	1, 2, 4, 51-56, 91, 102-107, 111	2, 51-56, 91	91	
62	144Sm	451	1, 2, 4, 91, 102-107, 111, 251-253	2, 91	91	
62	147Sm	451	1, 2, 4, 16, 51-64, 91, 102-107, 111, 251, 252	2, 16, 51-64, 91	16, 91	
62	148Sm	451	1, 2, 4, 51-66, 91, 102-107, 111	2, 51-66, 91	91	
62	149Sm	451	1, 2, 4, 16, 17, 51-60, 91, 102, 103, 107	2, 16, 17, 51-60, 91	16, 17, 91	
62	150Sm	451	1, 2, 4, 51-66, 91, 102-107, 111, 251-253	2, 51-66, 91	91	
62	151Sm	451	1, 2, 4, 16, 51-91, 102-107, 111, 251, 252	2, 16, 51-91	16, 91	
62	152Sm	451	1, 2, 4, 16, 51-63, 91, 102-107, 111, 251, 252	2, 16, 51-63, 91	16, 91	
62	153Sm	451	1, 2, 4, 51-62, 91, 102-107, 111	2, 51-62, 91	91	
62	154Sm	451	1, 2, 4, 51-69, 91, 102-107, 111, 251-253	2, 51-69, 91	91	
63	151Eu	451	1, 2, 4, 16, 17, 22, 28, 51-59, 91, 102-107, 111	2, 16, 17, 22, 28, 51-59, 91	16, 17, 22, 28, 91	
63	152Eu	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-61, 91, 102-107, 251	2, 16, 17, 22, 28, 32, 33, 51-61, 91	16, 17, 22, 28, 32, 33, 91	
63	153Eu	451	1, 2, 4, 16, 17, 22, 28, 51-61, 91, 102, 103, 107, 251	2, 16, 17, 22, 28, 51-61, 91	16, 17, 22, 28, 91	
63	154Eu	451	1, 2, 4, 16, 17, 22, 28, 51-55, 91, 102-107	2, 16, 17, 22, 28, 51-55, 91	16, 17, 22, 28, 91	
63	155Eu	451	1, 2, 4, 16, 17, 22, 28, 51-59, 91, 102-107	2, 16, 17, 22, 28, 51-59, 91	16, 17, 22, 28, 91	
63	156Eu	451	1, 2, 4, 51-55, 91, 102-107, 111	2, 51-55, 91	91	

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
63	157Eu	451	1, 2, 4, 91, 102	2, 91	91	
64	152Gd	451	1, 2, 4, 16, 17, 22, 28, 32, 33, 51-79, 91, 102-107, 251	2, 16, 17, 22, 28, 32, 33, 51-79, 91	16, 17, 22, 28, 32, 33, 91	
64	154Gd	451	1, 2, 4, 51-65, 91, 102-107, 111	2, 51-65, 91	91	
64	155Gd	451	1, 2, 4, 51-79, 91, 102-107, 111, 251	2, 51-79, 91	91	
64	156Gd	451	1, 2, 4, 16, 51-64, 91, 102-107, 111	2, 16, 51-64, 91	16, 91	
64	157Gd	451	1, 2, 4, 51-78, 91, 102-107, 111, 251	2, 51-78, 91	91	
64	158Gd	451	1, 2, 4, 51-61, 91, 102-107, 111	2, 51-61, 91	91	
64	160Gd	451	1, 2, 4, 51-56, 91, 102-105, 107	2, 51-56, 91	91	
65	159Tb	451	1, 2, 4, 16, 51-66, 91, 102, 251, 252	2, 16, 51-66, 91	16, 91	
65	160Tb	451	1, 2, 4, 91, 102, 251-253	2, 91	91	
66	160Dy	451	1, 2, 4, 51-64, 91, 102, 251-253	2, 51-64, 91	91	
66	161Dy	451	1, 2, 4, 51-57, 91, 102	2, 51-57, 91	91	
66	162Dy	451	1, 2, 4, 51-56, 91, 102	2, 51-56, 91	91	
66	163Dy	451	1, 2, 4, 51-56, 91, 102	2, 51-56, 91	91	
66	164Dy	451	1, 2, 4, 16, 17, 51-62, 91, 102, 103, 107	2, 16, 17, 51-62, 91	16, 17, 91	
67	165Ho	451	1, 2, 4, 16, 17, 37, 51-63, 91, 102	2, 16, 17, 37, 51-63, 91	16, 17, 37, 91	
68	162Er	451	1, 2, 4, 16, 17, 22, 28, 51-67, 91, 102-105, 107	2, 16, 17, 22, 28, 51-67, 91	16, 17, 22, 28, 91	
68	164Er	451	1, 2, 4, 16, 17, 22, 28, 51-66, 91, 102-105, 107	2, 16, 17, 22, 28, 51-66, 91	16, 17, 22, 28, 91	
68	166Er	451	1, 2, 4, 16, 17, 22, 28, 32, 51-74, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 51-74, 91	16, 17, 22, 28, 32, 91	
68	167Er	451	1, 2, 4, 16, 17, 22, 28, 32, 51-73, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 51-73, 91	16, 17, 22, 28, 32, 91	
68	168Er	451	1, 2, 4, 16, 17, 22, 28, 32, 51-79, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 51-79, 91	16, 17, 22, 28, 32, 91	
68	170Er	451	1, 2, 4, 16, 17, 22, 28, 32, 51-64, 91, 102-105, 107	2, 16, 17, 22, 28, 32, 51-64, 91	16, 17, 22, 28, 32, 91	
71	175Lu	451	1, 2, 4, 16, 17, 51-58, 91, 102, 103, 107	2, 16, 17, 51-58, 91	16, 17, 91	
71	176Lu	451	1, 2, 4, 16, 17, 51-58, 91, 102, 103, 107	2, 16, 17, 51-58, 91	16, 17, 91	
72	174Hf	451	1, 2, 4, 16, 17, 51-68, 91, 102	2, 16, 17, 51-68, 91	16, 17, 91	
72	176Hf	451	1, 2, 4, 16, 17, 51-73, 91, 102, 103, 107	2, 16, 17, 51-73, 91	16, 17, 91	
72	177Hf	451	1, 2, 4, 16, 17, 51-66, 91, 102, 103, 107	2, 16, 17, 51-66, 91	16, 17, 91	
72	178Hf	451	1, 2, 4, 16, 17, 51-71, 91, 102, 103, 107	2, 16, 17, 51-71, 91	16, 17, 91	
72	179Hf	451	1, 2, 4, 16, 17, 51-62, 91, 102, 103, 107	2, 16, 17, 51-62, 91	16, 17, 91	
72	180Hf	451	1, 2, 4, 16, 17, 51-61, 91, 102, 103, 107	2, 16, 17, 51-61, 91	16, 17, 91	

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
73	181Ta	451	1, 2, 4, 16, 17, 28, 51-64, 91, 102, 103, 107	2, 16, 17, 28, 51-64, 91	16, 17, 28, 91	
73	182Ta	451	1, 2, 4, 16, 17, 51-58, 91, 102, 107, 251-253	2, 16, 17, 51-58, 91	16, 17, 91	
74	182W	451	1, 2, 4, 16, 17, 22, 28, 51-70, 91, 102-104, 107, 203, 204, 207	2, 51-70		16, 17, 22, 28, 91, 203, 204, 207
74	183W	451	1, 2, 4, 16, 17, 22, 28, 51-60, 91, 102-104, 107, 203, 204, 207	2, 51-60		16, 17, 22, 28, 91, 203, 204, 207
74	184W	451	1, 2, 4, 16, 17, 22, 28, 51-60, 91, 102-104, 107, 203, 204, 207	2, 51-60		16, 17, 22, 28, 91, 203, 204, 207
74	186W	451	1, 2, 4, 16, 17, 22, 28, 51-62, 91, 102-104, 107, 203, 204, 207	2, 51-62		16, 17, 22, 28, 91, 203, 204, 207
75	185Re	451	1, 2, 4, 16, 17, 51-59, 91, 102	2, 16, 17, 51-59, 91	16, 17, 91	
75	187Re	451	1, 2, 4, 16, 17, 51-66, 91, 102	2, 16, 17, 51-66, 91	16, 17, 91	
76	natOs	451	1, 2, 4, 16, 17, 51-67, 91, 102, 103, 107, 251-253	2, 16, 17, 51-67, 91	16, 17, 91	
77	191Ir	451	1, 2, 4, 16, 17, 51-54, 91, 102, 103, 107, 251-253	2, 16, 17, 51-54, 91	16, 17, 91	
77	193Ir	451	1, 2, 4, 16, 17, 51-54, 91, 102, 103, 107, 251-253	2, 16, 17, 51-54, 91	16, 17, 91	
78	natPt	451	1, 2, 4, 16, 17, 91, 102, 251-253	2, 16, 17, 91	16, 17, 91	
79	197Au	451	1, 2, 4, 16, 17, 37, 51-63, 91, 102, 103, 107	2, 16, 17, 37, 51-63, 91	16, 17, 37, 91	
80	196Hg	451	1, 2, 4, 16, 17, 22, 28, 51-70, 91, 102-104, 107	2, 16, 17, 22, 28, 51-70, 91	16, 17, 22, 28, 91	
80	198Hg	451	1, 2, 4, 16, 17, 22, 28, 51-69, 91, 102-104, 107	2, 16, 17, 22, 28, 51-69, 91	16, 17, 22, 28, 91	
80	199Hg	451	1, 2, 4, 16, 17, 22, 28, 51-63, 91, 102-104, 107	2, 16, 17, 22, 28, 51-63, 91	16, 17, 22, 28, 91	
80	200Hg	451	1, 2, 4, 16, 17, 22, 28, 51-84, 91, 102-104, 107	2, 16, 17, 22, 28, 51-84, 91	16, 17, 22, 28, 91	
80	201Hg	451	1, 2, 4, 16, 17, 22, 28, 51-63, 91, 102-104, 107	2, 16, 17, 22, 28, 51-63, 91	16, 17, 22, 28, 91	
80	202Hg	451	1, 2, 4, 16, 17, 22, 28, 51-69, 91, 102-104, 107	2, 16, 17, 22, 28, 51-69, 91	16, 17, 22, 28, 91	
80	204Hg	451	1, 2, 4, 16, 17, 22, 28, 51-68, 91, 102-104, 107	2, 16, 17, 22, 28, 51-68, 91	16, 17, 22, 28, 91	
81	natTl	451	1-4, 16, 17, 22, 28, 51-66, 91, 102-105, 107	2, 51-66		16, 17, 22, 28, 91
82	204Pb	451	1-5, 16, 17, 22, 24, 28, 32, 33, 41, 51-71, 91, 102-107, 111, 600-610, 649-655, 699-705, 749-753, 799-810, 849	2		5, 16, 17, 22, 24, 28, 32, 33, 41, 51-71, 91, 102, 111, 600-610, 649-655, 699-705, 749-753, 799-810, 849
82	206Pb	451	1-5, 16, 17, 22, 24, 28, 32, 33, 41, 51-75, 91, 102-105, 107, 108, 600-610, 649-655, 699-705, 749, 800-810, 849	2		5, 16, 17, 22, 24, 28, 32, 33, 41, 51-75, 91, 102, 108, 600-610, 649-655, 699-705, 749, 800-810, 849
82	207Pb	451	1-5, 16, 17, 22, 24, 28, 32, 33, 41, 51-70, 91, 102-105, 107, 600-610, 649-655, 699-705, 749, 800-810, 849	2		5, 16, 17, 22, 24, 28, 32, 33, 41, 51-70, 91, 102, 600-610, 649-655, 699-705, 749, 800-810, 849

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
82	208Pb	451	1-5, 16, 17, 22, 24, 28, 32, 33, 41, 51-70, 91, 102-105, 107, 600-607, 649-655, 699-705, 749, 800-810, 849	2		5, 16, 17, 22, 24, 28, 32, 33, 41, 51-70, 91, 102, 600-607, 649-655, 699-705, 749, 800-810, 849
83	209Bi	451	1-5, 16, 17, 22, 24, 28, 32, 33, 41, 51-70, 91, 102-108, 112, 600-610, 649-655, 699-705, 749-754, 799-810, 849	2		5, 16, 17, 22, 24, 28, 32, 33, 41, 51-70, 91, 102, 108, 112, 600-610, 649-655, 699-705, 749-754, 799-810, 849
88	223Ra	451, 452	1, 2, 4, 16-18, 37, 51-64, 91, 102	2, 16-18, 37, 51-64, 91	16-18, 37, 91	
88	224Ra	451	1, 2, 4, 16, 17, 37, 51-61, 91, 102	2, 16, 17, 37, 51-61, 91	16, 17, 37, 91	
88	225Ra	451	1, 2, 4, 16, 17, 37, 51-56, 91, 102	2, 16, 17, 37, 51-56, 91	16, 17, 37, 91	
88	226Ra	451, 452	1, 2, 4, 16-18, 37, 51-66, 91, 102	2, 16-18, 37, 51-66, 91	16-18, 37, 91	
89	225Ac	451	1, 2, 4, 16, 17, 37, 51, 91, 102	2, 16, 17, 37, 51, 91	16, 17, 37, 91	
89	226Ac	451	1, 2, 4, 16, 17, 37, 91, 102	2, 16, 17, 37, 91	16, 17, 37, 91	,
89	227Ac	451, 452	1, 2, 4, 16-18, 37, 51-59, 91, 102	2, 16-18, 37, 51-59, 91	16-18, 37, 91	
90	227Th	451, 452, 455, 456	1, 2, 4, 16-18, 37, 91, 102	2, 16-18, 37, 91	16-18, 37, 91, 455	
90	228Th	451, 452, 455, 456	1, 2, 4, 16-18, 51-62, 91, 102	2, 16-18, 51-62, 91	16-18, 91	
90	229Th	451, 452, 455, 456	1, 2, 4, 16-18, 37, 51-54, 91, 102, 251	2, 16-18, 37, 51-54, 91	16-18, 37, 91, 455	
90	230Th	451, 452, 458	1, 2, 4, 16-18, 51-67, 91, 102, 251-253	2, 16-18, 51-67, 91	16-18, 91	
90	232Th	451, 452, 455, 456, 458	1, 2, 4, 16-21, 37, 38, 51-81, 91, 102	2, 16-21, 37, 38, 51-81, 91	16-21, 37, 38, 91, 455	
90	233Th	451, 452, 455, 456	1, 2, 4, 16-18, 51-65, 91, 102	2, 16-18, 51-65, 91	16-18, 91	
90	234Th	451, 452, 455, 456	1, 2, 4, 16-18, 51-67, 91, 102	2, 16-18, 51-67, 91	16-18, 91	
91	231Pa	451, 452, 455, 456	1, 2, 4, 16-18, 51-62, 91, 102, 251-253	2, 16-18, 51-62, 91	16-18, 91, 455	
91	232Pa	451, 452, 455, 456	1, 2, 4, 16-18, 37, 91, 102	2, 16-18, 37, 91	16-18, 37, 91	
91	233Pa	451, 452, 458	1, 2, 4, 16-18, 51-55, 91, 102, 251-253	2, 16-18, 51-55, 91	16-18, 91	
92	232U	451, 452, 455, 456	1, 2, 4, 16-18, 51-63, 91, 102, 251-253	2, 16-18, 51-63, 91	16-18, 91, 455	
92	233U	451, 452, 455, 456, 458	1, 2, 4, 16-18, 51-69, 91, 102	2, 16-18, 51-69, 91	16-18, 91, 455	
92	234U	451, 452, 455, 456, 458	1, 2, 4, 16-21, 38, 51-86, 91, 102	2, 16-21, 38, 51-86, 91	16-21, 38, 91, 455	

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
92	^{235}U	451, 452, 455, 456, 458	1, 2, 4, 16-21, 37, 38, 51-84, 91, 102	2, 18, 51-84	18, 455	16, 17, 37, 91
92	^{236}U	451, 452, 455, 456, 458	1-4, 16-21, 37, 38, 51-81, 91, 102	2, 18, 51-81	18, 455	16, 17, 37, 91
92	^{237}U	451, 452, 455, 456	1-4, 16-21, 37, 38, 51-84, 91, 102	2, 18, 51-84	18, 455	16, 17, 37, 91
92	^{238}U	451, 452, 455, 456, 458	1-4, 16-21, 37, 38, 51-91, 102	2, 18, 51-90	18, 455	16, 17, 37, 91
93	^{235}Np	451, 452, 455, 456	1, 2, 4, 16-18, 51-66, 91, 102	2, 16-18, 51-66, 91	16-18, 91	
93	^{236}Np	451, 452, 455, 456	1, 2, 4, 16-18, 51-54, 91, 102	2, 16-18, 51-54, 91	16-18, 91	
93	^{237}Np	451, 452, 455, 456, 458	1, 2, 4, 16-18, 37, 51-82, 91, 102	2, 18, 51-82	18, 455	16, 17, 37, 91
93	^{238}Np	451, 452, 455, 456	1, 2, 4, 16-18, 91, 102	2, 16-18, 91	16-18, 91, 455	
93	^{239}Np	451, 452, 455, 456	1, 2, 4, 16-18, 51-58, 91, 102	2, 16-18, 51-58, 91	16-18, 91	
94	^{236}Pu	451, 452, 455, 456	1, 2, 4, 16-18, 51-54, 91, 102	2, 16-18, 51-54, 91	16-18, 91	
94	^{237}Pu	451, 452, 458	1, 2, 4, 16-20, 51-60, 91, 102, 251-253	2, 16-20, 51-60, 91	16-20, 91	
94	^{238}Pu	451, 452, 455, 456, 458	1, 2, 4, 16-18, 51-78, 91, 102, 251	2, 16-18, 51-78, 91	16-18, 91, 455	
94	^{239}Pu	451, 452, 455, 456, 458	1-4, 16-18, 37, 51-77, 91, 102	2, 16-18, 37, 51-77, 91	16-18, 37, 91, 455	
94	^{240}Pu	451, 452, 455, 456, 458	1, 2, 4, 16-18, 37, 51-74, 91, 102	2, 16-18, 37, 51-74, 91	16-18, 37, 91, 455	
94	^{241}Pu	451, 452, 455, 456, 458	1, 2, 4, 16-18, 37, 51-61, 91, 102, 251	2, 16-18, 37, 51-61, 91	16-18, 37, 91, 455	
94	^{242}Pu	451, 452, 455, 456, 458	1, 2, 4, 16-18, 37, 51-70, 91, 102, 251	2, 16-18, 37, 51-70, 91	16-18, 37, 91, 455	
94	^{243}Pu	451, 452	1, 2, 4, 16-18, 37, 91, 102, 251-253	2, 16-18, 37, 91	16-18, 37, 91	
94	^{244}Pu	451, 452, 458	1, 2, 4, 16-20, 37, 51-55, 91, 102, 251-253	2, 16-20, 37, 51-55, 91	16-20, 37, 91	
94	^{246}Pu	451, 452, 455, 456	1, 2, 4, 16-18, 51, 52, 91, 102	2, 16-18, 51, 52, 91	16-18, 91	
95	^{241}Am	451, 452, 455, 456, 458	1, 2, 4, 16-18, 51-60, 91, 102	2, 16-18, 51-60, 91	16-18, 91, 455	
95	^{242}Am	451, 452, 455, 456	1, 2, 4, 16-21, 51-75, 91, 102	2, 16-21, 51-75, 91	16-21, 91	

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
95	242mAm	451, 452, 455, 456, 458	1, 2, 4, 16-18, 51-75, 91, 102	2, 16-18, 51-75, 91	16-18, 91, 455	
95	243Am	451, 452, 455, 456, 458	1, 2, 4, 16-18, 51-60, 91, 102	2, 16-18, 51-60, 91	16-18, 91, 455	
95	244Am	451, 452, 455, 456	1, 2, 4, 16-18, 37, 51-75, 91, 102	2, 16-18, 37, 51-75, 91	16-18, 37, 91	
95	244mAm	451, 452, 455, 456	1, 2, 4, 16-18, 37, 51-75, 91, 102	2, 16-18, 37, 51-75, 91	16-18, 37, 91	
96	240Cm	451, 452, 455, 456	1, 2, 4, 16-18, 51, 91, 102	2, 16-18, 51, 91	16-18, 91	
96	241Cm	451, 452, 458	1, 2, 4, 16-20, 51-54, 91, 102, 251-253	2, 16-20, 51-54, 91	16-20, 91	
96	242Cm	451, 452, 455, 456, 458	1, 2, 4, 16-18, 51-53, 91, 102, 251	2, 16-18, 51-53, 91	16-18, 91, 455	
96	243Cm	451, 452, 455, 456, 458	1, 2, 4, 16-18, 37, 51-62, 91, 102, 251	2, 16-18, 37, 51-62, 91	16-18, 37, 91, 455	
96	244Cm	451, 452, 455, 456, 458	1, 2, 4, 16-20, 51-53, 91, 102	2, 16-20, 51-53, 91	16-20, 91, 455	
96	245Cm	451, 452, 455, 456	1, 2, 4, 16-18, 51-67, 91, 102	2, 16-18, 51-67, 91	16-18, 91, 455	
96	246Cm	451, 452, 455, 456	1, 2, 4, 16-21, 51-70, 91, 102	2, 16-21, 51-70, 91	16-21, 91, 455	
96	247Cm	451, 452, 455, 456	1, 2, 4, 16-18, 37, 51-65, 91, 102, 251	2, 16-18, 37, 51-65, 91	16-18, 37, 91	
96	248Cm	451, 452, 455, 456, 458	1, 2, 4, 16-18, 37, 51-58, 91, 102, 251	2, 16-18, 37, 51-58, 91	16-18, 37, 91, 455	
96	249Cm	451, 452, 455, 456	1, 2, 4, 16-18, 51-69, 91, 102	2, 16-18, 51-69, 91	16-18, 91	
96	250Cm	451, 452, 455, 456	1, 2, 4, 16-18, 51, 52, 91, 102	2, 16-18, 51, 52, 91	16-18, 91	
97	247Bk	451, 452, 455, 456	1, 2, 4, 16-18, 51-71, 91, 102	2, 16-18, 51-71, 91	16-18, 91	
97	249Bk	451, 452, 455, 456	1, 2, 4, 16-18, 37, 51-68, 91, 102	2, 16-18, 37, 51-68, 91	16-18, 37, 91	
97	250Bk	451, 452, 455, 456	1, 2, 4, 16-18, 37, 51-68, 91, 102, 251	2, 16-18, 37, 51-68, 91	16-18, 37, 91	
98	249Cf	451, 452, 455, 456	1, 2, 4, 16-18, 51-78, 91, 102	2, 16-18, 51-78, 91	16-18, 91, 455	
98	250Cf	451, 452, 455, 456	1, 2, 4, 16-18, 51-79, 91, 102	2, 16-18, 51-79, 91	16-18, 91	
98	251Cf	451, 452, 455, 456	1, 2, 4, 16-18, 37, 91, 102, 251-253	2, 16-18, 37, 91	16-18, 37, 91, 455	

Table 3. Contents of the JEFF-3.1 general-purpose neutron data library. List of available reactions (MTs) in files MF=3 to MF=6 (*cont.*).

Z	Sym-A	MF=1	MF=3	MF=4	MF=5	MF=6
98	^{252}Cf	451, 452	1, 2, 4, 16-18, 37, 91, 102, 251-253	2, 16-18, 37, 91	16-18, 37, 91	
98	^{254}Cf	451, 452, 455, 456	1, 2, 4, 16-18, 37, 51, 91, 102, 251	2, 16-18, 37, 51, 91	16-18, 37, 91	
99	^{253}Es	451	1, 2, 102, 251-253			
99	^{254}Es	451, 452, 455, 456	1, 2, 4, 16-18, 37, 51, 91, 102	2, 16-18, 37, 51, 91	16-18, 37, 91, 455	
99	^{255}Es	451, 452, 455, 456	1, 2, 4, 16-18, 37, 51-53, 91, 102	2, 16-18, 37, 51-53, 91	16-18, 37, 91	
100	^{255}Fm	451, 452, 455, 456	1, 2, 4, 16-18, 37, 51, 91, 102	2, 16-18, 37, 51, 91	16-18, 37, 91	

Table 4. Contents of the JEFF-3.1 general-purpose neutron data library.
List of available reactions (MTs) in photon production files MF=12 to MF=15.

Z	Sym-A	MF=12	MF=13	MF=14	MF=15
1	¹H	102		102	
1	²H	102		102	
3	⁶Li	57, 102		57, 102	
3	⁷Li	51, 102		51, 102	
4	⁹Be	102		102	
5	¹⁰B	102, 801	4, 103	4, 102, 103, 801	
5	¹¹B	102	4	4, 102	
6	natC	51, 102		51, 102	
7	¹⁴N	102	4, 28, 32, 103-105, 107	4, 28, 32, 102-105, 107	102
7	¹⁵N		4, 16, 22, 28, 103-105, 107	4, 16, 22, 28, 103-105, 107	4, 16, 22, 28, 103-105, 107
8	¹⁶O	102	4, 16, 22, 103-105, 107	4, 16, 22, 102-105, 107	
9	¹⁹F	51-71, 102		51-71, 102	102
11	²³Na	51-61, 102	3	3, 51-61, 102	3, 102
12	²⁴Mg	16, 22, 28, 51-61, 91, 102, 103, 107		16, 22, 28, 51-61, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
12	²⁵Mg	16, 22, 28, 51-67, 91, 102, 103, 107		16, 22, 28, 51-67, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
12	²⁶Mg	16, 22, 28, 51-63, 91, 102, 103, 107		16, 22, 28, 51-63, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
13	²⁷Al	102		102	102
14	²⁸Si	51-67, 102, 601-613, 801-815		51-67, 102, 601-613, 801-815	
14	²⁹Si	51-69, 102, 103, 107	3	3, 51-69, 102, 103, 107	3, 102, 103, 107
14	³⁰Si	51-64, 102, 107	3	3, 51-64, 102, 107	3, 102, 107
15	³¹P	102, 103, 107	3, 4	3, 4, 102, 103, 107	3, 102, 103, 107
16	³²S	16, 22, 28, 51-56, 91, 102, 103, 107		16, 22, 28, 51-56, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
16	³³S	16, 22, 28, 51-57, 91, 102, 103, 107		16, 22, 28, 51-57, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
16	³⁴S	16, 22, 28, 51-55, 91, 102, 103, 107		16, 22, 28, 51-55, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
16	³⁶S	16, 22, 28, 51-55, 91, 102, 103, 107		16, 22, 28, 51-55, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
17	³⁵Cl	102		102	102
17	³⁷Cl	102		102	102
19	³⁹K	16, 22, 28, 51-54, 91, 102, 103, 107		16, 22, 28, 51-54, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107

Table 4. Contents of the JEFF-3.1 general-purpose neutron data library.
List of available reactions (MTs) in photon production files MF=12 to MF=15 (*cont.*).

Z	Sym-A	MF=12	MF=13	MF=14	MF=15
19	^{40}K	16, 22, 28, 51-55, 91, 102, 103, 107		16, 22, 28, 51-55, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
19	^{41}K	16, 22, 28, 51, 52, 91, 102, 103, 107		16, 22, 28, 51, 52, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
23	^{nat}V	102	3	3, 102	3, 102
24	^{50}Cr	51-56, 102		51-56, 102	102
24	^{52}Cr	51-60, 102		51-60, 102	102
24	^{53}Cr	51-63, 102		51-63, 102	102
24	^{54}Cr	51-54, 102		51-54, 102	102
25	^{55}Mn	4, 16, 22, 28, 102, 103, 107		4, 16, 22, 28, 102, 103, 107	4, 16, 22, 28, 102, 103, 107
26	^{56}Fe	51-82, 102, 601-613, 801-810		51-82, 102, 601-613, 801-810	102
27	^{59}Co	102	3	3, 102	3, 102
28	^{58}Ni	51-58, 102		51-58, 102	102
28	^{59}Ni	3, 102		3, 102	3, 102
28	^{60}Ni	51-61, 102		51-61, 102	102
28	^{61}Ni	51-58, 102		51-58, 102	102
28	^{62}Ni	51-54, 102		51-54, 102	102
28	^{64}Ni	51, 52, 102		51, 52, 102	102
29	^{63}Cu	51-72, 102		51-72, 102	102
29	^{65}Cu	51-63, 102		51-63, 102	102
31	^{nat}Ga	102	3	3, 102	3, 102
39	^{89}Y	102	3	3, 102	3, 102
40	^{90}Zr	16, 22, 28, 51-57, 91, 102, 103, 107		16, 22, 28, 51-57, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
40	^{91}Zr	16, 22, 28, 51-64, 91, 102, 103, 107		16, 22, 28, 51-64, 91, 102, 103, 107	16, 22, 28, 91, 102, 103, 107
40	^{92}Zr	16, 17, 22, 28, 51-67, 91, 102, 103, 107		16, 17, 22, 28, 51-67, 91, 102, 103, 107	16, 17, 22, 28, 91, 102, 103, 107
40	^{94}Zr	16, 17, 22, 28, 51-64, 91, 102, 103, 107		16, 17, 22, 28, 51-64, 91, 102, 103, 107	16, 17, 22, 28, 91, 102, 103, 107
40	^{96}Zr	16, 17, 22, 28, 51-57, 91, 102, 103, 107		16, 17, 22, 28, 51-57, 91, 102, 103, 107	16, 17, 22, 28, 91, 102, 103, 107
41	^{93}Nb	102	3	3, 102	3, 102
42	^{100}Mo	102	3	3, 102	3, 102
42	^{92}Mo	102	3	3, 102	3, 102
42	^{94}Mo	102	3	3, 102	3, 102

Table 4. Contents of the JEFF-3.1 general-purpose neutron data library.
List of available reactions (MTs) in photon production files MF=12 to MF=15 (*cont.*).

Z	Sym-A	MF=12	MF=13	MF=14	MF=15
42	95Mo	51-54, 601, 801-805		51-54, 601, 801-805	
42	96Mo	102	3	3, 102	3, 102
42	97Mo	102	3	3, 102	3, 102
42	98Mo	102	3	3, 102	3, 102
63	151Eu	51-59, 102	3	3, 51-59, 102	3, 102
67	165Ho	102	4, 16, 17, 37	4, 16, 17, 37, 102	4, 16, 17, 37, 102
68	162Er	16, 17, 51-67, 91, 102, 103, 107		16, 17, 51-67, 91, 102, 103, 107	16, 17, 91, 102, 103, 107
68	164Er	16, 17, 51-66, 91, 102, 103, 107		16, 17, 51-66, 91, 102, 103, 107	16, 17, 91, 102, 103, 107
68	166Er	16, 17, 22, 28, 51-74, 91, 102-104, 107		16, 17, 22, 28, 51-74, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107
68	167Er	16, 17, 22, 28, 51-73, 91, 102-104, 107		16, 17, 22, 28, 51-73, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107
68	168Er	16, 17, 22, 28, 51-79, 91, 102-104, 107		16, 17, 22, 28, 51-79, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107
68	170Er	16, 17, 22, 28, 51-64, 91, 102-104, 107		16, 17, 22, 28, 51-64, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107
72	174Hf	16, 17, 51-68, 91, 102		16, 17, 51-68, 91, 102	16, 17, 91, 102
72	176Hf	16, 17, 51-73, 91, 102, 103, 107		16, 17, 51-73, 91, 102, 103, 107	16, 17, 91, 102, 103, 107
72	177Hf	16, 17, 51-66, 91, 102, 103, 107		16, 17, 51-66, 91, 102, 103, 107	16, 17, 91, 102, 103, 107
72	178Hf	16, 17, 51-71, 91, 102, 103, 107		16, 17, 51-71, 91, 102, 103, 107	16, 17, 91, 102, 103, 107
72	179Hf	16, 17, 51-62, 91, 102, 103, 107		16, 17, 51-62, 91, 102, 103, 107	16, 17, 91, 102, 103, 107
72	180Hf	16, 17, 51-61, 91, 102, 103, 107		16, 17, 51-61, 91, 102, 103, 107	16, 17, 91, 102, 103, 107
73	181Ta	16, 17, 28, 51-64, 91, 102, 103, 107		16, 17, 28, 51-64, 91, 102, 103, 107	16, 17, 28, 91, 102, 103, 107
74	182W	22, 51-70, 102, 103, 107	3	3, 22, 51-70, 102, 103, 107	3, 22, 102, 103, 107
74	183W	22, 51-60, 102, 103, 107	3	3, 22, 51-60, 102, 103, 107	3, 22, 102, 103, 107
74	184W	51-60, 102, 107	3	3, 51-60, 102, 107	3, 102, 107
74	186W	22, 51-62, 102, 107	3	3, 22, 51-62, 102, 107	3, 22, 102, 107
76	natOs	51-67, 91, 102		51-67, 91, 102	91, 102
77	191Ir	51, 52, 54, 91, 102, 103, 107		51, 52, 54, 91, 102, 103, 107	91, 102, 103, 107
77	193Ir	51, 53, 54, 91, 102, 103, 107		51, 53, 54, 91, 102, 103, 107	91, 102, 103, 107
78	natPt	102	3	3, 102	3, 102
79	197Au	102	4, 16, 17, 37	4, 16, 17, 37, 102	4, 16, 17, 37, 102
80	196Hg	16, 17, 22, 28, 51-70, 91, 102-104, 107		16, 17, 22, 28, 51-70, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107

Table 4. Contents of the JEFF-3.1 general-purpose neutron data library.
List of available reactions (MTs) in photon production files MF=12 to MF=15 (*cont.*).

Z	Sym-A	MF=12	MF=13	MF=14	MF=15
80	198Hg	16, 17, 22, 28, 51-69, 91, 102-104, 107		16, 17, 22, 28, 51-69, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107
80	199Hg	16, 17, 22, 28, 51-56, 58-63, 91, 102-104, 107		16, 17, 22, 28, 51-56, 58-63, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107
80	200Hg	16, 17, 22, 28, 51-84, 91, 102-104, 107		16, 17, 22, 28, 51-84, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107
80	201Hg	16, 17, 22, 28, 51-63, 91, 102-104, 107		16, 17, 22, 28, 51-63, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107
80	202Hg	16, 17, 22, 28, 51-69, 91, 102-104, 107		16, 17, 22, 28, 51-69, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107
80	204Hg	16, 17, 22, 28, 51-68, 91, 102-104, 107		16, 17, 22, 28, 51-68, 91, 102-104, 107	16, 17, 22, 28, 91, 102-104, 107
90	232Th	18, 102	3	3, 18, 102	3, 18, 102
92	233U	4, 18, 102	3	3, 4, 18, 102	3, 4, 18, 102
92	235U	4, 18, 102	3	3, 4, 18, 102	3, 18, 102
92	236U	18, 102	3	3, 18, 102	3, 18, 102
92	237U	18, 102	3	3, 18, 102	3, 18, 102
92	238U	18, 102	3	3, 18, 102	3, 18, 102
94	240Pu	4, 18, 102	3	3, 4, 18, 102	3, 18, 102
94	242Pu	16, 17, 51-70, 91, 102		16, 17, 51-70, 91, 102	16, 17, 91, 102
94	243Pu	18, 102	3	3, 18, 102	3, 18, 102
96	242Cm	18, 102	3	3, 18, 102	3, 18, 102
96	243Cm	18, 102	3	3, 18, 102	3, 18, 102
96	244Cm	18, 102	3	3, 18, 102	3, 18, 102
96	246Cm	18, 102	3	3, 18, 102	3, 18, 102
96	247Cm	18, 102	3	3, 18, 102	3, 18, 102
96	248Cm	18, 102	3	3, 18, 102	3, 18, 102
98	251Cf	18, 102	3	3, 18, 102	3, 18, 102
98	252Cf	18, 102	3	3, 18, 102	3, 18, 102

Table 5. Contents of the JEFF-3.1 general-purpose neutron data library. List of covariance data (MF=33 to MF=36).

Z	Sym-A	MF=31	MF=32	MF=33	MF=34	MF=35	MF=36	MF=40
1	^{3}H			1, 2, 16, 17				
4	^{9}Be			1, 2, 102-105, 107, 875-890				
6	^{nat}C			1-5, 28, 51-62, 91, 102-104, 107				
9	^{19}F			1-4, 16, 22, 28, 51, 52, 102-105, 107				
14	^{28}Si			1-4, 16, 22, 28, 51-67, 91, 102-107, 111, 600-613, 649, 800-815, 849, 851, 852				
22	^{46}Ti			1-4, 16, 22, 28, 51-70, 91, 102-107, 111, 854				
22	^{47}Ti			1-4, 16, 22, 28, 51-70, 91, 102-107, 111, 852, 854				
22	^{48}Ti			1-4, 16, 22, 28, 51-70, 91, 102-107, 111, 851, 852				
22	^{49}Ti			1-4, 16, 22, 28, 51-70, 91, 102-107, 111, 852, 854				
22	^{50}Ti			1-4, 16, 22, 28, 51-70, 91, 102-107, 854				
23	^{nat}V			1, 16, 103, 107				
24	^{50}Cr			1-4, 16, 22, 28, 51-56, 91, 102-104, 107				
24	^{52}Cr			1-4, 16, 22, 28, 51-60, 91, 102-107, 851, 852	2			
24	^{53}Cr			1-4, 16, 22, 28, 51-63, 91, 102, 103, 107				
24	^{54}Cr			1-4, 16, 51-54, 91, 102, 103, 107				
25	^{55}Mn		151	1, 2, 4, 16, 22, 28, 51-66, 91, 102-107				
26	^{54}Fe			1-4, 16, 22, 28, 51-57, 91, 102-104, 107				
26	^{56}Fe			1-4, 16, 22, 28, 51-82, 91, 102-107, 600-613, 649, 800-810, 849, 851-853	2			
26	^{57}Fe			1-4, 16, 22, 28, 51-55, 91, 102, 103, 107				
26	^{58}Fe			1-4, 16, 22, 28, 51, 52, 91, 102, 103, 107				
27	^{59}Co			1, 16, 103, 107				
28	^{58}Ni			1-4, 16, 22, 28, 51-58, 91, 102-107, 112, 854	2			
28	^{60}Ni			1-4, 16, 22, 28, 51-61, 91, 102-107, 851-853	2			
28	^{61}Ni			1-4, 16, 28, 51-58, 91, 102, 103, 107, 111				
28	^{62}Ni			1-4, 16, 22, 28, 51-54, 91, 102-104, 107				
28	^{64}Ni			1-4, 16, 22, 28, 51, 52, 91, 102-104, 107				
29	^{63}Cu			1-4, 16, 22, 28, 51-72, 91, 102-104, 106, 107				
29	^{65}Cu			1-4, 16, 22, 28, 51-63, 91, 102-107				
39	^{89}Y			1, 2, 4, 16, 91, 102, 103, 107				
40	^{90}Zr			4, 16, 102				

Table 5. Contents of the JEFF-3.1 general-purpose neutron data library. List of covariance data (MF=33 to MF=36) (*cont.*).

Z	Sym-A	MF=31	MF=32	MF=33	MF=34	MF=35	MF=36	MF=40
41	^{93}Nb			1, 2, 4, 16, 17, 102				4
75	^{185}Re			102				
75	^{187}Re			102				
79	^{197}Au			1				
92	^{233}U	452, 455, 456	151	1, 2, 4, 16-18, 102	2	18		
92	^{235}U	452, 456						
95	^{241}Am							102

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
1	^{1}H	No							
1	^{2}H	No							
1	^{3}H	No							
2	^{3}He	No							
2	^{4}He	No							
3	^{6}Li	No							
3	7Li	No							
4	^{9}Be	No							
5	^{10}B	No							
5	^{11}B	No							
6	^{nat}C	No							
7	^{14}N	No							
7	^{15}N	No							
8	^{16}O	No							
8	^{17}O	No							
9	^{19}F	No							
11	^{22}Na	Yes	ML Breit-Wigner	1.50E+04	Yes	1.00E+05	1.45E+02		
11	^{23}Na	Yes	ML Breit-Wigner	3.50E+05	No		2.85E+03	2.99E+05	5.38E+05
12	^{24}Mg	Yes	ML Breit-Wigner	5.20E+05	No		6.59E+05	1.04E+06	1.08E+06
12	^{25}Mg	Yes	ML Breit-Wigner	2.20E+05	No		7.33E+04		
12	^{26}Mg	Yes	ML Breit-Wigner	4.50E+05	No				
13	^{27}Al	Yes	Reich-Moore	8.45E+05	No		3.48E+04	8.63E+04	1.43E+05
14	^{28}Si	Yes	Reich-Moore	1.75E+06	No		5.57E+04	1.82E+05	3.01E+05
14	^{29}Si	Yes	ML Breit-Wigner	2.00E+05	No				
14	^{30}Si	Yes	ML Breit-Wigner	5.00E+05	No		1.83E+05		
15	^{31}P	Yes	ML Breit-Wigner	5.44E+05	No		2.68E+04	8.40E+04	9.27E+04
16	^{32}S	Yes	ML Breit-Wigner	1.57E+06	No		1.03E+05	1.45E+05	1.60E+05
16	^{33}S	Yes	ML Breit-Wigner	2.60E+05	No		1.35E+04	2.39E+04	5.20E+04
16	^{34}S	Yes	ML Breit-Wigner	4.80E+05	No		3.01E+05	3.57E+05	4.71E+05
16	^{36}S	No							
17	^{35}Cl	No							
17	^{37}Cl	No							

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
18	^{36}Ar	Yes	ML Breit-Wigner	4.65E+04	Yes	1.20E+06	2.00E+04		
18	^{38}Ar	Yes	ML Breit-Wigner	3.00E+05	Yes	1.20E+06	1.35E-05		
18	^{40}Ar	Yes	Reich-Moore	1.50E+06	No		7.65E+04	1.72E+05	2.20E+05
19	^{39}K	Yes	ML Breit-Wigner	2.00E+05	No		9.37E+03	2.55E+04	4.27E+04
19	^{40}K	No							
19	^{41}K	Yes	ML Breit-Wigner	1.25E+05	No		2.03E+03	5.51E+03	1.67E+04
20	^{40}Ca	Yes	ML Breit-Wigner	5.00E+05	No		2.04E+04	4.21E+04	8.89E+04
20	^{42}Ca	Yes	ML Breit-Wigner	3.00E+05	No		9.35E+03	2.27E+04	2.63E+04
20	^{43}Ca	Yes	ML Breit-Wigner	4.00E+04	No		3.33E+03	4.32E+03	5.19E+03
20	^{44}Ca	Yes	ML Breit-Wigner	5.00E+05	No		1.51E+04	2.31E+04	2.72E+04
20	^{46}Ca	No							
20	^{48}Ca	Yes	ML Breit-Wigner	5.00E+05	No		1.61E+05		
21	^{45}Sc	Yes	ML Breit-Wigner	1.00E+05	No		3.30E+03	4.33E+03	6.69E+03
22	^{46}Ti	No							
22	^{47}Ti	No							
22	^{48}Ti	No							
22	^{49}Ti	No							
22	^{50}Ti	No							
23	^{nat}V	Yes	ML Breit-Wigner	1.00E+05	No		1.67E+02	1.42E+03	6.20E+03
23	^{nat}V	Yes	ML Breit-Wigner	1.00E+05	No		4.15E+03	6.80E+03	1.16E+04
24	^{50}Cr	Yes	Reich-Moore	7.92E+05	No		5.50E+03	2.84E+04	3.73E+04
24	^{52}Cr	Yes	Reich-Moore	1.20E+06	No		3.17E+04	5.03E+04	9.67E+04
24	^{53}Cr	Yes	Reich-Moore	2.00E+05	No		4.21E+03	5.67E+03	6.75E+03
24	^{54}Cr	Yes	Reich-Moore	9.00E+05	No		2.26E+04	1.19E+05	1.31E+05
25	^{55}Mn	Yes	ML Breit-Wigner	1.00E+05	No		3.37E+02	1.10E+03	1.66E+03
26	^{54}Fe	Yes	Reich-Moore	7.00E+05	No		7.79E+03	5.29E+04	7.19E+04
26	^{56}Fe	Yes	Reich-Moore	8.50E+05	No		2.78E+04	7.40E+04	8.36E+04
26	^{57}Fe	Yes	Reich-Moore	2.00E+05	No		3.95E+03	6.26E+03	2.90E+04
26	^{58}Fe	Yes	Reich-Moore	3.50E+05	Yes	3.00E+06	1.04E+04	3.77E+04	4.38E+04
27	^{58}Co	Yes	ML Breit-Wigner	5.96E+02	No		9.00E+00		
27	^{58m}Co	Yes	ML Breit-Wigner	5.00E+02	No		1.09E+00		
27	^{59}Co	Yes	Reich-Moore	1.00E+05	No		1.32E+02	4.32E+03	5.02E+03

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
28	^{58}Ni	Yes	Reich-Moore	8.12E+05	No		1.53E+04	3.61E+04	6.33E+04
28	^{59}Ni	Yes	ML Breit-Wigner	1.00E+04	No		2.03E+02	4.21E+03	6.28E+03
28	^{60}Ni	Yes	Reich-Moore	4.50E+05	No		1.25E+04	2.87E+04	4.31E+04
28	^{61}Ni	Yes	Reich-Moore	7.00E+04	No		7.15E+03	7.55E+03	8.75E+03
28	^{62}Ni	Yes	Reich-Moore	6.00E+05	No		4.54E+03	4.29E+04	9.47E+04
28	^{64}Ni	Yes	Reich-Moore	6.00E+05	No		1.43E+04	3.38E+04	1.29E+05
29	^{63}Cu	Yes	Reich-Moore	9.95E+04	No		5.79E+02	6.50E+02	8.07E+02
29	^{65}Cu	Yes	Reich-Moore	9.95E+04	No		2.30E+02	1.36E+03	2.53E+03
30	^{nat}Zn	Yes	ML Breit-Wigner	1.00E+05	No		2.82E+02	2.63E+03	4.17E+03
30	^{nat}Zn	Yes	ML Breit-Wigner	1.00E+05	No		3.24E+02	4.05E+03	1.04E+04
30	^{nat}Zn	Yes	ML Breit-Wigner	1.00E+05	No		2.23E+02	4.48E+02	5.88E+02
30	^{nat}Zn	Yes	ML Breit-Wigner	1.00E+05	No		5.14E+02	5.04E+03	1.34E+04
30	^{nat}Zn	Yes	ML Breit-Wigner	1.00E+05	No		1.80E+04	2.30E+04	3.19E+04
31	^{nat}Ga	Yes	ML Breit-Wigner	5.90E+03	No		1.11E+02	3.34E+02	4.73E+02
31	^{nat}Ga	Yes	ML Breit-Wigner	5.60E+03	No		9.57E+01	2.87E+02	3.76E+02
32	^{70}Ge	Yes	ML Breit-Wigner	1.50E+04	No		1.12E+03	1.47E+03	1.94E+03
32	^{72}Ge	Yes	ML Breit-Wigner	4.00E+04	No		2.61E+03	2.74E+03	3.65E+03
32	^{73}Ge	Yes	ML Breit-Wigner	8.53E+03	No		1.02E+02	2.04E+02	2.25E+02
32	^{74}Ge	Yes	ML Breit-Wigner	6.20E+04	No		2.85E+03	3.04E+03	4.99E+03
32	^{76}Ge	Yes	ML Breit-Wigner	5.00E+04	No		5.50E+02	4.76E+03	1.39E+04
33	^{75}As	Yes	ML Breit-Wigner	2.41E+03	No		4.70E+01	9.24E+01	2.53E+02
34	^{74}Se	Yes	ML Breit-Wigner	2.40E+03	No		2.71E+01	2.72E+02	1.03E+03
34	^{76}Se	Yes	ML Breit-Wigner	7.49E+03	No		3.77E+02	8.62E+02	2.12E+03
34	^{77}Se	Yes	ML Breit-Wigner	2.72E+03	No		1.12E+02	2.12E+02	2.91E+02
34	^{78}Se	Yes	ML Breit-Wigner	1.21E+04	No		3.83E+02	3.23E+03	6.17E+03
34	^{79}Se	No			Yes	1.00E+05			
34	^{80}Se	Yes	ML Breit-Wigner	6.71E+03	No		1.97E+03	4.27E+03	4.72E+03
34	^{82}Se	Yes	ML Breit-Wigner	3.11E+04	No		6.58E+03	1.38E+04	2.27E+04
35	^{79}Br	Yes	ML Breit-Wigner	4.12E+02	No		3.58E+01	5.38E+01	1.58E+02
35	^{81}Br	Yes	ML Breit-Wigner	3.63E+03	No		1.01E+02	1.36E+02	2.05E+02
36	^{78}Kr	Yes	ML Breit-Wigner	8.65E+02	No		1.08E+02	4.51E+02	6.40E+02
36	^{80}Kr	Yes	ML Breit-Wigner	1.00E+03	No		8.92E+01	1.06E+02	6.40E+02

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
36	^{82}Kr	Yes	ML Breit-Wigner	1.00E+02	No		3.98E+01		
36	^{83}Kr	Yes	ML Breit-Wigner	5.21E+02	No		2.79E-01	2.33E+02	
36	^{84}Kr	Yes	ML Breit-Wigner	2.00E+03	No		5.19E+02	5.80E+02	1.63E+03
36	^{85}Kr	No							
36	^{86}Kr	Yes	ML Breit-Wigner	1.30E+04	No		2.73E+03		
37	^{85}Rb	Yes	ML Breit-Wigner	9.23E+03	No		4.74E+02	5.26E+02	6.55E+02
37	^{86}Rb	No							
37	^{87}Rb	Yes	ML Breit-Wigner	1.59E+04	No		3.78E+02	3.84E+03	5.12E+03
38	^{84}Sr	Yes	ML Breit-Wigner	3.50E+03	No		3.65E-02	5.17E+02	6.35E+02
38	^{86}Sr	Yes	ML Breit-Wigner	1.99E+04	No		5.88E+02	3.25E+03	1.02E+04
38	^{87}Sr	Yes	ML Breit-Wigner	2.89E+03	No		3.54E+00	6.48E+02	6.76E+02
38	^{88}Sr	Yes	ML Breit-Wigner	1.66E+05	No		1.39E+04	9.25E+04	1.06E+05
38	^{89}Sr	No							
38	^{90}Sr	No							
39	^{89}Y	Yes	SL Breit-Wigner	1.50E+05	No		2.60E+03	7.49E+03	9.73E+03
39	^{90}Y	No							
39	^{91}Y	No							
40	^{90}Zr	Yes	ML Breit-Wigner	1.71E+05	No		3.86E-03	1.34E+04	1.73E+04
40	^{91}Zr	Yes	ML Breit-Wigner	3.02E+04	Yes	1.00E+05	2.92E+02	6.81E+02	1.53E+03
40	^{92}Zr	Yes	ML Breit-Wigner	7.10E+04	Yes	1.00E+05	2.69E+03	4.64E+03	6.81E+03
40	^{93}Zr	Yes	ML Breit-Wigner	1.17E+02	Yes	5.00E+04	1.10E+02		
40	^{94}Zr	Yes	ML Breit-Wigner	5.35E+04	Yes	1.00E+05	2.24E+03	5.76E+03	7.07E+03
40	^{95}Zr	Yes	ML Breit-Wigner	3.00E+03	Yes	5.00E+04	1.72E+02	4.43E+02	7.14E+02
40	^{96}Zr	Yes	ML Breit-Wigner	1.00E+05	No		5.44E+03	1.54E+04	2.47E+04
41	^{93}Nb	Yes	SL Breit-Wigner	7.35E+03	No		1.06E+02	1.19E+02	1.93E+02
41	^{94}Nb	Yes	ML Breit-Wigner	2.80E+01	Yes	1.00E+05	1.16E+01	2.26E+01	
41	^{95}Nb	No			Yes	1.00E+05			
42	^{100}Mo	Yes	ML Breit-Wigner	2.60E+04	Yes	1.00E+05	3.64E+02	1.41E+03	1.94E+03
42	^{92}Mo	Yes	ML Breit-Wigner	5.00E+04	Yes	1.00E+05	3.47E+02	3.18E+03	6.82E+03
42	^{94}Mo	Yes	ML Breit-Wigner	2.00E+04	Yes	1.00E+05	1.54E+03	3.60E+03	4.62E+03
42	^{95}Mo	Yes	ML Breit-Wigner	2.14E+03	Yes	2.06E+05	4.49E-01	1.60E+02	3.58E+02
42	^{96}Mo	Yes	ML Breit-Wigner	1.90E+04	Yes	1.00E+05	1.31E+02	2.37E+03	3.29E+03

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
42	^{97}Mo	Yes	ML Breit-Wigner	1.80E+03	Yes	1.00E+05	7.09E+01	2.28E+02	2.68E+02
42	^{98}Mo	Yes	ML Breit-Wigner	3.20E+04	Yes	1.00E+05	4.68E+02	1.53E+03	2.55E+03
42	^{99}Mo	No			Yes	1.00E+05			
43	^{99}Tc	Yes	Reich-Moore	6.00E+03	Yes	1.00E+05	5.58E+00	2.03E+01	3.98E+01
44	^{100}Ru	Yes	ML Breit-Wigner	5.02E+02	No		2.31E-02		
44	^{101}Ru	Yes	ML Breit-Wigner	1.04E+03	Yes	2.50E+04	1.57E+01	4.23E+01	5.21E+01
44	^{102}Ru	Yes	SL Breit-Wigner	1.61E+03	No		1.30E-03		
44	^{103}Ru	Yes	ML Breit-Wigner	4.69E+01	Yes	3.00E+03	3.10E+00	9.30E+00	1.55E+01
44	^{104}Ru	Yes	ML Breit-Wigner	1.51E+03	No		2.24E-02	3.81E+02	6.27E+02
44	^{105}Ru	No							
44	^{106}Ru	No							
44	^{96}Ru	No							
44	^{98}Ru	No							
44	^{99}Ru	Yes	ML Breit-Wigner	1.01E+03	No		1.01E+01	2.52E+01	5.71E+01
45	^{103}Rh	Yes	ML Breit-Wigner	4.12E+03	Yes	4.01E+04	1.26E+00	4.68E+01	6.83E+01
45	^{105}Rh	No							
46	^{102}Pd	Yes	ML Breit-Wigner	3.97E+02	No		1.91E+02		
46	^{104}Pd	Yes	ML Breit-Wigner	3.20E+03	Yes	1.00E+05	1.83E-02	2.95E+02	3.47E+02
46	^{105}Pd	Yes	ML Breit-Wigner	2.06E+03	Yes	2.00E+04	1.18E+01	1.32E+01	2.52E+01
46	^{106}Pd	Yes	ML Breit-Wigner	3.20E+03	Yes	1.00E+05	2.82E-02	4.08E+02	4.63E+02
46	^{107}Pd	Yes	ML Breit-Wigner	6.60E+02	Yes	5.00E+04	3.92E+00	5.20E+00	6.83E+00
46	^{108}Pd	Yes	ML Breit-Wigner	3.20E+03	Yes	1.00E+05	3.32E+01	9.10E+01	1.13E+02
46	^{110}Pd	Yes	ML Breit-Wigner	2.90E+03	Yes	1.00E+05	2.63E-02	8.58E+02	9.00E+02
47	^{107}Ag	Yes	ML Breit-Wigner	1.06E+03	No		1.63E+01	4.15E+01	4.48E+01
47	^{109}Ag	Yes	ML Breit-Wigner	9.84E+02	Yes	8.00E+04	5.19E+00	3.04E+01	4.01E+01
47	^{110m}Ag	Yes	ML Breit-Wigner	1.25E+02	Yes	1.00E+05	1.15E+01	1.95E+01	2.12E+01
47	^{111}Ag	No							
48	^{106}Cd	Yes	ML Breit-Wigner	6.00E+03	Yes	1.00E+05	2.32E+02	4.56E+02	4.97E+02
48	^{108}Cd	Yes	ML Breit-Wigner	6.10E+03	Yes	1.00E+05	5.42E+01	2.34E+02	3.12E+02
48	^{110}Cd	Yes	ML Breit-Wigner	7.18E+03	Yes	1.00E+05	8.95E+01	2.31E+02	3.70E+02
48	^{111}Cd	Yes	SL Breit-Wigner	2.40E+03	No		2.75E-01	6.94E+01	8.61E+01
48	^{112}Cd	Yes	ML Breit-Wigner	7.35E+03	Yes	1.00E+05	6.68E+01	2.26E+02	4.43E+02

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
48	^{113}Cd	Yes	SL Breit-Wigner	2.25E+03	No		1.78E-01	1.84E+01	6.37E+01
48	^{114}Cd	Yes	ML Breit-Wigner	8.00E+03	Yes	1.00E+05	1.20E+02	2.27E+02	3.92E+02
48	^{115m}Cd	No							
48	^{116}Cd	Yes	ML Breit-Wigner	9.00E+03	Yes	1.00E+05	2.90E+01	6.76E+02	8.89E+02
49	^{113}In	Yes	ML Breit-Wigner	8.30E+02	Yes	1.00E+05	1.80E+00	4.70E+00	1.46E+01
49	^{115}In	Yes	ML Breit-Wigner	2.00E+03	Yes	1.00E+05	1.46E+00	3.82E+00	9.07E+00
50	^{112}Sn	Yes	ML Breit-Wigner	1.50E+03	Yes	1.00E+05	6.47E-01	9.48E+01	1.05E+02
50	^{114}Sn	Yes	ML Breit-Wigner	2.50E+03	Yes	1.00E+05	2.78E+02	6.66E+02	9.84E+02
50	^{115}Sn	Yes	ML Breit-Wigner	9.50E+02	Yes	1.00E+05	2.93E-02	4.48E+02	4.94E+02
50	^{116}Sn	Yes	ML Breit-Wigner	2.00E+03	Yes	1.00E+05	1.11E+02	1.34E+03	1.56E+03
50	^{117}Sn	Yes	ML Breit-Wigner	2.35E+03	Yes	1.00E+05	3.88E-01	1.20E+02	1.24E+02
50	^{118}Sn	Yes	ML Breit-Wigner	4.80E+03	Yes	1.00E+05	3.59E+02	7.71E+02	1.58E+03
50	^{119}Sn	Yes	ML Breit-Wigner	1.30E+03	Yes	1.00E+05	1.15E+02	1.41E+02	2.23E+02
50	^{120}Sn	Yes	ML Breit-Wigner	7.00E+04	Yes	1.00E+05	9.52E+02	3.12E+03	4.36E+03
50	^{122}Sn	Yes	ML Breit-Wigner	2.90E+04	Yes	1.00E+05	1.75E+03	5.40E+03	6.82E+03
50	^{123}Sn	No							
50	^{124}Sn	Yes	ML Breit-Wigner	1.07E+04	Yes	1.00E+05			
50	^{125}Sn	No							
50	^{126}Sn	No							
51	^{121}Sb	Yes	ML Breit-Wigner	2.00E+03	Yes	1.00E+05	6.22E+00	1.54E+01	2.96E+01
51	^{123}Sb	Yes	ML Breit-Wigner	2.50E+03	Yes	1.00E+05	2.14E+01	5.05E+01	7.67E+01
51	^{124}Sb	No							
51	^{125}Sb	No							
51	^{126}Sb	No							
52	^{120}Te	No							
52	^{122}Te	Yes	ML Breit-Wigner	3.79E+03	No		7.28E+01	2.31E+02	3.33E+02
52	^{123}Te	Yes	ML Breit-Wigner	6.33E+02	No		2.33E+00	2.41E+01	3.59E+01
52	^{124}Te	Yes	ML Breit-Wigner	5.70E+03	No		3.52E+02	5.41E+02	6.79E+02
52	^{125}Te	Yes	ML Breit-Wigner	1.34E+03	No		2.63E-01	1.06E+02	1.35E+02
52	^{126}Te	Yes	ML Breit-Wigner	6.35E+03	No		2.01E+02	1.75E+03	2.15E+03
52	^{127m}Te	No							
52	^{128}Te	Yes	ML Breit-Wigner	1.29E+04	No		3.48E+02	4.24E+02	1.32E+03

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
52	^{129m}Te	No							
52	^{130}Te	Yes	ML Breit-Wigner	3.43E+04	No		7.02E+03	1.00E+04	2.42E+04
52	^{132}Te	No							
53	^{127}I	Yes	Reich-Moore	5.20E+03	Yes	5.76E+04	2.04E+01	3.12E+01	3.77E+01
53	^{129}I	Yes	Reich-Moore	5.10E+03	Yes	2.78E+04	4.14E+01	7.21E+01	7.61E+01
53	^{130}I	No							
53	^{131}I	No							
53	^{135}I	No							
54	^{124}Xe	Yes	ML Breit-Wigner	3.75E+02	No		5.16E-00	9.88E+00	2.52E+02
54	^{126}Xe	Yes	ML Breit-Wigner	6.50E+02	No		8.66E+01	1.00E+02	4.60E+02
54	^{128}Xe	Yes	ML Breit-Wigner	4.00E+03	No		2.38E+02	3.71E+02	5.55E+02
54	^{129}Xe	Yes	ML Breit-Wigner	4.20E+03	No		9.44E+00	9.05E+01	9.23E+01
54	^{130}Xe	Yes	ML Breit-Wigner	4.00E+03	No		4.30E+02	9.41E+02	1.48E+03
54	^{131}Xe	Yes	ML Breit-Wigner	2.19E+03	No		1.44E+01	4.60E+01	7.56E+01
54	^{132}Xe	Yes	ML Breit-Wigner	4.26E+03	No		6.43E+02	2.13E+03	2.85E+03
54	^{133}Xe	No							
54	^{134}Xe	Yes	ML Breit-Wigner	2.00E+03	No		1.00E+03		
54	^{135}Xe	No							
54	^{136}Xe	No							
55	^{133}Cs	Yes	ML Breit-Wigner	3.99E+03	Yes	8.16E+04	5.86E-00	2.25E+01	4.76E+01
55	^{134}Cs	Yes	ML Breit-Wigner	1.87E+02	No		1.23E+01	3.90E+01	4.21E+01
55	^{135}Cs	Yes	ML Breit-Wigner	4.63E+02	Yes	5.00E+04	5.00E-01	1.32E+02	2.14E+02
55	^{136}Cs	Yes	ML Breit-Wigner	2.97E+02	No		4.23E+01	6.63E+01	1.36E+02
55	^{137}Cs	Yes	ML Breit-Wigner	1.06E+04	Yes	1.00E+05	7.20E+02	1.52E+03	2.07E+03
56	^{130}Ba	Yes	ML Breit-Wigner	2.53E+03	Yes	1.00E+05	4.63E+01	5.79E+01	1.36E+02
56	^{132}Ba	No			Yes	1.00E+05			
56	^{134}Ba	Yes	ML Breit-Wigner	1.06E+04	Yes	1.00E+05	1.02E+02	2.63E+02	3.29E+02
56	^{135}Ba	Yes	ML Breit-Wigner	5.96E+03	Yes	1.00E+05	2.42E+01	8.15E+01	8.72E+01
56	^{136}Ba	Yes	ML Breit-Wigner	3.45E+04	Yes	1.00E+05	4.49E+02	5.11E+02	2.16E+03
56	^{137}Ba	Yes	ML Breit-Wigner	1.19E+04	Yes	1.00E+05	1.27E+02	4.18E+02	5.77E+02
56	^{138}Ba	Yes	ML Breit-Wigner	1.00E+05	No		7.88E+03	3.09E+04	4.03E+04
56	^{140}Ba	Yes	ML Breit-Wigner	2.30E+04	Yes	1.00E+05	1.22E+02	1.07E+03	2.87E+03

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
57	^{138}La	Yes	ML Breit-Wigner	3.30E+02	Yes	1.00E+05	2.99E+00	2.10E+01	6.71E+01
57	^{139}La	Yes	ML Breit-Wigner	1.08E+04	Yes	2.50E+05	7.22E-01	8.76E+02	9.63E+02
57	^{140}La	No							
58	^{140}Ce	Yes	ML Breit-Wigner	2.00E+04	No		2.54E+03	6.01E+03	9.57E+03
58	^{141}Ce	Yes	ML Breit-Wigner	5.00E+02	Yes	1.00E+04	2.30E+01	5.90E+01	9.50E+01
58	^{142}Ce	Yes	ML Breit-Wigner	4.88E+03	Yes	1.00E+04	1.29E+03	1.64E+03	2.74E+03
58	^{143}Ce	No							
58	^{144}Ce	Yes	ML Breit-Wigner	1.04E+04	Yes	2.00E+04	3.60E+02	1.16E+03	1.96E+03
59	^{141}Pr	Yes	ML Breit-Wigner	5.77E+03	Yes	3.00E+05	8.52E-01	1.12E+02	2.19E+02
59	^{142}Pr	No							
59	^{143}Pr	No							
60	^{142}Nd	Yes	ML Breit-Wigner	1.11E+04	No		2.19E+02	2.35E+02	6.36E+02
60	^{143}Nd	Yes	ML Breit-Wigner	5.52E+03	Yes	1.00E+04	5.53E-01	1.27E+02	1.36E+02
60	^{144}Nd	Yes	ML Breit-Wigner	1.20E+04	Yes	5.00E+04	3.74E+02	7.34E+02	1.28E+03
60	^{145}Nd	Yes	ML Breit-Wigner	2.17E+03	Yes	5.00E+04	4.35E+00	4.25E+01	8.56E+01
60	^{146}Nd	Yes	ML Breit-Wigner	1.00E+04	Yes	5.00E+04	3.60E+02	7.23E+02	8.10E+02
60	^{147}Nd	Yes	ML Breit-Wigner	3.57E+01	No		4.79E+00	6.26E+00	1.03E+01
60	^{148}Nd	Yes	ML Breit-Wigner	7.70E+03	Yes	5.00E+04	9.49E-01	1.55E+02	2.88E+02
60	^{150}Nd	Yes	ML Breit-Wigner	5.12E+03	No		7.88E+01	2.66E+02	3.13E+02
61	^{147}Pm	Yes	ML Breit-Wigner	3.19E+02	Yes	5.00E+04	5.36E+00	6.57E+00	6.92E+00
61	^{148}Pm	No							
61	^{148m}Pm	Yes	ML Breit-Wigner	1.00E+00	No		1.69E-01		
61	^{149}Pm	No							
61	^{151}Pm	No							
62	^{144}Sm	No							
62	^{147}Sm	Yes	ML Breit-Wigner	7.69E+02	Yes	7.00E+04	3.40E+00	1.83E+01	2.71E+01
62	^{148}Sm	No							
62	^{149}Sm	Yes	ML Breit-Wigner	5.20E+02	Yes	1.00E+05	9.73E-02	8.72E-01	4.95E+00
62	^{150}Sm	Yes	ML Breit-Wigner	5.93E+02	No		2.07E-01	4.81E+01	1.11E+02
62	^{151}Sm	Yes	ML Breit-Wigner	2.97E+02	Yes	4.00E+03	4.56E-01	1.09E+00	1.70E+00
62	^{152}Sm	Yes	ML Breit-Wigner	3.69E+03	Yes	7.00E+04	8.05E+00	6.22E+01	8.77E+01
62	^{153}Sm	No							

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
62	^{154}Sm	Yes	ML Breit-Wigner	3.10E+03	No		9.30E+01	2.61E+02	3.42E+02
63	^{151}Eu	Yes	ML Breit-Wigner	9.88E+01	Yes	1.00E+04	3.21E-01	4.61E-01	1.06E+00
63	^{152}Eu	Yes	ML Breit-Wigner	6.55E+00	Yes	1.00E+05	8.84E-01	1.34E+00	1.63E+00
63	^{153}Eu	Yes	ML Breit-Wigner	9.72E+01	Yes	1.00E+05	1.73E+00	2.46E+00	3.29E+00
63	^{154}Eu	Yes	ML Breit-Wigner	6.30E+01	Yes	1.00E+04	1.90E-01	8.57E-01	1.37E+00
63	^{155}Eu	Yes	ML Breit-Wigner	3.75E+01	Yes	1.00E+04	6.03E-01	2.04E+00	7.19E+00
63	^{156}Eu	No							
63	^{157}Eu	No							
64	^{152}Gd	Yes	ML Breit-Wigner	2.66E+03	Yes	1.00E+05	3.31E+00	8.00E+00	9.55E+00
64	^{154}Gd	Yes	ML Breit-Wigner	2.76E+02	No		9.41E+00	1.16E+01	2.23E+01
64	^{155}Gd	Yes	ML Breit-Wigner	1.82E+02	Yes	1.00E+05	2.68E-02	2.01E+00	2.57E+00
64	^{156}Gd	Yes	ML Breit-Wigner	1.58E+03	Yes	5.00E+04	3.31E+01	8.02E+01	1.50E+02
64	^{157}Gd	Yes	ML Breit-Wigner	2.15E+02	No		3.14E-02	2.83E+00	1.62E+01
64	^{158}Gd	Yes	ML Breit-Wigner	6.04E+03	No		2.23E+01	1.01E+02	2.43E+02
64	^{160}Gd	Yes	ML Breit-Wigner	2.88E+03	No		2.22E+02	4.22E+02	4.48E+02
65	^{159}Tb	Yes	ML Breit-Wigner	1.70E+02	Yes	1.00E+04	3.34E+00	4.98E+00	1.11E+01
65	^{160}Tb	No							
66	^{160}Dy	Yes	ML Breit-Wigner	2.44E+01	No		1.88E+00	1.04E+01	2.05E+01
66	^{161}Dy	Yes	ML Breit-Wigner	1.00E+03	Yes	1.00E+04	2.71E+00	3.68E+00	4.33E+00
66	^{162}Dy	Yes	ML Breit-Wigner	1.22E+04	Yes	5.00E+04	5.44E+00	7.11E+01	1.17E+02
66	^{163}Dy	Yes	ML Breit-Wigner	1.00E+03	No		1.71E+00	5.81E+00	1.62E+01
66	^{164}Dy	Yes	ML Breit-Wigner	1.60E+04	Yes	5.00E+04	1.47E+02	4.50E+02	5.36E+02
67	^{165}Ho	Yes	SL Breit-Wigner	1.52E+02	No		3.92E+00	8.16E+00	1.28E+01
68	^{162}Er	Yes	ML Breit-Wigner	2.50E+02	No		5.48E+00	7.60E+00	1.46E+01
68	^{164}Er	Yes	ML Breit-Wigner	8.00E+02	No		7.92E+00	3.05E+01	4.97E+01
68	^{166}Er	Yes	ML Breit-Wigner	3.00E+03	No		1.56E+01	7.38E+01	8.17E+01
68	^{167}Er	Yes	ML Breit-Wigner	5.91E+02	Yes	1.00E+04	4.60E-01	5.83E-01	5.99E+00
68	^{168}Er	Yes	ML Breit-Wigner	3.50E+03	No		7.97E+01	1.89E+02	2.44E+02
68	^{170}Er	Yes	ML Breit-Wigner	3.00E+03	No		9.51E-01	2.84E+02	4.97E+02
71	^{175}Lu	Yes	ML Breit-Wigner	4.11E+02	Yes	1.00E+04	2.59E+00	4.75E+00	5.22E+00
71	^{176}Lu	Yes	ML Breit-Wigner	1.02E+02	Yes	1.00E+04	1.41E-01	1.57E+00	4.36E+00
72	^{174}Hf	Yes	Reich-Moore	2.20E+02	Yes	5.00E+04	4.06E+00	1.34E+01	3.00E+01

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
72	^{176}Hf	Yes	Reich-Moore	7.00E+02	Yes	5.00E+04	7.89E+00	4.83E+01	5.33E+01
72	^{177}Hf	Yes	Reich-Moore	2.50E+02	Yes	5.00E+04	1.10E+00	2.39E+00	5.90E+00
72	^{178}Hf	Yes	Reich-Moore	1.50E+03	Yes	5.00E+04	7.79E+00	1.05E+02	1.65E+02
72	^{179}Hf	Yes	Reich-Moore	2.50E+02	Yes	5.00E+04	5.69E+00	1.77E+01	1.91E+01
72	^{180}Hf	Yes	Reich-Moore	2.50E+03	Yes	5.00E+04	7.25E-01	1.72E+02	4.47E+02
73	^{181}Ta	Yes	ML Breit-Wigner	2.40E+03	Yes	1.00E+05	4.28E+00	1.04E+01	1.40E+01
73	^{182}Ta	Yes	ML Breit-Wigner	3.50E+01	Yes	1.00E+04	1.47E-01	1.82E+00	5.98E+00
74	^{182}W	Yes	ML Breit-Wigner	1.20E+04	No		4.15E+00	2.11E+01	1.14E+02
74	^{183}W	Yes	ML Breit-Wigner	2.20E+03	No		7.64E+00	2.70E+01	4.06E+01
74	^{184}W	Yes	ML Breit-Wigner	1.50E+04	No		1.02E+02	1.69E+02	1.84E+02
74	^{186}W	Yes	ML Breit-Wigner	1.50E+04	No		1.88E+01	1.71E+02	2.18E+02
75	^{185}Re	Yes	ML Breit-Wigner	2.00E+03	Yes	3.50E+04	2.16E+00	5.92E+00	7.22E+00
75	^{187}Re	Yes	ML Breit-Wigner	2.00E+03	Yes	3.50E+04	4.42E+00	1.11E+01	1.60E+01
76	^{nat}Os	Yes	ML Breit-Wigner	1.60E+02	No				
76	^{nat}Os	Yes	ML Breit-Wigner	3.36E+03	No		2.24E+01	4.47E+01	6.63E+01
76	^{nat}Os	Yes	ML Breit-Wigner	9.90E+02	No		9.47E+00	1.27E+01	2.02E+01
76	^{nat}Os	Yes	ML Breit-Wigner	5.00E+03	No		3.87E+01	7.86E+01	1.50E+02
76	^{nat}Os	Yes	ML Breit-Wigner	7.70E+01	No		6.71E+00	8.96E+00	1.03E+01
76	^{nat}Os	Yes	ML Breit-Wigner	1.50E+02	No		9.16E+01	1.45E+02	2.02E+02
76	^{nat}Os	Yes	ML Breit-Wigner	1.50E+02	No		2.05E-01	1.28E+02	2.00E+02
77	^{191}Ir	Yes	ML Breit-Wigner	1.60E+02	Yes	1.00E+04	6.53E-01	5.36E+00	6.13E+00
77	^{193}Ir	Yes	ML Breit-Wigner	3.00E+02	Yes	1.00E+04	1.30E+00	9.07E+00	2.45E+01
78	^{nat}Pt	No							
79	^{197}Au	Yes	ML Breit-Wigner	5.00E+03	No		4.91E+00	4.65E+01	5.81E+01
80	^{196}Hg	Yes	ML Breit-Wigner	1.03E+02	No		9.35E-01		
80	^{198}Hg	Yes	ML Breit-Wigner	4.59E+02	No		2.31E+01	8.98E+01	3.03E+02
80	^{199}Hg	Yes	ML Breit-Wigner	9.68E+02	No		3.35E-01	1.30E+02	1.75E+02
80	^{200}Hg	Yes	ML Breit-Wigner	8.58E+03	No		1.33E+03	2.71E+03	5.06E+03
80	^{201}Hg	Yes	ML Breit-Wigner	7.54E+02	No		4.30E-01	7.09E+01	2.10E+02
80	^{202}Hg	Yes	ML Breit-Wigner	4.52E+03	No		1.71E+03	4.11E+03	
80	^{204}Hg	No							
81	^{nat}Tl	Yes	SL Breit-Wigner	5.00E+04	No		2.38E+02	8.42E+02	1.13E+03

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
81	^{nat}Tl	Yes	SL Breit-Wigner	5.00E+04	No		2.79E+03	3.04E+03	5.10E+03
82	^{204}Pb	Yes	ML Breit-Wigner	5.00E+04	No		1.69E+03	2.48E+03	6.70E+03
82	^{206}Pb	Yes	Reich-Moore	9.00E+05	No		1.64E+04	6.60E+04	9.26E+04
82	^{207}Pb	Yes	Reich-Moore	4.75E+05	No		4.13E-04	1.02E+05	1.82E+05
82	^{208}Pb	Yes	Reich-Moore	1.00E+06	No		5.06E+05	8.88E+05	9.98E+05
83	^{209}Bi	Yes	ML Breit-Wigner	2.00E+05	No		8.00E-02	2.31E+03	5.11E+03
88	^{223}Ra	No							
88	^{224}Ra	No							
88	^{225}Ra	No							
88	^{226}Ra	Yes	ML Breit-Wigner	1.00E+03	No		5.37E-01	2.43E+01	3.91E+01
89	^{225}Ac	No							
89	^{226}Ac	No							
89	^{227}Ac	No							
90	^{227}Th	No							
90	^{228}Th	Yes	ML Breit-Wigner	7.80E+00	No		1.90E+00	7.55E+00	
90	^{229}Th	Yes	SL Breit-Wigner	9.50E+00	No		6.09E-01	1.26E+00	1.44E+00
90	^{230}Th	Yes	ML Breit-Wigner	2.51E+02	No		1.43E+00	1.73E+01	2.38E+01
90	^{232}Th	Yes	ML Breit-Wigner	4.00E+03	Yes	1.50E+05	2.18E-01	2.35E+01	5.95E+01
90	^{233}Th	No							
90	^{234}Th	No							
91	^{231}Pa	Yes	ML Breit-Wigner	1.43E+01	Yes	1.00E+03	3.96E-01	4.94E-01	7.43E-01
91	^{232}Pa	Yes	ML Breit-Wigner	1.00E+01	No		3.30E-01	6.90E-01	1.40E+00
91	^{233}Pa	Yes	ML Breit-Wigner	3.85E+01	Yes	1.00E+04	7.95E-01	1.34E+00	1.64E+00
92	^{232}U	Yes	ML Breit-Wigner	5.30E+01	Yes	1.00E+03	5.98E+00	1.27E+01	2.10E+01
92	^{233}U	Yes	Reich-Moore	1.50E+02	Yes	3.00E+04	1.70E-01	4.40E-01	1.43E+00
92	^{234}U	Yes	ML Breit-Wigner	1.50E+03	Yes	1.40E+05	5.16E+00	2.27E+01	2.34E+01
92	^{235}U	Yes	Reich-Moore	2.25E+03	Yes	2.50E+04	3.66E-05	2.74E-01	1.13E+00
92	^{236}U	Yes	ML Breit-Wigner	1.50E+03	No		5.45E+00	2.97E+01	3.41E+01
92	^{237}U	Yes	ML Breit-Wigner	2.00E+02	Yes	1.00E+04	1.50E+00	5.00E+00	8.50E+00
92	^{238}U	Yes	Reich-Moore	2.00E+04	Yes	3.00E+05	6.67E+00	2.09E+01	3.67E+01
93	^{235}Np	No							
93	^{236}Np	No							

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
93	^{237}Np	Yes	ML Breit-Wigner	5.00E+02	Yes	3.50E+04	4.90E-01	1.32E+00	1.48E+00
93	^{238}Np	Yes	ML Breit-Wigner	1.00E+02	Yes	1.00E+04	1.52E+00	2.57E+00	3.62E+00
93	^{239}Np	No							
94	^{236}Pu	Yes	ML Breit-Wigner	1.00E+01	Yes	3.00E+04	3.16E+00	6.30E+00	1.20E+01
94	^{237}Pu	No							
94	^{238}Pu	Yes	ML Breit-Wigner	5.00E+02	Yes	1.50E+05	2.90E+00	9.98E+00	1.86E+01
94	^{239}Pu	Yes	Reich-Moore	2.50E+03	Yes	3.00E+04	2.96E-01	7.82E+00	1.09E+01
94	^{240}Pu	Yes	Reich-Moore	5.70E+03	Yes	4.00E+04	1.06E+00	2.04E+01	3.83E+01
94	^{241}Pu	Yes	Reich-Moore	3.00E+02	Yes	3.00E+04	1.50E-01	2.64E-01	1.73E+00
94	^{242}Pu	Yes	ML Breit-Wigner	1.15E+03	Yes	4.00E+04	2.67E+00	1.46E+01	2.26E+01
94	^{243}Pu	Yes	ML Breit-Wigner	1.02E+02	Yes	1.00E+04	1.66E+00	4.16E+00	6.66E+00
94	^{244}Pu	Yes	ML Breit-Wigner	2.49E+02	Yes	1.00E+04	2.12E+01	3.26E+01	4.40E+01
94	^{246}Pu	No							
95	^{241}Am	Yes	ML Breit-Wigner	1.50E+02	Yes	4.00E+04	3.07E-01	5.76E-01	1.27E+00
95	^{242}Am	Yes	ML Breit-Wigner	1.00E+02	Yes	4.43E+04	3.50E-01	2.19E+00	2.31E+00
95	^{242m}Am	Yes	ML Breit-Wigner	4.30E+01	Yes	2.73E+04	1.78E-01	6.15E-01	1.10E+00
95	^{243}Am	Yes	ML Breit-Wigner	2.50E+02	Yes	4.24E+04	4.19E-01	9.83E-01	1.36E+00
95	^{244}Am	No							
95	^{244m}Am	No							
96	^{240}Cm	Yes	ML Breit-Wigner	1.50E+02	Yes	3.00E+04	3.39E+00	1.02E+01	1.69E+01
96	^{241}Cm	No							
96	^{242}Cm	Yes	ML Breit-Wigner	2.75E+02	Yes	4.00E+04	1.36E-01	3.03E+01	3.75E+01
96	^{243}Cm	Yes	SL Breit-Wigner	7.00E+01	Yes	4.00E+04	6.71E-01	1.14E+00	1.47E+00
96	^{244}Cm	Yes	SL Breit-Wigner	5.25E+02	Yes	1.00E+04	7.67E+00	1.68E+01	2.28E+01
96	^{245}Cm	Yes	ML Breit-Wigner	1.00E+02	Yes	5.50E+04	8.50E-01	1.98E+00	2.15E+00
96	^{246}Cm	Yes	ML Breit-Wigner	4.00E+02	Yes	4.30E+04	4.32E+00	1.53E+01	3.30E+01
96	^{247}Cm	Yes	SL Breit-Wigner	6.00E+01	Yes	3.00E+04	1.25E+00	2.92E+00	3.19E+01
96	^{248}Cm	Yes	ML Breit-Wigner	1.50E+03	Yes	3.00E+04	7.25E+00	2.69E+01	3.50E+01
96	^{249}Cm	Yes	ML Breit-Wigner	1.50E+02	Yes	2.50E+04	1.50E-01	3.00E+01	5.00E+01
96	^{250}Cm	Yes	ML Breit-Wigner	1.50E+02	Yes	3.00E+04	2.00E+01	2.70E+02	4.50E+02
97	^{247}Bk	Yes	SL Breit-Wigner	1.50E+02	No		1.01E+00	3.02E+00	5.03E+00
97	^{249}Bk	Yes	ML Breit-Wigner	6.00E+01	Yes	3.00E+04	1.95E-01	1.34E+00	1.60E+00

Table 6. Resonance data in the JEFF-3.1 general-purpose neutron data library (*cont.*)

Z	Isotope	Res data	Formalism	Upper limit RRR	Av param in URR	Upper limit URR	Energy of 3 s-wave res. (eV)		
97	^{250}Bk	Yes	ML Breit-Wigner	1.00E+02	Yes	3.00E+04	1.82E+00	3.91E+00	6.00E+00
98	^{249}Cf	Yes	ML Breit-Wigner	7.00E+01	Yes	3.00E+04	7.00E-01	3.88E+00	5.07E+00
98	^{250}Cf	Yes	SL Breit-Wigner	1.50E+02	Yes	3.00E+04	1.00E+00	1.70E+01	3.30E+01
98	^{251}Cf	Yes	ML Breit-Wigner	1.64E+02	Yes	1.00E+04	7.12E-01	8.87E+00	1.70E+01
98	^{252}Cf	Yes	ML Breit-Wigner	3.67E+02	Yes	1.00E+04	1.71E+01	3.46E+01	5.21E+01
98	^{254}Cf	No							
99	^{253}Es	Yes	ML Breit-Wigner	1.01E+02	Yes	1.00E+04	5.86E-01	4.31E+00	8.04E+00
99	^{254}Es	No							
99	^{255}Es	No							
100	^{255}Fm	No							

Table 7. Contents of the JEFF-3.1 thermal scattering law library

Material	MAT no.	MF1	MF7
H(H$_2$O)	1	451	4
H(ZrH)	7	451	2, 4
H(CaH$_2$)	8	451	2, 4
D(D$_2$O)	11	451	4
^{4}Be	26	451	2, 4
Graphite	31	451	2, 4
H(CH$_2$)	37	451	2, 4
^{24}Mg	52	451	2, 4
Ca(CaH$_2$)	59	451	2, 4

84

Table 8. Contents of the JEFF-3.1 proton special-purpose library. List of available reactions (MTs) in files MF=3 to MF=6.

Z	Sym	MF1	MF3	MF6
20	^{40}Ca	451	2, 5	2, 5
20	^{42}Ca	451	2, 5	2, 5
20	^{43}Ca	451	2, 5	2, 5
20	^{44}Ca	451	2, 5	2, 5
20	^{46}Ca	451	2, 5	2, 5
20	^{48}Ca	451	2, 5	2, 5
21	^{45}Sc	451	2, 5	2, 5
22	^{46}Ti	451	2, 5	2, 5
22	^{47}Ti	451	2, 5	2, 5
22	^{48}Ti	451	2, 5	2, 5
22	^{49}Ti	451	2, 5	2, 5
22	^{50}Ti	451	2, 5	2, 5
26	^{54}Fe	451	2, 5	2, 5
26	^{56}Fe	451	2, 5	2, 5
26	^{57}Fe	451	2, 5	2, 5
26	^{58}Fe	451	2, 5	2, 5
32	^{70}Ge	451	2, 5	2, 5
32	^{72}Ge	451	2, 5	2, 5
32	^{73}Ge	451	2, 5	2, 5
32	^{74}Ge	451	2, 5	2, 5
32	^{76}Ge	451	2, 5	2, 5
82	^{204}Pb	451	2, 5	2, 5
82	^{206}Pb	451	2, 5	2, 5
82	^{207}Pb	451	2, 5	2, 5
82	^{208}Pb	451	2, 5	2, 5
83	^{209}Bi	451	2, 5	2, 5

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=125:H-1							
1	Total	3.04548E+01	3.30070E-01	1.08381	2.40810E+02	4.00392E+00	6.92003E-01
2	Elastic	3.01228E+01	3.26750E-01	1.08473	2.40661E+02	4.00390E+00	6.91974E-01
102	n,gamma	3.31982E-01	3.32070E-01	1.00026	1.49128E-01	3.95867E-05	2.97350E-05
Material(MAT)=128:H-2							
1	Total	4.23413E+00	4.69340E+00	1.10848	4.13548E+01	2.54100E+00	8.12870E-01
2	Elastic	4.23362E+00	4.69290E+00	1.10849	4.13546E+01	2.53520E+00	6.46437E-01
102	n,gamma	5.05707E-04	5.05780E-04	1.00015	2.28669E-04	6.99577E-06	9.53295E-06
Material(MAT)=131:H-3							
1	Total	1.98141E+00	2.21350E+00	1.11712	2.05035E+01	1.95013E+00	9.73764E-01
2	Elastic	1.98141E+00	2.21350E+00	1.11712	2.05035E+01	1.94993E+00	9.23564E-01
Material(MAT)=225:He-3							
1	Total	5.31964E+03	5.32140E+03	1.00032	2.41544E+03	2.96585E+00	1.16941E+00
2	Elastic	3.86100E+00	4.31490E+00	1.11757	3.86455E+01	2.14796E+00	9.71905E-01
102	n,gamma	3.10003E-05	3.10090E-05	1.00027	1.39449E-05	4.80149E-09	1.32057E-09
Material(MAT)=228:He-4							
1	Total	8.54660E-01	9.58730E-01	1.12176	9.28162E+00	3.66169E+00	1.05708E+00
2	Elastic	8.54660E-01	9.58730E-01	1.12176	9.28162E+00	3.66169E+00	1.05708E+00
Material(MAT)=325:Li-6							
1	Total	9.41742E+02	9.42080E+02	1.00036	4.31319E+02	1.92581E+00	1.45307E+00
2	Elastic	7.27754E-01	8.18980E-01	1.12535	8.18293E+00	1.44486E+00	8.65891E-01
102	n,gamma	3.85004E-02	3.85110E-02	1.00027	1.73185E-02	1.17405E-05	1.02286E-05
Material(MAT)=328:Li-7							
1	Total	1.08499E+00	1.21640E+00	1.12110	1.25033E+01	1.81894E+00	1.44555E+00
2	Elastic	1.03958E+00	1.17100E+00	1.12638	1.24829E+01	1.64065E+00	1.01451E+00
102	n,gamma	4.54021E-02	4.54160E-02	1.00030	2.04148E-02	7.19468E-06	4.12092E-06
Material(MAT)=425:Be-9							
1	Total	6.51084E+00	7.33650E+00	1.12682	7.41846E+01	2.70883E+00	1.01556E+00
2	Elastic	6.50206E+00	7.32780E+00	1.12699	7.41806E+01	2.67479E+00	9.87723E-01
102	n,gamma	8.77353E-03	8.77590E-03	1.00027	3.95827E-03	1.16436E-05	1.24715E-06
Material(MAT)=525:B-10							
1	Total	3.84215E+03	3.84330E+03	1.00030	1.75052E+03	2.64081E+00	1.46866E+00
2	Elastic	2.25048E+00	2.53740E+00	1.12749	2.63854E+01	2.08994E+00	9.08833E-01
102	n,gamma	4.99872E-01	4.99840E-01	0.99994	2.23447E-01	3.32211E-05	0.00000E+00

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=528:B-11							
1	Total	5.06677E+00	5.71290E+00	1.12753	5.93102E+01	2.44559E+00	1.41534E+00
2	Elastic	5.06127E+00	5.70740E+00	1.12766	5.93074E+01	2.41371E+00	7.91187E-01
102	n,gamma	5.50006E-03	5.50200E-03	1.00035	2.74777E-03	2.78593E-06	2.14331E-07
Material(MAT)=600:C-Nat							
1	Total	4.94136E+00	5.57250E+00	1.12774	5.75769E+01	2.38916E+00	1.30237E+00
2	Elastic	4.93799E+00	5.56920E+00	1.12782	5.75754E+01	2.37556E+00	8.19286E-01
102	n,gamma	3.36705E-03	3.37740E-03	1.00307	1.52817E-03	9.48826E-06	1.15189E-04
Material(MAT)=725:N-14							
1	Total	1.21698E+01	1.34850E+01	1.10808	1.11668E+02	2.00777E+00	1.56850E+00
2	Elastic	1.02676E+01	1.15820E+01	1.12806	1.10813E+02	1.86926E+00	9.69143E-01
102	n,gamma	7.49915E-02	7.49970E-02	1.00008	3.36688E-02	3.65302E-05	1.72232E-05
Material(MAT)=728:N-15							
1	Total	4.56325E+00	5.13890E+00	1.12615	5.21077E+01	2.61947E+00	1.65255E+00
2	Elastic	4.56322E+00	5.13890E+00	1.12615	5.21077E+01	2.60717E+00	9.61092E-01
102	n,gamma	2.40099E-05	2.40330E-05	1.00096	3.20621E-05	1.87229E-05	8.60002E-06
Material(MAT)=825:O-16							
1	Total	3.97321E+00	4.48260E+00	1.12822	4.68501E+01	2.80403E+00	1.59271E+00
2	Elastic	3.97302E+00	4.48250E+00	1.12822	4.68500E+01	2.78686E+00	9.57242E-01
102	n,gamma	1.90002E-04	1.90050E-04	1.00028	8.54667E-05	2.94284E-08	8.09378E-09
Material(MAT)=828:O-17							
1	Total	4.08957E+00	4.58360E+00	1.12079	4.49406E+01	1.52525E+00	1.67803E+00
2	Elastic	3.85073E+00	4.34470E+00	1.12827	4.48329E+01	1.36951E+00	7.20000E-01
102	n,gamma	3.82863E-03	3.82720E-03	0.99962	1.71412E-03	1.93617E-04	2.08823E-04
Material(MAT)=925:F-19							
1	Total	3.74669E+00	4.22520E+00	1.12771	5.14824E+01	3.63682E+00	1.75887E+00
2	Elastic	3.73711E+00	4.21560E+00	1.12804	5.14672E+01	2.64410E+00	9.45527E-01
102	n,gamma	9.57845E-03	9.58110E-03	1.00028	1.51906E-02	2.08080E-04	3.53925E-05
Material(MAT)=1122:Na-22							
1	Total	2.90779E+04	2.91360E+04	1.00202	1.57862E+04	2.94234E+00	1.61298E+00
2	Elastic	7.41575E+01	8.36890E+01	1.12853	9.63692E+02	2.04851E+00	7.29026E-01
102	n,gamma	2.52100E+02	2.52580E+02	1.00192	1.28624E+02	7.72932E-04	2.10470E-04
Material(MAT)=1125:Na-23							
1	Total	3.62117E+00	4.01830E+00	1.10968	1.23147E+02	3.42022E+00	1.80909E+00
2	Elastic	3.08980E+00	3.48680E+00	1.12849	1.22836E+02	3.04276E+00	1.01904E+00
102	n,gamma	5.31372E-01	5.31550E-01	1.00034	3.10635E-01	2.30165E-04	1.48817E-04

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=1225:Mg-24							
1	Total	3.87745E+00	4.36920E+00	1.12683	5.40101E+01	3.55191E+01	1.74764E+00
2	Elastic	3.82716E+00	4.31890E+00	1.12849	5.39809E+01	3.20560E+00	5.24937E-01
102	n,gamma	5.02895E-02	5.03060E-02	1.00033	2.91613E-02	3.88811E-04	3.44609E-05
Material(MAT)=1228:Mg-25							
1	Total	2.83737E+00	3.17760E+00	1.11992	4.13022E+01	3.10292E+00	1.82570E+00
2	Elastic	2.64699E+00	2.98720E+00	1.12852	4.12050E+01	2.73706E+00	6.85733E-01
102	n,gamma	1.90374E-01	1.90440E-01	1.00033	9.73437E-02	3.57814E-04	6.98834E-06
Material(MAT)=1231:Mg-26							
1	Total	2.92345E+00	3.29430E+00	1.12685	3.39465E+01	3.28270E+00	1.85076E+00
2	Elastic	2.88514E+00	3.25600E+00	1.12853	3.39293E+01	3.04993E+00	6.81588E-01
102	n,gamma	3.83094E-02	3.83220E-02	1.00033	1.72200E-02	3.22012E-04	2.12583E-05
Material(MAT)=1325:Al-27							
1	Total	1.68510E+00	1.87180E+00	1.11079	2.38144E+01	3.24197E+00	1.74426E+00
2	Elastic	1.45164E+00	1.63820E+00	1.12855	2.36868E+01	2.92519E+00	7.79437E-01
102	n,gamma	2.33463E-01	2.33540E-01	1.00033	1.27603E-01	5.46344E-04	6.27689E-04
Material(MAT)=1425:Si-28							
1	Total	2.16030E+00	2.41630E+00	1.11851	2.38949E+01	3.16056E+00	1.73039E+00
2	Elastic	1.99117E+00	2.24710E+00	1.12855	2.38130E+01	2.95997E+00	6.96955E-01
102	n,gamma	1.69135E-01	1.69190E-01	1.00033	8.18819E-02	6.91704E-04	6.32557E-04
Material(MAT)=1428:Si-29							
1	Total	2.99378E+00	3.36580E+00	1.12428	3.36688E+01	3.61851E+00	1.75658E+00
2	Elastic	2.89228E+00	3.26420E+00	1.12858	3.36041E+01	3.30146E+00	7.70796E-01
102	n,gamma	1.01499E-01	1.01690E-01	1.00188	6.47622E-02	2.99550E-04	3.25080E-04
Material(MAT)=1431:Si-30							
1	Total	2.64032E+00	2.96650E+00	1.12355	3.53750E+01	3.59449E+00	1.77936E+00
2	Elastic	2.53256E+00	2.85820E+00	1.12858	3.46707E+01	3.41825E+00	7.37451E-01
102	n,gamma	1.07758E-01	1.08350E-01	1.00550	7.04389E-01	6.78705E-04	4.79509E-04
Material(MAT)=1525:P-31							
1	Total	3.35111E+00	3.76070E+00	1.12223	3.72489E+01	2.88188E+00	1.83244E+00
2	Elastic	3.18493E+00	3.59450E+00	1.12859	3.71731E+01	2.55479E+00	1.16143E-01
102	n,gamma	1.66183E-01	1.66240E-01	1.00033	7.58402E-02	1.01302E-03	9.89520E-06
Material(MAT)=1625:S-32							
1	Total	1.51395E+00	1.64090E+00	1.08385	1.22652E+01	2.77745E+00	1.73826E+00
2	Elastic	9.78639E-01	1.10450E+00	1.12860	1.19346E+01	2.53441E+00	7.64114E-01
102	n,gamma	5.28204E-01	5.28370E-01	1.00032	2.45208E-01	5.91342E-04	3.23500E-06

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E_0)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=1628:S-33							
1	Total	3.41074E+00	3.80450E+00	1.11543	3.45035E+01	2.70933E+00	1.76369E+00
2	Elastic	2.88785E+00	3.25920E+00	1.12860	3.22619E+01	2.32269E+00	7.29608E-01
102	n,gamma	3.50050E-01	3.50160E-01	1.00032	1.63419E-01	2.06035E-04	7.15924E-07
Material(MAT)=1631:S-34							
1	Total	2.33180E+00	2.60300E+00	1.11631	2.39443E+01	2.64806E+00	1.77993E+00
2	Elastic	2.10820E+00	2.37930E+00	1.12861	2.38451E+01	2.51616E+00	7.48048E-01
102	n,gamma	2.23602E-01	2.23670E-01	1.00032	9.92256E-02	2.77325E-04	3.66670E-06
Material(MAT)=1637:S-36							
1	Total	2.36577E+00	2.65280E+00	1.12133	2.67993E+01	2.64465E+00	1.82909E+00
2	Elastic	2.21531E+00	2.50030E+00	1.12862	2.66792E+01	2.56528E+00	7.93447E-01
102	n,gamma	1.50455E-01	1.52560E-01	1.01398	1.20122E-01	2.49779E-04	1.36924E-06
Material(MAT)=1725:Cl-35							
1	Total	6.50682E+01	6.77940E+01	1.04189	1.37649E+02	2.82680E+00	2.02639E+00
2	Elastic	2.09690E+01	2.36610E+01	1.12838	1.19210E+02	2.47621E+00	8.90589E-01
102	n,gamma	4.36185E+01	4.36520E+01	1.00077	1.79651E+01	8.80508E-04	4.78074E-04
Material(MAT)=1731:Cl-37							
1	Total	1.59639E+00	1.74630E+00	1.09393	1.89685E+01	2.61868E+00	2.11029E+00
2	Elastic	1.16328E+00	1.31290E+00	1.12862	1.87656E+01	2.45384E+00	1.00833E+00
102	n,gamma	4.33111E-01	4.33430E-01	1.00074	2.02939E-01	4.36191E-04	2.86825E-04
Material(MAT)=1825:Ar-36							
1	Total	7.96350E+01	8.93080E+01	1.12147	6.69243E+02	2.86333E+00	1.82368E+00
2	Elastic	7.45911E+01	8.41850E+01	1.12862	6.66982E+02	2.51921E+00	7.92078E-01
102	n,gamma	5.04389E+00	5.12340E+00	1.01576	2.26121E+00	3.41829E-03	4.38002E-04
Material(MAT)=1831:Ar-38							
1	Total	9.74215E+00	1.09250E+01	1.12138	7.89270E+01	2.75368E+00	1.94775E+00
2	Elastic	8.94034E+00	1.00900E+01	1.12863	7.85736E+01	2.55119E+00	8.35933E-01
102	n,gamma	8.01803E-01	8.34300E-01	1.04053	3.53343E-01	7.90696E-04	1.36301E-04
Material(MAT)=1837:Ar-40							
1	Total	1.31519E+00	1.39970E+00	1.06422	1.07072E+01	2.97259E+00	2.29042E+00
2	Elastic	6.55161E-01	7.39440E-01	1.12865	1.04184E+01	2.55313E+00	7.88040E-01
102	n,gamma	6.60032E-01	6.60210E-01	1.00027	2.88811E-01	1.01837E-03	3.46454E-04
Material(MAT)=1925:K-39							
1	Total	4.19098E+00	4.46030E+00	1.06426	2.27656E+01	2.79479E+00	2.01647E+00
2	Elastic	2.08870E+00	2.35740E+00	1.12863	2.16905E+01	2.58524E+00	9.59432E-01
102	n,gamma	2.09798E+00	2.09860E+00	1.00028	1.07007E+00	2.69600E-03	7.42755E-06

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=1928:K-40							
1	Total	3.75618E+01	3.79020E-01	1.00905	4.94325E+01	2.84401E+00	2.05040E+00
2	Elastic	2.78538E+00	3.14370E+00	1.12864	3.35851E+01	2.29664E+00	9.81356E-01
102	n,gamma	3.00006E-01	3.00090E+01	1.00028	1.34665E+01	1.58449E-03	4.10919E-06
Material(MAT)=1931:K-41							
1	Total	4.05690E+00	4.39150E+00	1.08249	3.64086E+01	2.86509E+00	2.08421E+00
2	Elastic	2.59773E+00	2.93190E+00	1.12866	3.48571E+01	2.51293E+00	1.00108E+00
102	n,gamma	1.45918E+00	1.45960E+00	1.00029	1.55151E+00	5.95575E-03	1.73407E-05
Material(MAT)=2025:Ca-40							
1	Total	3.46997E+00	3.86380E+00	1.11349	3.31713E+01	2.83215E+00	2.15785E+00
2	Elastic	3.06004E+00	3.45370E+00	1.12865	3.29644E+01	2.63279E+00	9.13613E-01
102	n,gamma	4.07531E-01	4.07650E-01	1.00030	2.05769E-01	1.51393E-03	4.12903E-04
Material(MAT)=2031:Ca-42							
1	Total	1.91957E+00	2.07880E+00	1.08296	1.56843E+01	3.37225E+00	2.15703E+00
2	Elastic	1.23650E+00	1.39560E+00	1.12865	1.53210E+01	2.93185E+00	8.93025E-01
102	n,gamma	6.83070E-01	6.83240E-01	1.00024	3.63336E-01	2.66602E-03	1.03534E-03
Material(MAT)=2034:Ca-43							
1	Total	1.58735E+01	1.64180E+01	1.03428	1.36430E+02	3.36798E+00	2.17612E+00
2	Elastic	4.20915E+00	4.75050E+00	1.12863	1.30649E+02	2.68961E+00	9.04232E-01
102	n,gamma	1.16642E+01	1.16670E+01	1.00023	5.78042E+00	2.81581E-03	1.84957E-03
Material(MAT)=2037:Ca-44							
1	Total	4.24620E+00	4.67850E+00	1.10181	3.58669E+01	3.26208E+00	2.20125E+00
2	Elastic	3.35776E+00	3.78980E+00	1.12867	3.54473E+01	2.72656E+00	9.21344E-01
102	n,gamma	8.88447E-01	8.88690E-01	1.00027	4.19537E-01	1.18977E-03	1.36568E-03
Material(MAT)=2043:Ca-46							
1	Total	7.00018E-01	7.00210E-01	1.00027	9.09167E+01	3.45203E+00	2.24524E+00
2	Elastic	0.00000E+00	0.00000E+00	0.00000	9.05982E+01	2.99143E+00	9.48626E-01
102	n,gamma	7.00018E-01	7.00210E-01	1.00027	3.18522E-01	5.34989E-04	1.39966E-03
Material(MAT)=2049:Ca-48							
1	Total	4.84844E+00	5.33190E+00	1.09972	4.04005E+01	3.25557E+00	2.29332E+00
2	Elastic	3.75553E+00	4.23880E+00	1.12868	3.99157E+01	3.16175E+00	9.80209E-01
102	n,gamma	1.09291E+00	1.09310E+00	1.00020	4.84856E-01	2.04214E-04	8.38941E-04
Material(MAT)=2125:Sc-45							
1	Total	4.98776E+01	5.28040E+01	1.05868	2.33484E+02	3.38297E+00	2.22608E+00
2	Elastic	2.27341E+01	2.56560E+01	1.12852	2.21605E+02	2.51285E+00	9.93542E-01
102	n,gamma	2.71415E+01	2.71470E+01	1.00019	1.18163E+01	4.82458E-03	1.50655E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=2225:Ti-46							
1	Total	1.05718E+01	1.11390E+01	1.05361	1.38817E+02	3.31866E+00	2.31722E+00
2	Elastic	4.45899E+00	5.02650E+00	1.12726	1.36383E+02	2.63476E+00	1.01755E+00
102	n,gamma	6.11286E+00	6.11210E+00	0.99988	2.43356E+00	4.87896E-03	5.93338E-04
Material(MAT)=2228:Ti-47							
1	Total	1.05709E+01	1.11380E+01	1.05360	1.38818E+02	3.31858E+00	2.31611E+00
2	Elastic	4.45800E+00	5.02540E+00	1.12727	1.36385E+02	2.36112E+00	9.81610E-01
102	n,gamma	6.11286E+00	6.11210E+00	0.99988	2.43356E+00	5.90897E-03	6.06647E-04
Material(MAT)=2231:Ti-48							
1	Total	1.05613E+01	1.11230E+01	1.05317	1.38743E+02	3.31837E+00	2.32241E+00
2	Elastic	4.44847E+00	5.01080E+00	1.12641	1.36309E+02	2.71137E+00	1.02634E+00
102	n,gamma	6.11287E+00	6.11210E+00	0.99988	2.43356E+00	2.26615E-03	5.94579E-04
Material(MAT)=2234:Ti-49							
1	Total	1.05690E+01	1.11350E+01	1.05358	1.38817E+02	3.31871E+00	2.32236E+00
2	Elastic	4.45616E+00	5.02320E+00	1.12725	1.36384E+02	2.77596E+00	9.90561E-01
102	n,gamma	6.11287E+00	6.11210E+00	0.99988	2.43356E+00	3.78821E-03	6.22830E-04
Material(MAT)=2237:Ti-50							
1	Total	1.05682E+01	1.11340E+01	1.05357	1.38818E+02	3.31869E+00	2.32262E+00
2	Elastic	4.45529E+00	5.02220E+00	1.12724	1.36385E+02	2.89697E+00	9.60212E-01
102	n,gamma	6.11288E+00	6.11220E+00	0.99988	2.43356E+00	8.48028E-04	4.79753E-04
Material(MAT)=2300:V-Nat							
1	Total	1.02507E+01	1.09190E+01	1.06518	2.65086E+02	3.85758E+00	2.35807E+00
2	Elastic	5.20656E+00	5.87650E+00	1.12868	2.62444E+02	3.19304E+00	1.10429E+00
102	n,gamma	5.04419E+00	5.04240E+00	0.99964	2.64298E+00	1.90136E-03	6.39995E-04
Material(MAT)=2425:Cr-50							
1	Total	1.82987E+01	1.86080E+01	1.01689	2.60271E+02	3.66852E+00	2.41614E+00
2	Elastic	2.37167E+00	2.67700E+00	1.12873	2.52802E+02	2.97399E+00	1.09707E+00
102	n,gamma	1.59270E+01	1.59310E+01	1.00023	7.46971E+00	4.41724E-03	1.08000E-03
Material(MAT)=2431:Cr-52							
1	Total	3.71429E+00	4.09460E+00	1.10239	3.69913E+01	3.39292E+00	2.44218E+00
2	Elastic	2.95420E+00	3.33440E+00	1.12868	3.65391E+01	2.94790E+00	1.08355E+00
102	n,gamma	7.60092E-01	7.60250E-01	1.00020	4.52165E-01	2.11168E-03	7.23925E-04
Material(MAT)=2434:Cr-53							
1	Total	2.59891E+01	2.70120E+01	1.03937	3.42880E+02	3.78221E+00	2.41771E+00
2	Elastic	7.92349E+00	8.94340E+00	1.12872	3.34449E+02	2.99690E+00	1.01604E+00
102	n,gamma	1.80656E+01	1.80690E+01	1.00018	8.43178E+00	2.07872E-03	9.39396E-04

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E_0)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=2437:Cr-54							
1	Total	2.92391E+00	3.25390E+00	1.11286	4.25940E+01	3.67328E+00	2.41770E+00
2	Elastic	2.56388E+00	2.89380E+00	1.12868	4.24031E+01	2.98286E+00	1.00132E+00
102	n,gamma	3.60034E-01	3.60120E-01	1.00024	1.90908E-01	1.59417E-03	5.45397E-04
Material(MAT)=2525:Mn-55							
1	Total	1.56008E+01	1.58860E+01	1.01828	6.15513E+02	3.67946E+00	2.57127E+00
2	Elastic	2.18647E+00	2.46800E+00	1.12875	6.03749E+02	2.80002E+00	1.21794E+00
102	n,gamma	1.34144E+01	1.34180E+01	1.00027	1.17637E+01	2.94457E-03	6.63000E-04
Material(MAT)=2625:Fe-54							
1	Total	4.45333E+00	4.73710E+00	1.06372	1.07745E+02	3.64968E+00	2.60816E+00
2	Elastic	2.20161E+00	2.48490E+00	1.12867	1.06563E+02	3.12611E+00	1.18706E+00
102	n,gamma	2.25172E+00	2.25220E+00	1.00022	1.18148E+00	4.88778E-03	9.35309E-04
Material(MAT)=2631:Fe-56							
1	Total	1.47933E+01	1.63650E+01	1.10623	1.21968E+02	3.24797E+00	2.58777E+00
2	Elastic	1.22073E+01	1.37780E+01	1.12869	1.20639E+02	2.62649E+00	1.16278E+00
102	n,gamma	2.58593E+00	2.58650E+00	1.00021	1.32903E+00	2.73132E-03	7.67939E-04
Material(MAT)=2634:Fe-57							
1	Total	2.66648E+00	2.69340E+00	1.01009	8.30276E+01	4.08150E+00	2.69920E+00
2	Elastic	2.03915E-01	2.30150E-01	1.12866	7.85114E+01	2.57456E+00	1.25805E+00
102	n,gamma	2.46257E+00	2.46320E+00	1.00027	1.41952E+00	1.76058E-03	8.92490E-04
Material(MAT)=2637:Fe-58							
1	Total	8.85573E+00	9.82640E+00	1.10961	9.67920E+01	4.79543E+00	2.71964E+00
2	Elastic	7.54121E+01	8.51160E+00	1.12868	9.55300E+01	3.98352E+00	1.27552E+00
102	n,gamma	1.31452E+00	1.31480E+00	1.00024	1.26200E+00	2.10066E-03	9.75096E-04
Material(MAT)=2722:Co-58							
1	Total	1.95377E+03	1.97300E+03	1.00982	1.18551E+04	3.91418E+00	2.71649E+00
2	Elastic	7.36061E+01	8.36040E+01	1.13583	5.54887E+03	2.62372E+00	1.24890E+00
102	n,gamma	1.64607E+02	1.67750E+02	1.01907	2.19955E+02	2.62689E-03	7.16790E-04
Material(MAT)=2723:Co-58M							
1	Total	1.45046E+05	1.49590E+05	1.03132	2.35506E+05	3.91247E+00	2.71944E+00
2	Elastic	7.06280E+03	8.35190E+03	1.18251	5.90540E+04	2.71667E+00	1.24895E+00
102	n,gamma	1.00868E+05	1.03440E+05	1.02551	1.27801E+05	4.30483E-03	7.52090E-04
Material(MAT)=2725:Co-59							
1	Total	4.32091E+01	4.40000E+01	1.01829	8.55772E+02	3.73341E+00	2.71319E+00
2	Elastic	6.03175E+00	6.80780E+00	1.12866	7.79911E+02	3.00024E+00	1.38970E+00
102	n,gamma	3.71774E+01	3.71920E+01	1.00038	7.58617E+01	5.00514E-03	8.99996E-04

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=2825:Ni-58							
1	Total	2.96383E+01	3.28590E+01	1.10865	2.67948E+02	3.65247E+00	2.71372E+00
2	Elastic	2.50176E+01	2.82370E+01	1.12868	2.65780E+02	3.16310E+00	1.29537E+00
102	n,gamma	4.62067E+00	4.62170E+00	1.00023	2.16790E+00	7.81934E-03	4.99542E-04
Material(MAT)=2828:Ni-59							
1	Total	9.83465E+01	9.86710E+01	1.00330	5.17906E+02	1.19612E+01	5.82713E+00
2	Elastic	2.35427E+00	2.65750E+00	1.12879	3.67551E+02	1.18167E+01	4.60821E+00
102	n,gamma	8.07520E+01	8.07820E+01	1.00037	1.26737E+02	4.85057E-03	5.60002E-04
Material(MAT)=2831:Ni-60							
1	Total	3.74894E+00	3.87620E+00	1.03394	8.02122E+01	3.46259E+00	2.72305E+00
2	Elastic	9.84800E-01	1.11150E+00	1.12870	7.88391E+01	2.93598E+00	1.27690E+00
102	n,gamma	2.76414E+00	2.76460E+00	1.00018	1.37324E+00	6.28746E-03	7.56393E-04
Material(MAT)=2834:Ni-61							
1	Total	1.04566E+01	1.14810E+01	1.09800	1.06184E+02	3.58225E+00	2.76093E+00
2	Elastic	7.95807E+00	8.98220E+00	1.12869	1.04567E+02	2.34507E+00	1.30772E+00
102	n,gamma	2.49853E+00	2.49910E+00	1.00023	1.52555E+00	4.91953E-03	4.22401E-04
Material(MAT)=2837:Ni-62							
1	Total	2.43387E+01	2.56720E+01	1.05264	4.62763E+02	3.64198E+00	2.75836E+00
2	Elastic	9.97227E+00	1.12560E+01	1.12875	4.56789E+02	3.06982E+00	1.28132E+00
102	n,gamma	1.44164E+01	1.44160E+01	0.99999	5.97539E+00	6.71034E-03	2.39399E-04
Material(MAT)=2843:Ni-64							
1	Total	1.53452E+00	1.53700E+00	1.00161	8.56927E+01	4.07532E+00	2.75888E+00
2	Elastic	1.63720E-02	1.84800E-02	1.12874	8.49405E+01	3.57206E+00	1.27457E+00
102	n,gamma	1.51815E+00	1.51850E+00	1.00024	7.52291E-01	4.68378E-03	1.93599E-04
Material(MAT)=2925:Cu-63							
1	Total	9.61284E+00	1.02750E+01	1.06891	1.01779E+02	3.66096E+00	2.91220E+00
2	Elastic	5.14324E+00	5.80490E+00	1.12865	9.68503E+01	2.87827E+00	1.47499E+00
102	n,gamma	4.46960E+00	4.47030E+00	1.00016	4.92903E+00	1.07519E-02	2.72000E-03
Material(MAT)=2931:Cu-65							
1	Total	1.60409E+01	1.78290E+01	1.11148	1.52485E+02	3.74049E+00	2.95880E+00
2	Elastic	1.38921E+01	1.56800E+01	1.12869	1.50307E+02	3.04140E+00	1.40274E+00
102	n,gamma	2.14880E+00	2.14930E+00	1.00023	2.17899E+00	7.10443E-03	5.20002E-04
Material(MAT)=3000:Zn-Nat							
1	Total	5.30484E+00	5.84900E+00	1.10257	9.97970E+01	3.80368E+00	2.95000E+00
2	Elastic	4.22602E+00	4.76990E+00	1.12870	9.73000E+01	3.15852E+00	1.69709E+00
102	n,gamma	1.07882E+00	1.07910E+00	1.00022	2.49716E+00	1.58928E-02	2.48699E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=3100:Ga-Nat							
1	Total	9.84797E+00	1.07550E+01	1.09211	2.26047E+02	3.80480E+00	3.23069E+00
2	Elastic	7.04515E+00	7.95160E+00	1.12866	2.02347E+02	2.95062E+00	1.62693E+00
102	n,gamma	2.80283E+00	2.80350E+00	1.00025	2.36993E+01	1.53131E-02	7.61364E-04
Material(MAT)=3225:Ge-70							
1	Total	1.55257E+01	1.71460E+01	1.10434	1.43586E+02	4.39187E+00	3.28016E+00
2	Elastic	1.25907E+01	1.42100E+01	1.12863	1.41220E+02	3.51303E+00	1.73323E+00
102	n,gamma	2.93501E+00	2.93550E+00	1.00016	2.36557E+00	2.17554E-02	6.86584E-04
Material(MAT)=3231:Ge-72							
1	Total	9.97383E+00	1.11530E+01	1.11824	1.04549E+02	4.57000E+00	3.31673E+00
2	Elastic	9.16369E+00	1.03430E+01	1.12868	1.03801E+02	3.49410E+00	1.74081E+00
102	n,gamma	8.10138E-01	8.10300E-01	1.00020	7.47966E-01	1.74680E-02	8.69823E-04
Material(MAT)=3234:Ge-73							
1	Total	1.92357E+01	1.98610E+01	1.03250	4.61939E+02	4.11702E+00	3.31387E+00
2	Elastic	4.83311E+00	5.45440E+00	1.12856	3.99620E+02	2.78815E+00	1.71276E+00
102	n,gamma	1.44026E+01	1.44060E+01	1.00027	6.22392E+01	1.40008E-02	7.05540E-04
Material(MAT)=3237:Ge-74							
1	Total	7.26637E+00	8.14750E+00	1.12126	9.73499E+01	4.44431E+00	3.34262E+00
2	Elastic	6.84628E+00	7.72740E+00	1.12869	9.69320E+01	3.30254E+00	1.71645E+00
102	n,gamma	4.20090E-01	4.20160E-01	1.00017	4.18082E-01	6.08952E-03	8.12471E-04
Material(MAT)=3243:Ge-76							
1	Total	7.91114E+00	8.91010E+00	1.12628	1.00008E+02	4.56345E+00	3.39814E+00
2	Elastic	7.76112E+00	8.76010E+00	1.12871	9.87022E+01	3.40410E+00	1.77726E+00
102	n,gamma	1.50021E-01	1.50060E-01	1.00025	1.30591E+00	2.63586E-03	9.78019E-04
Material(MAT)=3325:As-75							
1	Total	6.19044E+00	6.43540E+00	1.03958	1.83644E+02	4.07585E+00	3.73274E+00
2	Elastic	1.88929E+00	2.13230E+00	1.12863	1.23742E+02	2.83635E+00	2.45463E+00
102	n,gamma	4.30115E+00	4.30310E+00	1.00046	5.99015E+01	4.59555E-02	1.53781E-03
Material(MAT)=3425:Se-74							
1	Total	5.16882E+01	5.17410E+01	1.00101	1.32547E+03	4.67325E+00	6.23995E+00
2	Elastic	1.01594E-02	1.12420E-02	1.10657	7.45767E+02	3.65815E+00	4.47900E+00
102	n,gamma	5.16780E+01	5.17290E+01	1.00099	5.79705E+02	2.94543E-02	1.64001E-03
Material(MAT)=3431:Se-76							
1	Total	8.69202E+01	8.71900E+01	1.00310	1.33606E+02	4.13803E+00	3.76858E+00
2	Elastic	1.91713E+00	2.16390E+00	1.12870	8.92164E+01	3.37087E+00	2.50056E+00
102	n,gamma	8.50031E+01	8.50260E+01	1.00027	4.43899E+01	3.64057E-02	1.62327E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E0)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=3434:Se-77							
1	Total	4.44167E+01	4.47390E+01	1.00726	1.44659E+02	4.19914E+00	3.79736E+00
2	Elastic	2.41508E+00	2.72590E+00	1.12869	1.08710E+02	2.92080E+00	2.53773E+00
102	n,gamma	4.20016E-01	4.20130E-01	1.00028	3.59489E+01	4.11323E-02	2.06045E-03
Material(MAT)=3437:Se-78							
1	Total	2.95097E+00	3.27940E+00	1.11129	6.84704E+01	4.26703E+00	3.83190E+00
2	Elastic	2.55092E+00	2.87920E+00	1.12871	6.39552E+01	3.47895E+00	2.60438E+00
102	n,gamma	4.00054E-01	4.00160E-01	1.00027	4.51521E+00	1.50675E-02	1.52333E-03
Material(MAT)=3440:Se-79							
1	Total	5.63420E+01	5.71860E+01	1.01498	1.82151E+02	4.98592E+00	3.84400E+00
2	Elastic	6.34025E+00	7.17110E+00	1.13105	1.21472E+02	3.62728E+00	2.51693E+00
102	n,gamma	5.00018E+01	5.00150E+01	1.00027	6.06797E+01	3.09790E-02	1.00054E-03
Material(MAT)=3443:Se-80							
1	Total	1.68050E+00	1.81840E+00	1.08207	1.13629E+02	4.41486E+00	3.89107E+00
2	Elastic	1.07037E+00	1.20810E+00	1.12869	1.12628E+02	3.65168E+00	2.69381E+00
102	n,gamma	6.10128E-01	6.10300E-01	1.00028	1.00143E+00	1.51340E-02	1.45032E-03
Material(MAT)=3449:Se-82							
1	Total	2.96072E+00	3.33600E+00	1.12677	4.91176E+01	4.54578E+00	3.95270E+00
2	Elastic	2.91571E+00	3.29100E+00	1.12872	4.90507E+01	3.82441E+00	2.79755E+00
102	n,gamma	4.50079E-02	4.50190E-02	1.00026	6.70126E-02	4.61867E-03	1.32207E-03
Material(MAT)=3525:Br-79							
1	Total	1.35428E+01	1.38640E+01	1.02369	2.51831E+02	4.33777E+00	3.86129E+00
2	Elastic	2.44021E+00	2.75390E+00	1.12857	1.15850E+02	3.00756E+00	2.62747E+00
102	n,gamma	1.11026E+01	1.11100E+01	1.00063	1.35981E+02	8.73364E-02	1.72088E-03
Material(MAT)=3531:Br-81							
1	Total	6.94178E+00	7.47900E+00	1.07738	1.88174E+02	4.47974E+00	3.91687E+00
2	Elastic	4.16600E+00	4.70200E+00	1.12866	1.33904E+02	3.44433E+00	2.68545E+00
102	n,gamma	2.77578E+00	2.77700E+00	1.00043	5.42704E+01	5.89765E-02	1.63915E-03
Material(MAT)=3625:Kr-78							
1	Total	1.36121E+01	1.47400E+01	1.08285	1.68139E+02	5.07189E+00	3.78486E+00
2	Elastic	8.76549E+00	9.89300E+00	1.12863	1.44785E+02	3.51542E+00	1.92660E+00
102	n,gamma	4.84661E+00	4.84690E+00	1.00005	2.33538E+01	7.15888E-02	1.76983E-04
Material(MAT)=3631:Kr-80							
1	Total	2.06734E+01	2.18240E+01	1.05565	3.13919E+02	5.23669E+00	3.65418E+00
2	Elastic	8.95330E+00	1.00840E+01	1.12851	2.45525E+02	3.81265E+00	1.93756E+00
102	n,gamma	1.17381E+01	1.17400E+01	1.00019	6.83936E+01	4.28568E-02	1.04505E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=3637:Kr-82							
1	Total	3.99432E+01	4.11960E+01	1.03137	3.85861E+02	5.01738E+00	3.78332E+00
2	Elastic	9.77004E+00	1.10230E+01	1.12826	2.02677E+02	3.89878E+00	2.04440E+00
102	n,gamma	3.01731E-01	3.01730E-01	1.00000	1.83184E+02	1.85246E-02	3.36355E-05
Material(MAT)=3640:Kr-83							
1	Total	2.18072E+02	2.18180E+02	1.00052	3.35645E+02	5.18901E+00	3.50009E+00
2	Elastic	1.04112E+01	1.17120E+01	1.12497	1.43011E+02	3.69292E+00	2.07549E+00
102	n,gamma	2.07661E+02	2.06470E+02	0.99428	1.91687E+02	3.95263E-02	4.05716E-05
Material(MAT)=3643:Kr-84							
1	Total	6.83268E+00	7.70160E+00	1.12717	1.06202E+02	5.24608E+00	3.84927E+00
2	Elastic	6.74979E+00	7.61870E+00	1.12873	1.02752E+02	4.16871E+00	2.10486E+00
102	n,gamma	8.28891E-02	8.29130E-02	1.00029	3.45012E+00	7.31558E-03	2.16013E-05
Material(MAT)=3646:Kr-85							
1	Total	5.22436E+00	5.69530E+00	1.09014	7.94170E+01	4.76214E+00	4.03083E+00
2	Elastic	3.56430E+00	4.03480E+00	1.13200	7.77738E+01	4.35050E+00	2.86496E+00
102	n,gamma	1.66006E+00	1.66050E+00	1.00027	1.64321E+00	5.58426E-03	2.00911E-03
Material(MAT)=3649:Kr-86							
1	Total	6.10820E+00	6.88650E+00	1.12741	1.01108E+02	5.54416E+00	3.91874E+00
2	Elastic	6.04673E+00	6.82500E+00	1.12871	1.00972E+02	4.68397E+00	2.16218E+00
102	n,gamma	6.14645E-02	6.14780E-02	1.00023	1.36106E-01	1.29145E-03	5.31394E-06
Material(MAT)=3725:Rb-85							
1	Total	6.81099E+00	7.62630E+00	1.11970	1.17884E+02	4.77926E+00	4.03089E+00
2	Elastic	6.33454E+00	7.14980E+00	1.12869	1.11665E+02	3.85162E+00	2.83936E+00
102	n,gamma	4.76452E-01	4.76550E-01	1.00020	6.21950E+00	2.81558E-02	7.37329E-04
Material(MAT)=3728:Rb-86							
1	Total	8.49793E+00	8.97430E+00	1.05606	1.01906E+02	4.83008E+00	4.05370E+00
2	Elastic	3.59784E+00	4.07330E+00	1.13216	7.79952E+01	3.74978E+00	2.86052E+00
102	n,gamma	4.90009E+00	4.90100E+00	1.00018	2.39106E+01	1.08713E-02	2.16141E-03
Material(MAT)=3731:Rb-87							
1	Total	2.47264E+00	2.77550E+00	1.12247	7.25427E+01	4.91192E+00	4.07523E+00
2	Elastic	2.35264E+00	2.65540E+00	1.12870	7.04712E+01	4.00207E+00	2.89831E+00
102	n,gamma	1.20001E-01	1.20030E-01	1.00028	2.07165E+00	2.86419E-03	7.64339E-05
Material(MAT)=3825:Sr-84							
1	Total	4.74353E+00	5.24980E+00	1.10672	1.24233E+02	5.06453E+00	6.26200E+00
2	Elastic	3.93111E+00	4.43700E+00	1.12870	1.14041E+02	4.18298E+00	4.66472E+00
102	n,gamma	8.12427E-01	8.12730E-01	1.00038	1.01928E+01	6.81472E-02	2.02001E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=3831:Sr-86							
1	Total	5.07848E+00	5.36730E+00	1.05687	1.17934E+02	4.83674E+00	4.05035E+00
2	Elastic	2.23810E+00	2.52610E+00	1.12868	1.12836E+02	4.32875E+00	2.83831E+00
102	n,gamma	2.84038E+00	2.84120E+00	1.00028	5.09801E+00	1.79912E-02	1.95121E-03
Material(MAT)=3834:Sr-87							
1	Total	1.92255E+01	1.97680E+01	1.02661	1.86436E+02	4.90578E+00	4.07492E+00
2	Elastic	3.24763E+00	3.66450E+00	1.12836	6.80123E+01	4.37010E+00	2.89534E+00
102	n,gamma	1.60079E+01	1.61030E+01	1.00597	1.18424E+02	1.95297E-02	2.38936E-03
Material(MAT)=3837:Sr-88							
1	Total	3.64252E+00	4.11060E+00	1.12851	4.40012E+01	4.83970E+00	4.09786E+00
2	Elastic	3.63672E+00	4.10480E+00	1.12872	4.39955E+01	4.52077E+00	2.94661E+00
102	n,gamma	5.80024E-03	5.80180E-03	1.00027	5.76642E-03	1.27540E-03	1.59881E-03
Material(MAT)=3840:Sr-89							
1	Total	4.08464E+00	4.55650E+00	1.11551	7.05337E+01	5.03845E+00	4.11974E+00
2	Elastic	3.66463E+00	4.13630E+00	1.12872	7.00423E+01	4.74596E+00	2.96262E+00
102	n,gamma	4.20015E-01	4.20130E-01	1.00027	4.91440E-01	8.19075E-03	2.15555E-03
Material(MAT)=3843:Sr-90							
1	Total	4.59500E+00	5.08400E+00	1.10643	5.82125E+01	5.08317E+00	4.14078E+00
2	Elastic	3.69497E+00	4.18380E+00	1.13229	5.77320E+01	4.40653E+00	2.96998E+00
102	n,gamma	9.00032E-01	9.00280E-01	1.00027	4.80433E-01	5.94259E-03	1.50930E-03
Material(MAT)=3925:Y-89							
1	Total	9.01661E+00	9.86960E+00	1.09460	9.48938E+01	5.63556E+00	3.85693E+00
2	Elastic	7.73094E+00	8.58360E+00	1.11029	9.39966E+01	4.91895E+00	2.24392E+00
102	n,gamma	1.28567E+00	1.28600E+00	1.00023	8.97240E-01	4.76080E-03	6.97734E-04
Material(MAT)=3928:Y-90							
1	Total	7.20535E+00	7.69970E+00	1.06861	8.82582E+01	5.08578E+00	4.13991E+00
2	Elastic	3.70523E+00	4.19870E+00	1.13317	8.36077E+01	3.96739E+00	2.94810E+00
102	n,gamma	3.50013E+00	3.50110E+00	1.00027	4.65043E+00	1.76875E-02	1.92237E-03
Material(MAT)=3931:Y-91							
1	Total	5.12270E+00	5.61200E+00	1.09552	7.74608E+01	5.14846E+00	4.16195E+00
2	Elastic	3.72265E+00	4.21160E+00	1.13134	7.58331E+01	4.14353E+00	2.85036E+00
102	n,gamma	1.40005E+00	1.40040E+00	1.00027	1.62767E+00	6.77333E-03	1.65636E-03
Material(MAT)=4025:Zr-90							
1	Total	5.40629E+00	6.10080E+00	1.12846	7.73259E+01	5.73633E+00	3.83550E+00
2	Elastic	5.39517E+00	6.08970E+00	1.12872	7.71854E+01	5.25592E+00	2.17244E+00
102	n,gamma	1.11263E-02	1.11290E-02	1.00021	1.40601E-01	6.28599E-03	1.03383E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=4028:Zr-91							
1	Total	1.18921E+01	1.32620E-01	1.11519	1.50977E+02	5.74780E+00	3.84553E+00
2	Elastic	1.06444E+01	1.20140E-01	1.12867	1.44089E+02	5.06028E+00	2.13985E+00
102	n,gamma	1.24766E+00	1.24790E+00	1.00017	6.88861E+00	9.20165E-03	1.00200E-03
Material(MAT)=4031:Zr-92							
1	Total	7.37830E+00	8.29840E+00	1.12471	1.13649E+02	5.76145E+00	3.84583E+00
2	Elastic	7.14908E+00	8.06920E+00	1.12870	1.13029E+02	4.76913E+00	2.10824E+00
102	n,gamma	2.29214E-01	2.29260E-01	1.00021	6.20763E-01	1.52913E-02	1.02401E-03
Material(MAT)=4034:Zr-93							
1	Total	7.68851E+00	8.44970E+00	1.09900	1.81202E+02	5.62826E+00	4.11875E+00
2	Elastic	5.90789E+00	6.66820E+00	1.12869	1.48166E+02	4.55459E+00	2.38077E+00
102	n,gamma	1.78062E+00	1.78150E+00	1.00049	3.30361E+01	1.46075E-02	1.00828E-03
Material(MAT)=4037:Zr-94							
1	Total	6.23477E+00	7.03090E+00	1.12769	8.94050E+01	5.75911E+00	3.84357E+00
2	Elastic	6.18495E+00	6.98100E+00	1.12871	8.91451E+01	4.76208E+00	2.13748E+00
102	n,gamma	4.98188E-02	4.98280E-02	1.00019	2.60082E-01	9.77974E-03	1.00184E-03
Material(MAT)=4040:Zr-95							
1	Total	5.64375E+00	6.34130E+00	1.12359	1.32316E+02	5.72506E+00	4.19620E+00
2	Elastic	5.41876E+00	6.11620E+00	1.12871	1.26561E+02	4.94779E+00	2.42718E+00
102	n,gamma	2.24993E-01	2.25080E-01	1.00038	5.75529E+00	1.35755E-02	2.00725E-03
Material(MAT)=4043:Zr-96							
1	Total	6.18599E+00	6.97930E+00	1.12825	1.04150E+02	5.79846E+00	3.84628E+00
2	Elastic	6.16319E+00	6.95650E+00	1.12872	9.83162E+01	5.15893E+00	2.11567E+00
102	n,gamma	2.28057E-02	2.28180E-02	1.00054	5.83434E+00	5.74046E-03	1.00053E-03
Material(MAT)=4125:Nb-93							
1	Total	7.51996E+00	8.26500E+00	1.09907	9.53486E+01	5.79033E+00	3.96935E+00
2	Elastic	6.36466E+00	7.10760E+00	1.11673	8.56012E+01	4.53168E+00	2.10918E+00
102	n,gamma	1.15530E+00	1.15730E+00	1.00176	9.74724E+00	2.78472E-02	5.60002E-04
Material(MAT)=4128:Nb-94							
1	Total	2.22549E+01	2.30720E+01	1.03671	2.36241E+02	5.73091E+00	4.32530E+00
2	Elastic	6.48708E+00	7.31950E+00	1.12832	1.10772E+02	4.14325E+00	2.81424E+00
102	n,gamma	1.57678E+01	1.57520E+01	0.99903	1.25363E+02	1.79928E-02	1.00541E-03
Material(MAT)=4131:Nb-95							
1	Total	1.27305E+01	1.34810E+01	1.05894	1.39891E+02	5.71855E+00	4.32526E+00
2	Elastic	5.73028E+00	6.47870E+00	1.13061	9.83884E+01	4.84114E+00	2.81694E+00
102	n,gamma	7.00025E+00	7.00220E+00	1.00028	4.15029E+01	6.84151E-02	1.00995E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=4225:Mo-92							
1	Total	5.59637E+00	6.31400E+00	1.12823	7.98423E+01	5.89305E+00	4.06088E+00
2	Elastic	5.57562E+00	6.29330E+00	1.12871	7.89887E+01	5.24197E+00	2.27589E+00
102	n,gamma	2.07557E-02	2.07610E-02	1.00027	8.53757E-01	2.79986E-02	1.04482E-03
Material(MAT)=4231:Mo-94							
1	Total	6.04323E+00	6.81940E+00	1.12843	8.84864E+01	5.88853E+00	4.06141E+00
2	Elastic	6.03011E+00	6.80620E+00	1.12871	8.72506E+01	4.86944E+00	2.27669E+00
102	n,gamma	1.31124E-02	1.31150E-02	1.00021	1.23582E+00	3.56549E-02	1.00786E-03
Material(MAT)=4234:Mo-95							
1	Total	1.99816E+01	2.08020E+01	1.04103	3.12353E+02	5.89045E+00	4.36250E+00
2	Elastic	6.41386E+00	7.23670E+00	1.12829	2.01753E+02	4.51781E+00	2.84294E+00
102	n,gamma	1.35678E+01	1.35650E+01	0.99978	1.10600E+02	4.80498E-02	1.40815E-03
Material(MAT)=4237:Mo-96							
1	Total	5.34722E+00	5.95890E+00	1.11440	1.62142E+02	5.88934E+00	4.06777E+00
2	Elastic	4.75171E+00	5.36320E+00	1.12868	1.44744E+02	4.74392E+00	2.28840E+00
102	n,gamma	5.95512E-01	5.95750E-01	1.00040	1.73980E+01	2.77164E-02	1.00993E-03
Material(MAT)=4240:Mo-97							
1	Total	7.98732E+00	8.74280E+00	1.09458	1.05408E+02	5.88976E+00	4.06094E+00
2	Elastic	5.88701E+00	6.64440E+00	1.12865	8.85513E+01	4.34875E+00	2.27434E+00
102	n,gamma	2.10031E+00	2.09840E+00	0.99909	1.68566E+01	4.27044E-02	1.00104E-03
Material(MAT)=4243:Mo-98							
1	Total	5.80088E+00	6.53090E+00	1.12584	1.01793E+02	5.88452E+00	4.06868E+00
2	Elastic	5.67088E+00	6.40080E+00	1.12871	9.53742E+01	4.72501E+00	2.29452E+00
102	n,gamma	1.29997E-01	1.30090E-01	1.00075	6.41857E+00	2.68333E-02	1.01157E-03
Material(MAT)=4246:Mo-99							
1	Total	1.37293E+01	1.44790E+01	1.05462	1.41503E+02	5.72682E+00	4.32713E+00
2	Elastic	5.72905E+00	6.47690E+00	1.13053	1.00108E+02	4.01619E+00	2.81875E+00
102	n,gamma	8.00027E+00	8.00240E+00	1.00026	4.13948E+01	3.54163E-02	1.00065E-03
Material(MAT)=4249:Mo-100							
1	Total	5.52608E+00	6.21170E+00	1.12407	1.00774E+02	5.88707E+00	4.07231E+00
2	Elastic	5.32703E+00	6.01260E+00	1.12870	9.69834E+01	4.56263E+00	2.23357E+00
102	n,gamma	1.99057E-01	1.99090E-01	1.00019	3.79090E+00	2.12326E-02	1.00826E-03
Material(MAT)=4331:Tc-99							
1	Total	2.81477E+01	2.89020E+01	1.02679	4.16632E+02	5.92070E+00	4.20027E+00
2	Elastic	5.32558E+00	6.00700E+00	1.12796	9.38016E+01	4.16177E+00	2.24836E+00
102	n,gamma	2.28221E+01	2.28950E+01	1.00319	3.22830E+02	8.86188E-02	1.33780E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=4425:Ru-96							
1	Total	6.32602E+00	7.20630E+00	1.13915	1.23624E+02	5.92249E+00	6.87140E+00
2	Elastic	6.07745E+00	6.95730E+00	1.14478	1.11399E+02	4.78217E+00	4.89204E+00
102	n,gamma	2.48575E-01	2.48920E-01	1.00137	1.22245E+01	1.42408E-01	1.40000E-03
Material(MAT)=4431:Ru-98							
1	Total	1.41701E+01	1.57600E+01	1.11221	1.23164E+02	5.95393E+00	6.58240E+00
2	Elastic	6.21459E+00	7.78780E+00	1.25316	1.11368E+02	4.87250E+00	4.90643E+00
102	n,gamma	7.95549E+00	7.97220E+00	1.00210	1.17966E+01	2.61225E-02	2.38001E-03
Material(MAT)=4434:Ru-99							
1	Total	1.20752E+01	1.27300E+01	1.05427	2.50073E+02	5.43102E+00	4.32872E+00
2	Elastic	4.97303E+00	5.61220E+00	1.12853	8.76754E+01	4.00633E+00	3.03825E+00
102	n,gamma	7.10217E+00	7.11830E+00	1.00227	1.62395E+02	6.18145E-02	2.51477E-03
Material(MAT)=4437:Ru-100							
1	Total	9.73363E+00	1.02410E+01	1.05218	7.92562E+01	5.45025E+00	4.34760E+00
2	Elastic	3.93346E+00	4.43970E+00	1.12871	7.13407E+01	4.55168E+00	3.09271E+00
102	n,gamma	5.80017E+00	5.80180E+00	1.00027	7.91550E+00	5.72047E-02	2.52898E-03
Material(MAT)=4440:Ru-101							
1	Total	8.49337E+00	9.15120E+00	1.07745	2.00157E+02	5.93843E+00	4.19486E+00
2	Elastic	5.07868E+00	5.73190E+00	1.12862	8.95327E+01	4.06711E+00	2.17407E+00
102	n,gamma	3.41468E+00	3.41930E+00	1.00136	1.10625E+02	6.63402E-02	1.00912E-03
Material(MAT)=4443:Ru-102							
1	Total	5.26876E+00	5.78000E+00	1.09704	6.60695E+01	5.48814E+00	4.38905E+00
2	Elastic	3.96878E+00	4.47960E+00	1.12872	6.31203E+01	4.51361E+00	3.25241E+00
102	n,gamma	1.29997E+00	1.30040E+00	1.00034	2.94918E+00	5.94090E-02	1.58180E-03
Material(MAT)=4446:Ru-103							
1	Total	7.18727E+01	7.25730E+01	1.00975	6.89172E+02	5.83095E+00	4.34622E+00
2	Elastic	5.04629E+00	5.68460E+00	1.12649	9.42649E+01	3.66742E+00	2.45141E+00
102	n,gamma	6.68264E+01	6.68890E+01	1.00093	5.93666E+02	1.44340E-01	2.12022E-03
Material(MAT)=4449:Ru-104							
1	Total	8.42116E+00	9.46690E+00	1.12418	1.06903E+02	5.51583E+00	4.43238E+00
2	Elastic	8.12393E+00	9.16960E+00	1.12871	1.01259E+02	4.63153E+00	3.17236E+00
102	n,gamma	2.97232E-01	2.97300E-01	1.00024	5.64401E+00	3.19619E-02	9.09251E-04
Material(MAT)=4452:Ru-105							
1	Total	4.28853E+00	4.81490E+00	1.12274	7.16876E+01	5.50783E+00	4.45482E+00
2	Elastic	4.08852E+00	4.61480E+00	1.12873	6.46193E+01	3.89924E+00	3.08549E+00
102	n,gamma	2.00007E-01	2.00060E-01	1.00027	7.06702E+00	4.07980E-02	2.14829E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=4455:Ru-106							
1	Total	4.26047E+00	4.79010E+00	1.12432	6.45412E+01	5.52688E+00	4.47375E+00
2	Elastic	4.11446E+00	4.64410E+00	1.12873	6.25115E+01	4.45662E+00	3.11283E+00
102	n,gamma	1.46005E-01	1.46040E-01	1.00027	2.02978E+00	1.12556E-02	1.62707E-03
Material(MAT)=4525:Rh-103							
1	Total	1.46614E+02	1.50360E+02	1.02553	1.05330E+03	5.76648E+00	4.30114E+00
2	Elastic	3.88416E+00	4.36370E+00	1.12347	8.49141E+01	3.98869E+00	2.26306E+00
102	n,gamma	1.42730E+02	1.45990E+02	1.02286	9.68383E+02	8.48846E-02	2.20335E-03
Material(MAT)=4531:Rh-105							
1	Total	1.53371E+04	1.24920E+04	0.81447	1.57628E+04	5.49583E+00	4.45468E+00
2	Elastic	4.08852E+00	4.61480E+00	1.12873	7.00159E+01	4.45188E+00	3.13806E+00
102	n,gamma	1.53330E+04	1.24870E+04	0.81439	1.56927E+04	1.19453E-01	1.89058E-03
Material(MAT)=4625:Pd-102							
1	Total	9.07312E+00	9.80010E+00	1.08012	1.18784E+02	6.08934E+00	6.91461E+00
2	Elastic	5.70836E+00	6.44230E+00	1.12858	1.05829E+02	5.02142E+00	5.18782E+00
102	n,gamma	3.36476E+00	3.35770E+00	0.99791	1.29559E+01	4.72718E-02	3.19001E-03
Material(MAT)=4631:Pd-104							
1	Total	4.77052E+00	5.34410E+00	1.12023	1.26663E+02	5.81452E+00	4.31016E+00
2	Elastic	4.45540E+00	5.02880E+00	1.12871	1.12851E+02	4.64168E+00	2.21209E+00
102	n,gamma	3.15122E-01	3.15230E-01	1.00035	1.38117E+01	4.61101E-02	1.09600E-03
Material(MAT)=4634:Pd-105							
1	Total	2.70706E+01	2.76440E+01	1.02117	1.75282E+02	5.81456E+00	4.41289E+00
2	Elastic	5.24512E+00	5.91670E+00	1.12803	8.21835E+01	3.89326E+00	2.49280E+00
102	n,gamma	2.18255E+01	2.17270E+01	0.99549	9.30981E+01	1.35719E-01	2.26276E-03
Material(MAT)=4637:Pd-106							
1	Total	4.88900E+00	5.47950E+00	1.12078	1.06946E+02	5.82203E+00	4.32932E+00
2	Elastic	4.58859E+00	5.17910E+00	1.12869	1.01033E+02	4.59024E+00	2.24127E+00
102	n,gamma	3.00411E-01	3.00390E-01	0.99991	5.91346E+00	5.45932E-02	9.73198E-04
Material(MAT)=4640:Pd-107							
1	Total	6.25655E+00	6.83140E+00	1.09187	1.94711E+02	5.83960E+00	4.34360E+00
2	Elastic	4.45130E+00	5.02390E+00	1.12864	8.93341E+01	4.03367E+00	2.25590E+00
102	n,gamma	1.80525E+00	1.80750E+00	1.00122	1.04877E+02	1.20911E-01	9.65398E-04
Material(MAT)=4643:Pd-108							
1	Total	1.07868E+01	1.12300E+01	1.04109	6.30731E+02	5.83260E+00	4.35178E+00
2	Elastic	3.43065E+00	3.86940E+00	1.12790	4.57693E+02	4.52463E+00	2.27031E+00
102	n,gamma	7.35616E+00	7.36060E+00	1.00060	1.73037E+02	4.29796E-02	8.78498E-04

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E÷3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=4649:Pd-110							
1	Total	5.29551E+00	5.94800E+00	1.12321	7.13228E+01	5.83264E+00	4.38634E+00
2	Elastic	5.06850E+00	5.72090E+00	1.12871	6.90350E+01	4.47027E+00	2.29977E+00
102	n,gamma	2.27009E-01	2.27070E-01	1.00027	2.28776E+00	2.17900E-02	8.99294E-04
Material(MAT)=4725:Ag-107							
1	Total	4.51804E+01	4.60790E+01	1.01989	2.10128E+02	6.03096E+00	4.25875E+00
2	Elastic	7.56918E+00	8.53490E+00	1.12759	1.03198E+02	4.36589E+00	2.69870E+00
102	n,gamma	3.76113E+01	3.75440E+01	0.99821	1.06930E+02	1.01761E-01	8.78603E-07
Material(MAT)=4731:Ag-109							
1	Total	9.30482E+01	9.38040E+01	1.00812	1.69090E+03	5.68305E+00	4.33369E+00
2	Elastic	2.30898E+00	2.59690E+00	1.12468	2.16415E+02	3.90897E+00	2.54116E+00
102	n,gamma	9.07392E+01	9.12070E+01	1.00515	1.47448E+03	1.33509E-01	1.01500E-03
Material(MAT)=4735:Ag-110M							
1	Total	8.84909E+01	8.83790E+01	0.99874	1.56209E+02	5.59999E+00	4.46900E+00
2	Elastic	6.49750E+00	7.31770E+00	1.12623	6.58520E+01	3.83631E+00	2.64754E+00
102	n,gamma	8.19934E+01	8.10620E+01	0.98864	9.03415E+01	5.78990E-01	1.04266E-03
Material(MAT)=4737:Ag-111							
1	Total	7.24813E+00	7.79810E+00	1.07588	1.69565E+02	5.53005E+00	4.57077E+00
2	Elastic	4.24802E+00	4.79720E+00	1.12927	6.57698E+01	4.21776E+00	3.32494E+00
102	n,gamma	3.00011E+00	3.00090E+00	1.00027	1.03795E+02	5.22261E-02	1.93898E-03
Material(MAT)=4825:Cd-106							
1	Total	4.72711E+00	5.19150E+00	1.09824	9.63023E+01	5.80243E+00	4.33052E+00
2	Elastic	3.60878E+00	4.07320E+00	1.12868	8.24914E+01	4.37956E+00	2.48666E+00
102	n,gamma	1.11833E+00	1.11830E+00	1.00002	1.38109E+01	1.67909E-01	6.00076E-04
Material(MAT)=4831:Cd-108							
1	Total	5.16197E+00	5.68460E+00	1.10125	1.31720E+02	5.84760E+00	4.37039E+00
2	Elastic	4.06086E+00	4.58330E+00	1.12866	1.15074E+02	4.41561E+00	2.52544E+00
102	n,gamma	1.10111E+00	1.10130E+00	1.00019	1.66459E+01	1.25051E-01	6.00020E-04
Material(MAT)=4837:Cd-110							
1	Total	2.93270E+01	3.16800E+01	1.08023	2.23103E+02	5.86601E+00	4.40867E+00
2	Elastic	1.83146E+01	2.06670E+01	1.12844	1.81835E+02	4.46586E+00	2.56489E+00
102	n,gamma	1.10124E+01	1.10130E+01	1.00004	4.12676E+01	7.39418E-02	6.00025E-04
Material(MAT)=4840:Cd-111							
1	Total	2.86759E+01	2.91310E+01	1.01586	1.20763E+02	5.89117E+00	4.44297E+00
2	Elastic	4.64849E+00	5.23930E+00	1.12709	7.11984E+01	3.98385E+00	2.62094E+00
102	n,gamma	2.40274E+01	2.38910E+01	0.99434	4.95647E+01	1.02943E-01	6.00252E-05

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=4843:Cd-112							
1	Total	8.53545E+00	9.35110E+00	1.09556	9.53259E+01	5.90564E+00	4.44747E+00
2	Elastic	6.34021E+00	7.15570E+00	1.12862	8.21914E+01	4.45649E+00	2.60444E+00
102	n,gamma	2.19524E+00	2.19540E+00	1.00007	1.31346E+01	7.40631E-02	6.00318E-05
Material(MAT)=4846:Cd-113							
1	Total	2.07451E+04	2.77690E+04	1.33860	4.93075E+02	5.93147E+00	4.47681E+00
2	Elastic	2.44312E+01	5.69090E+01	2.32936	1.01465E+02	4.14484E+00	2.52500E+00
102	n,gamma	2.07207E+04	2.77130E+04	1.33744	3.91610E+02	5.79242E-02	6.00005E-04
Material(MAT)=4849:Cd-114							
1	Total	4.81643E+00	5.39310E+00	1.11973	1.17565E+02	5.95002E+00	4.48368E+00
2	Elastic	4.48037E+00	5.05690E+00	1.12869	1.04595E+02	4.46541E+00	2.64271E+00
102	n,gamma	3.36055E-01	3.36150E-01	1.00029	1.29701E+01	3.29201E-02	9.99993E-04
Material(MAT)=4853:Cd-115M							
1	Total	3.53850E+01	3.60230E+01	1.01804	2.67164E+02	5.52741E+00	4.61923E+00
2	Elastic	4.38391E+00	5.01360E+00	1.14363	7.06723E+01	4.58814E+00	3.10513E+00
102	n,gamma	3.10011E+01	3.10100E+01	1.00027	1.96491E+02	4.68143E-02	2.39885E-03
Material(MAT)=4855:Cd-116							
1	Total	5.90629E+00	6.65680E+00	1.12707	7.82829E+01	5.98643E+00	4.51997E+00
2	Elastic	5.83131E+00	6.58180E+00	1.12871	7.67081E+01	4.50324E+00	2.68197E+00
102	n,gamma	7.49863E-02	7.50030E-02	1.00022	1.57494E+00	1.72456E-02	6.00042E-05
Material(MAT)=4925:In-113							
1	Total	1.57690E+01	1.63940E+01	1.03963	4.08641E+02	5.53705E+00	4.62764E+00
2	Elastic	3.69538E+00	4.16750E+00	1.12777	8.44001E+01	4.45197E+00	2.49870E+00
102	n,gamma	1.20736E+01	1.22260E+01	1.01265	3.24241E+02	2.00994E-01	1.00552E-03
Material(MAT)=4931:In-115							
1	Total	2.03651E+02	2.07860E+02	1.02065	3.40638E+03	5.53556E+00	4.63543E+00
2	Elastic	2.53642E+00	2.83810E+00	1.11892	1.96647E+02	4.44722E+00	2.94201E+00
102	n,gamma	2.01114E+02	2.05020E+02	1.01941	3.20974E+03	1.62835E-01	1.02122E-03
Material(MAT)=5025:Sn-112							
1	Total	5.61792E+00	6.21080E+00	1.10553	1.13334E+02	5.53681E+00	4.63999E+00
2	Elastic	4.60876E+00	5.20190E+00	1.12869	8.32629E+01	4.78510E+00	2.93033E+00
102	n,gamma	1.00915E+00	1.00890E+00	0.99977	3.00715E+01	1.09058E-01	1.11473E-03
Material(MAT)=5031:Sn-114							
1	Total	4.69113E+00	5.27880E+00	1.12528	8.78257E+01	5.53279E+00	4.63944E+00
2	Elastic	4.56583E+00	5.15350E+00	1.12871	8.14919E+01	4.79072E+00	2.91372E+00
102	n,gamma	1.25298E-01	1.25340E-01	1.00030	6.33397E+00	8.94539E-02	1.02469E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=5034:Sn-115							
1	Total	3.82588E+01	3.92620E+01	1.02623	8.93714E+01	5.53896E+00	4.62614E+00
2	Elastic	8.40626E+00	9.47690E+00	1.12736	7.59777E+01	4.36278E+00	2.90432E+00
102	n,gamma	2.98525E+01	2.97850E+01	0.99775	1.33936E+01	8.06733E-02	1.00708E-03
Material(MAT)=5037:Sn-116							
1	Total	4.45806E+00	5.01540E+00	1.12502	9.56221E+01	5.53888E+00	4.63939E+00
2	Elastic	4.33033E+00	4.88760E+00	1.12870	8.34537E+01	4.80487E+00	2.92097E+00
102	n,gamma	1.27727E-01	1.27780E-01	1.00042	1.21684E+01	5.61089E-02	1.01422E-03
Material(MAT)=5040:Sn-117							
1	Total	7.29946E+00	7.95850E+00	1.09028	8.63472E+01	5.53961E+00	4.63577E+00
2	Elastic	5.12599E+00	5.78500E+00	1.12857	6.84831E+01	4.23211E+00	2.92142E+00
102	n,gamma	2.17347E+00	2.17350E+00	1.00000	1.78641E+01	5.46134E-02	1.00649E-03
Material(MAT)=5043:Sn-118							
1	Total	4.45761E+00	5.00330E+00	1.12243	7.95210E+01	5.53118E+00	4.63893E+00
2	Elastic	4.23974E+00	4.78540E+00	1.12871	7.43083E+01	4.79760E+00	2.92815E+00
102	n,gamma	2.17871E-01	2.17890E-01	1.00009	5.21280E+00	3.19105E-02	1.00205E-03
Material(MAT)=5046:Sn-119							
1	Total	6.87177E+00	7.47070E+00	1.08716	7.30315E+01	5.53652E+00	4.62728E+00
2	Elastic	4.69542E+00	5.29930E+00	1.12860	6.72380E+01	4.13630E+00	2.91981E+00
102	n,gamma	2.17635E+00	2.17150E+00	0.99776	5.15433E+00	3.45344E-02	1.00439E-03
Material(MAT)=5049:Sn-120							
1	Total	5.50149E+00	6.19170E+00	1.12547	6.56693E+01	5.52982E+00	4.63889E+00
2	Elastic	5.36225E+00	6.05250E+00	1.12872	6.45238E+01	4.78888E+00	2.92807E+00
102	n,gamma	1.39242E-01	1.39260E-01	1.00015	1.14561E+00	1.78833E-02	1.00503E-03
Material(MAT)=5055:Sn-122							
1	Total	3.99467E+00	4.48480E+00	1.12270	5.80979E+01	5.53266E+00	4.63851E+00
2	Elastic	3.81097E+00	4.30150E+00	1.12871	5.72121E+01	4.81736E+00	2.92983E+00
102	n,gamma	1.83698E-01	1.83330E-01	0.99799	8.85467E-01	1.03793E-02	1.00590E-03
Material(MAT)=5058:Sn-123							
1	Total	4.57959E+00	5.18280E+00	1.13172	7.07646E+01	5.59164E+00	4.65191E+00
2	Elastic	4.54659E+00	5.14980E+00	1.13268	6.82345E+01	4.95542E+00	3.51682E+00
102	n,gamma	3.30111E-02	3.30100E-02	1.00027	2.52952E+00	3.90166E-02	2.38770E-03
Material(MAT)=5061:Sn-124							
1	Total	4.55323E+00	5.12170E+00	1.12485	6.79956E+01	5.53200E+00	4.63822E+00
2	Elastic	4.41775E+00	4.98630E+00	1.12870	6.01740E+01	4.78562E+00	2.92906E+00
102	n,gamma	1.35485E-01	1.35390E-01	0.99931	7.82164E+00	6.34190E-03	1.00510E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=5064:Sn-125							
1	Total	5.13944E+00	5.73030E+00	1.11498	8.70434E+01	5.61205E+00	4.65260E+00
2	Elastic	4.58942E+00	5.18020E+00	1.12872	7.22121E+01	5.07366E+00	3.71436E+00
102	n,gamma	5.50019E-01	5.50170E-01	1.00027	1.48307E+01	1.11216E-02	2.27306E-03
Material(MAT)=5067:Sn-126							
1	Total	4.91338E+00	5.50730E+00	1.12087	5.95673E+01	5.61668E+00	4.65612E+00
2	Elastic	4.61337E+00	5.20720E+00	1.12871	5.94075E+01	5.14027E+00	3.14595E+00
102	n,gamma	3.00010E-01	3.00090E-01	1.00027	1.59773E-01	5.62493E-03	1.81098E-03
Material(MAT)=5125:Sb-121							
1	Total	9.59805E+00	1.00820E+01	1.05044	2.82351E+02	5.77910E+00	4.70525E+00
2	Elastic	3.60524E+00	4.06790E+00	1.12833	6.84493E+01	4.34178E+00	2.37173E+00
102	n,gamma	5.99281E+00	6.01420E+00	1.00358	2.13663E+02	8.32566E-02	1.00408E-03
Material(MAT)=5131:Sb-123							
1	Total	8.10223E+00	8.60630E+00	1.06222	2.18346E+02	5.79676E+00	4.73292E+00
2	Elastic	3.91453E+00	4.41740E+00	1.12845	9.62580E+01	4.53908E+00	2.51949E+00
102	n,gamma	4.18770E+00	4.18900E+00	1.00030	1.22088E+02	6.17992E-02	1.00514E-03
Material(MAT)=5134:Sb-124							
1	Total	1.10748E+01	1.16830E+01	1.05490	8.77617E+01	5.60579E+00	4.65832E+00
2	Elastic	4.57453E+00	5.18070E+00	1.13252	6.14278E+01	3.88097E+00	3.11079E+00
102	n,gamma	6.50022E+00	6.50200E+00	1.00027	2.59782E+01	5.99563E-02	2.50741E-03
Material(MAT)=5137:Sb-125							
1	Total	5.58945E+00	6.18080E+00	1.10579	9.97985E+01	5.62480E+00	4.65900E+00
2	Elastic	4.58942E+00	5.18050E+00	1.12879	8.17445E+01	4.62274E+00	3.14072E+00
102	n,gamma	1.00003E+00	1.00030E+00	1.00027	1.80541E+01	7.80453E-02	2.01261E-03
Material(MAT)=5140:Sb-126							
1	Total	1.04288E+01	1.10440E+01	1.05899	1.29683E+02	5.62322E+00	4.65719E+00
2	Elastic	4.62865E+00	5.24230E+00	1.13258	8.40401E+01	4.57356E+00	3.22177E+00
102	n,gamma	5.80020E+00	5.80180E+00	1.00027	4.55309E+01	3.80566E-02	2.37553E-03
Material(MAT)=5225:Te-120							
1	Total	7.17874E+00	8.19280E+00	1.14126	1.13139E+02	6.37980E+00	7.52705E+00
2	Elastic	4.89231E+00	5.90550E+00	1.20710	9.37612E+01	5.07946E+00	5.72557E+00
102	n,gamma	2.28643E+00	2.28730E+00	1.00036	1.93774E+01	1.41316E-01	1.40000E-03
Material(MAT)=5231:Te-122							
1	Total	5.87157E+00	6.26810E+00	1.06754	1.88297E+02	5.58529E+00	4.64921E+00
2	Elastic	3.07046E+00	3.46550E+00	1.12864	1.14742E+02	4.62643E+00	3.15709E+00
102	n,gamma	2.80110E+00	2.80270E+00	1.00057	7.35552E+01	1.23053E-01	2.26881E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E÷3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=5234:Te-123							
1	Total	4.10594E+02	4.15520E-02	1.01200	6.19940E+03	5.59430E+00	4.65302E+00
2	Elastic	5.99734E-01	6.97630E-01	1.16323	6.54393E+02	4.21056E+00	3.11535E+00
102	n,gamma	4.09994E-02	4.14820E-02	1.01177	5.54502E+03	8.69948E-02	2.77100E-03
Material(MAT)=5237:Te-124							
1	Total	1.06573E+01	1.11560E+01	1.04676	7.81580E+01	5.60728E+00	4.65883E+00
2	Elastic	3.85721E+00	4.35370E+00	1.12871	7.02285E+01	4.65325E+00	3.23078E+00
102	n,gamma	6.80014E+00	6.80200E+00	1.00027	7.92969E+00	1.09897E-01	2.16671E-03
Material(MAT)=5240:Te-125							
1	Total	5.54761E+00	6.06260E+00	1.09283	1.01451E+02	5.62152E+00	4.65885E+00
2	Elastic	3.99743E+00	4.51190E+00	1.12870	7.82553E+01	4.19839E+00	3.15715E+00
102	n,gamma	1.55018E+00	1.55070E+00	1.00033	2.29080E+01	4.30885E-02	2.65827E-03
Material(MAT)=5243:Te-126							
1	Total	5.16884E+00	5.70120E+00	1.10299	9.07430E+01	5.63152E+00	4.65544E+00
2	Elastic	4.13374E+00	4.66580E+00	1.12871	8.05515E+01	4.71990E+00	3.15764E+00
102	n,gamma	1.03511E+00	1.03540E+00	1.00030	1.01916E+01	3.94435E-02	2.07803E-03
Material(MAT)=5247:Te-127M							
1	Total	1.40386E+01	1.46380E+01	1.04271	1.37271E+02	5.63338E+00	4.66034E+00
2	Elastic	4.63832E+00	5.23540E+00	1.12872	9.50185E+01	4.75448E+00	3.14254E+00
102	n,gamma	9.40032E+00	9.40290E+00	1.00027	4.22528E+01	6.62689E-02	2.52642E-03
Material(MAT)=5249:Te-128							
1	Total	4.08658E+00	4.58500E+00	1.12196	5.52733E+01	5.88803E+00	4.82995E+00
2	Elastic	3.87165E+00	4.37000E+00	1.12872	5.35679E+01	4.91837E+00	2.87478E+00
102	n,gamma	2.14933E-01	2.14990E-01	1.00027	1.70540E+00	9.29373E-03	7.82185E-06
Material(MAT)=5253:Te-129M							
1	Total	5.78626E+00	6.39000E+00	1.10434	9.59121E+01	5.66465E+00	4.65768E+00
2	Elastic	4.68623E+00	5.28970E+00	1.12877	8.99261E+01	4.71901E+00	3.12917E+00
102	n,gamma	1.10004E+00	1.10030E+00	1.00027	5.98609E+00	1.34254E-02	2.43217E-03
Material(MAT)=5255:Te-130							
1	Total	4.93680E+00	5.53510E+00	1.12119	5.90384E+01	5.69073E+00	4.65728E+00
2	Elastic	4.64679E+00	5.24500E+00	1.12873	5.87021E+01	4.93479E+00	3.14781E+00
102	n,gamma	2.90012E-01	2.90090E-01	1.00028	3.36403E-01	4.48075E-03	1.95092E-03
Material(MAT)=5261:Te-132							
1	Total	4.76009E+00	5.37260E+00	1.12868	5.78688E+01	5.70793E+00	4.65681E+00
2	Elastic	4.75809E+00	5.37060E+00	1.12874	5.78679E+01	4.97577E+00	3.19629E+00
102	n,gamma	2.00007E-03	2.00060E-03	1.00028	8.99657E-04	6.36469E-04	1.90163E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=5325:I-127							
1	Total	8.94822E+00	9.35370E+00	1.04531	2.58412E+02	5.89173E+00	4.72889E+00
2	Elastic	3.14800E+00	3.55200E+00	1.12835	1.05026E+02	4.34962E+00	2.54034E+00
102	n,gamma	5.80022E+00	5.80160E+00	1.00024	1.53326E+02	7.27073E-02	1.56014E-03
Material(MAT)=5331:I-129							
1	Total	3.69180E+01	3.74860E+01	1.01539	1.02265E+02	5.86811E+00	4.73354E+00
2	Elastic	4.38895E+00	4.95370E+00	1.12867	6.84940E+01	4.52568E+00	2.54660E+00
102	n,gamma	3.25291E+01	3.25330E+01	1.00011	3.35656E+01	4.46819E-02	1.35268E-03
Material(MAT)=5334:I-130							
1	Total	2.27318E+01	2.33730E+01	1.02819	3.00436E+02	5.69450E+00	4.65731E+00
2	Elastic	4.73122E+00	5.36710E+00	1.13440	1.20084E+02	4.15314E+00	3.12862E+00
102	n,gamma	1.80006E+01	1.80060E+01	1.00027	1.80314E+02	3.37972E-02	2.51133E-03
Material(MAT)=5337:I-131							
1	Total	5.43416E+00	6.04400E+00	1.11223	1.03201E+02	5.71537E+00	4.65677E+00
2	Elastic	4.73413E+00	5.34380E+00	1.12878	9.52881E+01	4.55314E+00	3.14336E+00
102	n,gamma	7.00024E-01	7.00220E-01	1.00027	7.91291E+00	1.32668E-02	2.10204E-03
Material(MAT)=5349:I-135							
1	Total	4.84995E+00	5.47160E+00	1.12818	6.31293E+01	5.77496E+00	4.65687E+00
2	Elastic	4.82995E+00	5.45160E+00	1.12871	6.31172E+01	5.29670E+00	3.24567E+00
102	n,gamma	2.00007E-02	2.00060E-02	1.00028	1.20092E-02	4.67003E-04	1.63037E-03
Material(MAT)=5425:Xe-124							
1	Total	1.68867E+02	1.70050E+02	1.00703	3.81479E+03	5.87956E+00	4.80510E+00
2	Elastic	4.31719E+00	4.86720E+00	1.12741	7.61085E+02	4.39985E+00	3.09581E+00
102	n,gamma	1.64549E+02	1.65190E+02	1.00387	3.05370E+03	1.06822E-01	0.00000E+00
Material(MAT)=5431:Xe-126							
1	Total	6.52843E+00	7.08520E+00	1.08528	1.85649E+02	5.90447E+00	4.84850E+00
2	Elastic	4.32800E+00	4.88450E+00	1.12859	1.41847E+02	4.51435E+00	2.84298E+00
102	n,gamma	2.20042E+00	2.20060E+00	1.00009	4.38015E+01	7.26523E-02	0.00000E+00
Material(MAT)=5437:Xe-128							
1	Total	9.67778E+00	1.02210E+01	1.05610	1.29311E+02	5.93538E+00	4.88760E+00
2	Elastic	4.31687E+00	4.87130E+00	1.12843	1.18334E+02	4.54191E+00	2.65503E+00
102	n,gamma	5.36091E+00	5.34940E+00	0.99786	1.09762E+01	4.93088E-02	0.00000E+00
Material(MAT)=5440:Xe-129							
1	Total	2.23205E+01	2.28880E+01	1.02541	3.90332E+02	5.94671E+00	4.90550E+00
2	Elastic	4.31662E+00	4.86870E+00	1.12790	1.34672E+02	4.13125E+00	2.92495E+00
102	n,gamma	1.80039E+01	1.80190E+01	1.00084	2.55221E+02	6.54917E-02	0.00000E+00

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=5443:Xe-130							
1	Total	1.04985E+01	1.10370E+01	1.05125	8.51622E+01	5.97361E+00	4.90941E+00
2	Elastic	4.29767E+00	4.84950E+00	1.12840	8.08630E+01	4.62610E+00	2.94017E+00
102	n,gamma	6.20080E+00	6.18700E+00	0.99778	4.29919E+00	4.04340E-02	0.00000E+00
Material(MAT)=5446:Xe-131							
1	Total	1.09431E+02	1.12710E+02	1.02994	2.96005E+03	5.99052E+00	4.93780E+00
2	Elastic	2.44340E+01	2.75790E+01	1.12873	2.06925E+03	4.17231E+00	2.94901E+00
102	n,gamma	8.49965E+01	8.51270E+01	1.00154	8.90777E+02	2.58103E-02	1.00010E-08
Material(MAT)=5449:Xe-132							
1	Total	4.21487E+00	4.69960E+00	1.11500	8.99479E+01	6.02482E+00	4.94166E+00
2	Elastic	3.76618E+00	4.25080E+00	1.12869	8.84602E+01	4.76976E+00	2.97373E+00
102	n,gamma	4.48690E-01	4.48740E-01	1.00011	1.48772E+00	2.27543E-02	1.00000E-08
Material(MAT)=5452:Xe-133							
1	Total	1.94976E+02	1.96510E+02	1.00786	4.55057E+02	5.75415E+00	4.65695E+00
2	Elastic	4.97157E+00	6.46680E+00	1.30076	9.78572E+01	4.61572E+00	3.15423E+00
102	n,gamma	1.90004E+02	1.90040E+02	1.00020	3.57200E+02	9.01661E-03	2.53768E-03
Material(MAT)=5455:Xe-134							
1	Total	4.61203E+00	5.17330E+00	1.12169	8.58919E+01	6.08424E+00	4.97715E+00
2	Elastic	4.36260E+00	4.92410E+00	1.12870	8.53230E+01	4.99502E+00	2.96539E+00
102	n,gamma	2.49421E-01	2.49220E-01	0.99921	5.68949E-01	1.24418E-02	1.00000E-08
Material(MAT)=5458:Xe-135							
1	Total	2.95223E+06	3.50200E+06	1.18624	1.28620E+04	5.82116E+00	4.65543E+00
2	Elastic	2.99586E+05	4.33220E+05	1.44606	5.21044E+03	5.04031E+00	3.43864E+00
102	n,gamma	2.65264E+06	3.06880E+06	1.15689	7.65162E+03	7.63153E-04	2.37589E-03
Material(MAT)=5461:Xe-136							
1	Total	4.47647E+00	5.03210E+00	1.12412	1.06937E+02	6.13927E+00	4.98479E+00
2	Elastic	4.31647E+00	4.87200E+00	1.12871	1.06818E+02	5.30598E+00	2.96136E+00
102	n,gamma	1.60005E-01	1.60050E-01	1.00027	1.19365E-01	1.05566E-03	0.00000E+00
Material(MAT)=5525:Cs-133							
1	Total	3.29728E+01	3.35600E+01	1.01781	5.34791E+02	5.97643E+00	4.84785E+00
2	Elastic	3.97058E+00	4.47730E+00	1.12761	1.13950E+02	4.15171E+00	3.07312E+00
102	n,gamma	2.90023E+01	2.90830E+01	1.00278	4.20812E+02	6.33581E-02	1.49523E-03
Material(MAT)=5528:Cs-134							
1	Total	1.62111E+02	1.64730E+02	1.01613	2.19635E+02	5.77371E+00	4.65735E+00
2	Elastic	2.24271E+01	2.52550E+01	1.12607	1.40126E+02	3.98875E+00	3.15799E+00
102	n,gamma	1.39684E+02	1.39470E+02	0.99848	7.87740E+01	3.31913E-02	2.70517E-03

108

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=5531:Cs-135							
1	Total	1.40851E+01	1.47300E+01	1.04579	1.88934E+02	6.01834E+00	4.93401E+00
2	Elastic	5.07879E+00	5.73050E+00	1.12831	1.27890E+02	4.54217E+00	2.89811E+00
102	n,gamma	9.00631E+00	8.99960E+00	0.99926	6.10443E+01	2.77431E-02	9.20974E-04
Material(MAT)=5534:Cs-136							
1	Total	5.21561E+00	5.71990E+00	1.09670	2.18762E+02	5.82570E+00	4.65802E+00
2	Elastic	3.91525E+00	4.41900E+00	1.12866	1.80349E+02	4.76313E+00	3.17955E+00
102	n,gamma	1.30036E+00	1.30090E+00	1.00045	3.84132E+01	2.77777E-02	2.55253E-03
Material(MAT)=5537:Cs-137							
1	Total	2.65855E+00	2.98250E+00	1.12187	8.98314E+01	6.06730E+00	4.97952E+00
2	Elastic	2.51709E+00	2.84110E+00	1.12871	8.92325E+01	5.07321E+00	2.92165E+00
102	n,gamma	1.41456E-01	1.41480E-01	1.00019	5.99005E-01	6.83079E-03	8.95581E-04
Material(MAT)=5625:Ba-130							
1	Total	1.44323E+01	1.48380E+01	1.02810	4.82943E+02	6.23443E+00	5.07875E+00
2	Elastic	3.13784E+00	3.54010E+00	1.12820	3.07809E+02	4.64154E+00	2.67829E+00
102	n,gamma	1.12944E+01	1.12980E+01	1.00029	1.75133E+02	5.24792E-01	1.64038E-02
Material(MAT)=5631:Ba-132							
1	Total	1.03128E+01	1.07450E+01	1.04195	9.60675E+01	6.23172E+00	5.07830E+00
2	Elastic	3.31261E+00	3.74330E+00	1.13003	6.59367E+01	4.86493E+00	2.74511E+00
102	n,gamma	7.00023E+00	7.00210E+00	1.00027	3.01307E+01	2.73084E-01	3.81271E-03
Material(MAT)=5637:Ba-134							
1	Total	5.44145E+00	5.88400E+00	1.08133	1.15133E+02	6.24948E+00	5.07826E+00
2	Elastic	3.43933E+00	3.88160E+00	1.12860	9.09261E+01	5.06410E+00	2.77496E+00
102	n,gamma	2.00213E+00	2.00240E+00	1.00013	2.42066E+01	1.37749E-01	1.50557E-03
Material(MAT)=5640:Ba-135							
1	Total	7.60122E+00	7.83470E+00	1.03072	2.88052E+02	6.23955E+00	5.06948E+00
2	Elastic	1.80439E+00	2.03590E+00	1.12830	1.57286E+02	4.96942E+00	2.90088E+00
102	n,gamma	5.79684E+00	5.79890E+00	1.00035	1.30766E+02	9.71956E-02	1.00650E-03
Material(MAT)=5643:Ba-136							
1	Total	2.97403E+00	3.30530E+00	1.11140	5.95491E+01	6.24670E+00	5.07790E+00
2	Elastic	2.57388E+00	2.90510E+00	1.12869	5.76422E+01	5.29536E+00	2.83966E+00
102	n,gamma	4.00153E-01	4.00220E-01	1.00017	1.90697E+00	3.67517E-02	1.01614E-03
Material(MAT)=5646:Ba-137							
1	Total	9.01835E+00	9.51460E+00	1.05503	7.26831E+01	6.24176E+00	5.06345E+00
2	Elastic	3.89579E+00	4.39570E+00	1.12832	6.80078E+01	5.37689E+00	2.89473E+00
102	n,gamma	5.12256E+00	5.11890E+00	0.99928	4.67542E+00	1.48479E-02	1.00497E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=5649:Ba-138							
1	Total	5.92926E+00	6.64640E+00	1.12094	6.03901E+01	6.23190E+00	5.07772E+00
2	Elastic	5.57014E+00	6.28710E+00	1.12872	6.01371E+01	5.57406E+00	2.88892E+00
102	n,gamma	3.59127E-01	3.59220E-01	1.00026	2.53072E-01	2.97335E-03	1.35041E-03
Material(MAT)=5655:Ba-140							
1	Total	3.49423E+00	3.73890E+00	1.07003	4.01657E+02	6.14570E+00	5.03570E+00
2	Elastic	1.89951E+00	2.14350E+00	1.12847	3.87326E+02	5.28868E+00	2.93905E+00
102	n,gamma	1.59472E+00	1.59540E+00	1.00043	1.43308E+01	6.54869E-03	9.70605E-04
Material(MAT)=5725:La-138							
1	Total	7.01184E+01	7.18860E+01	1.02521	4.91670E+02	6.17162E+00	5.04681E+00
2	Elastic	1.30237E+01	1.46750E+01	1.12680	1.27378E+02	4.86201E+00	2.90534E+00
102	n,gamma	5.70947E+01	5.72110E+01	1.00204	3.64288E+02	3.44466E-02	1.00535E-03
Material(MAT)=5728:La-139							
1	Total	1.94823E+01	2.08320E+01	1.06925	1.01627E+02	6.07183E+00	5.04607E+00
2	Elastic	1.05499E+01	1.19010E+01	1.12809	8.97186E+01	4.84001E+00	2.96603E+00
102	n,gamma	8.93241E+00	8.93040E+00	0.99977	1.19081E+01	5.47889E-03	7.08895E-04
Material(MAT)=5731:La-140							
1	Total	7.65319E+00	8.29450E+00	1.08380	2.90795E+02	5.93506E+00	4.67091E+00
2	Elastic	4.95310E+00	5.59370E+00	1.12933	2.25353E+02	4.17089E+00	2.99612E+00
102	n,gamma	2.70009E+00	2.70080E+00	1.00028	6.51025E+01	3.37906E-02	2.33503E-03
Material(MAT)=5837:Ce-140							
1	Total	3.85005E+00	4.27150E+00	1.10945	4.89394E+01	5.93011E+00	4.66965E+00
2	Elastic	3.27545E+00	3.69700E+00	1.12869	4.86577E+01	5.39983E+00	3.22949E+00
102	n,gamma	5.74596E-01	5.74480E-01	0.99979	2.81670E-01	1.47860E-02	2.14120E-03
Material(MAT)=5840:Ce-141							
1	Total	3.61496E+01	3.65950E+01	1.01233	3.87723E+02	6.16796E+00	5.05050E+00
2	Elastic	3.41214E+00	3.85140E+00	1.12873	2.22890E+02	5.11639E+00	2.93692E+00
102	n,gamma	3.27374E+01	3.27440E+01	1.00020	1.64833E+02	7.77741E-02	1.47177E-03
Material(MAT)=5843:Ce-142							
1	Total	4.68385E+00	5.17100E+00	1.10401	2.00383E+02	6.19879E+00	5.06962E+00
2	Elastic	3.78337E+00	4.27040E+00	1.12872	1.99452E+02	4.97569E+00	2.94353E+00
102	n,gamma	9.00478E-01	9.00650E-01	1.00019	9.30422E-01	1.73754E-02	1.05978E-03
Material(MAT)=5846:Ce-143							
1	Total	1.10338E+01	1.17090E+01	1.06119	2.75137E+02	6.00877E+00	4.67563E+00
2	Elastic	5.03360E+00	5.70710E+00	1.13380	2.33564E+02	5.07663E+00	3.24080E+00
102	n,gamma	6.00020E+00	6.00180E+00	1.00027	4.15728E+01	1.28590E-02	2.41014E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=5849:Ce-144							
1	Total	4.53046E+00	4.96850E+00	1.09670	2.75337E+02	6.29028E+00	5.10378E+00
2	Elastic	3.40186E+00	3.83970E+00	1.12871	2.72534E+02	4.46034E+00	2.95810E+00
102	n,gamma	1.12860E+00	1.12880E+00	1.00020	2.80294E+00	7.89206E-03	9.46987E-04
Material(MAT)=5925:Pr-141							
1	Total	1.40797E+01	1.44060E+01	1.02319	2.33638E+02	6.11865E+00	5.06028E+00
2	Elastic	2.59649E+00	2.92790E+00	1.12766	2.15765E+02	4.71569E+00	2.96974E+00
102	n,gamma	1.14832E+01	1.14780E+01	0.99957	1.78731E+01	1.54860E-02	2.72698E-03
Material(MAT)=5928:Pr-142							
1	Total	2.50162E+01	2.56930E+01	1.02707	4.99554E+02	5.98729E+00	4.67107E+00
2	Elastic	5.01555E+00	5.68720E+00	1.13392	3.54487E+02	4.81663E+00	3.23383E+00
102	n,gamma	2.00007E+01	2.00060E+01	1.00027	1.45068E+02	2.91781E-02	2.57024E-03
Material(MAT)=5931:Pr-143							
1	Total	9.40948E+01	9.50000E+01	1.00962	5.92578E+02	6.02221E+00	4.67591E+00
2	Elastic	5.09180E+00	5.97290E+00	1.17304	4.02927E+02	4.82591E+00	3.59646E+00
102	n,gamma	8.90030E+01	8.90280E+01	1.00028	1.89542E+02	5.67475E-02	2.24774E-03
Material(MAT)=6025:Nd-142							
1	Total	2.71825E+01	2.82520E+01	1.03936	8.67610E+01	5.98653E+00	4.67566E+00
2	Elastic	8.54608E+00	9.63670E+00	1.12762	8.06803E+01	5.39060E+00	3.29115E+00
102	n,gamma	1.86364E+01	1.86160E+01	0.99889	6.08074E+00	2.43200E-02	2.41992E-03
Material(MAT)=6028:Nd-143							
1	Total	4.22821E+02	4.32060E+02	1.02186	7.40712E+02	6.33797E+00	4.94350E+00
2	Elastic	8.68805E+01	9.73450E+01	1.12044	6.08148E+02	5.17213E+00	2.77188E+00
102	n,gamma	3.35941E+02	3.34720E+02	0.99636	1.32564E+02	7.75738E-02	1.07240E-03
Material(MAT)=6031:Nd-144							
1	Total	3.84361E+00	3.87670E+00	1.00861	6.49448E+02	6.30889E+00	5.06023E+00
2	Elastic	2.60325E-01	2.93400E-01	1.12706	6.45368E+02	5.05959E+00	2.96461E+00
102	n,gamma	3.58329E+00	3.58330E+00	1.00000	4.07978E+00	2.60662E-02	9.13997E-04
Material(MAT)=6034:Nd-145							
1	Total	6.01845E+01	6.25000E+01	1.03847	7.97907E+02	6.33924E+00	5.05685E+00
2	Elastic	1.83242E+01	2.06410E+01	1.12646	5.66711E+02	4.57894E+00	2.96619E+00
102	n,gamma	4.18603E+01	4.18580E+01	0.99995	2.31147E+02	7.39299E-02	1.00200E-03
Material(MAT)=6037:Nd-146							
1	Total	5.78161E+00	6.34460E+00	1.09737	1.67751E+02	6.36724E+00	5.07162E+00
2	Elastic	4.38137E+00	4.94460E+00	1.12856	1.65087E+02	4.85727E+00	2.98000E+00
102	n,gamma	1.40023E+00	1.39990E+00	0.99979	2.66392E+00	2.92585E-02	8.94296E-04

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=6040:Nd-147							
1	Total	5.45976E+02	5.56630E+02	1.01951	1.13767E+03	6.14100E+00	4.69762E+00
2	Elastic	1.06029E+02	1.18670E+02	1.11927	5.31769E+02	4.35901E+00	3.27372E+00
102	n,gamma	4.39947E+02	4.37950E+02	0.99546	6.05838E+02	7.11493E-02	2.59846E-03
Material(MAT)=6043:Nd-148							
1	Total	3.16554E+00	3.25180E+00	1.02724	5.77600E+02	6.45512E+00	5.24066E+00
2	Elastic	6.65140E-01	7.50430E-01	1.12823	5.57886E+02	4.83577E+00	3.08600E+00
102	n,gamma	2.50040E+00	2.50130E+00	1.00037	1.97140E+01	3.57942E-02	8.73797E-04
Material(MAT)=6049:Nd-150							
1	Total	5.94153E+00	6.55300E+00	1.10292	1.85212E+02	6.81981E+00	5.24139E+00
2	Elastic	4.75467E+00	5.36630E+00	1.12863	1.69589E+02	4.66529E+00	2.72256E+00
102	n,gamma	1.18685E+00	1.18670E+00	0.99988	1.56227E+01	3.15871E-02	8.76310E-04
Material(MAT)=6149:Pm-147							
1	Total	1.82545E+02	1.82020E+02	0.99711	3.30675E+03	6.46712E+00	5.17263E+00
2	Elastic	1.96463E+00	2.21570E+00	1.12777	1.16419E+03	4.51550E+00	3.03016E+00
102	n,gamma	1.80581E+02	1.79800E+02	0.99568	2.14255E+03	1.87729E-01	9.56997E-04
Material(MAT)=6152:Pm-148							
1	Total	2.00520E+03	2.00650E+03	1.00067	4.00033E+04	6.16248E+00	4.70235E+00
2	Elastic	5.13441E+00	5.79530E+00	1.12872	1.44303E+02	3.68168E+00	3.28807E+00
102	n,gamma	2.00007E+03	2.00070E+03	1.00034	3.98590E+04	6.27577E-01	2.64869E-03
Material(MAT)=6153:Pm-148M							
1	Total	1.07024E+04	1.58550E+04	1.48142	3.80209E+03	6.16253E+00	4.70235E+00
2	Elastic	3.57047E+01	7.12990E+01	1.99691	1.57003E+02	3.68174E+00	3.28807E+00
102	n,gamma	1.06666E+04	1.57830E+04	1.47970	3.64509E+03	6.27577E-01	2.64869E-03
Material(MAT)=6155:Pm-149							
1	Total	1.40542E+03	1.40760E+03	1.00156	9.97992E+02	6.19523E+00	4.70681E+00
2	Elastic	5.37613E+00	7.18760E+00	1.33694	2.00290E+02	3.96386E+00	3.31971E+00
102	n,gamma	1.40005E+03	1.40040E+03	1.00027	7.97703E+02	6.12849E-01	2.26518E-03
Material(MAT)=6161:Pm-151							
1	Total	7.05502E+02	7.08040E+02	1.00360	2.14743E+03	6.25801E+00	4.71701E+00
2	Elastic	5.48119E+00	7.85500E+00	1.43308	1.38791E+02	4.61059E+00	3.27933E+00
102	n,gamma	7.00020E+02	7.00190E+02	1.00024	2.00864E+03	1.91793E-03	2.32632E-03
Material(MAT)=6225:Sm-144							
1	Total	5.46030E+00	6.26620E+00	1.14759	2.46208E+02	6.75530E+00	7.88210E+00
2	Elastic	4.76451E+00	5.57060E+00	1.16919	2.27331E+02	5.86841E+00	5.99188E+00
102	n,gamma	6.95795E-01	6.95580E-01	0.99969	1.88769E+01	2.12040E-01	2.07000E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=6234:Sm-147							
1	Total	9.72067E+01	1.02360E+02	1.05301	1.63884E+03	6.92849E+00	5.03607E+00
2	Elastic	4.00190E+01	4.51040E+01	1.12707	8.45200E+02	4.76666E+00	2.95475E+00
102	n,gamma	5.71877E+01	5.72550E+01	1.00118	7.93641E+02	2.07862E-01	1.19600E-03
Material(MAT)=6237:Sm-148							
1	Total	7.83882E+00	8.50420E+00	1.08489	3.71927E+02	6.17080E+00	4.70036E+00
2	Elastic	5.13872E+00	5.80340E+00	1.12935	3.45001E+02	4.92006E+00	3.35836E+00
102	n,gamma	2.70009E+00	2.70080E+00	1.00028	2.69267E+01	1.94588E-01	2.42606E-03
Material(MAT)=6240:Sm-149							
1	Total	4.19315E+04	7.21320E+04	1.72023	4.02483E+03	7.07552E+00	5.20066E+00
2	Elastic	2.05356E+02	4.92560E+02	2.39858	5.38733E+02	4.47441E+00	3.06700E+00
102	n,gamma	4.17261E+04	7.16390E+04	1.71689	3.48571E+03	1.91141E-01	1.65881E-03
Material(MAT)=6243:Sm-150							
1	Total	1.24602E+02	1.27050E+02	1.01963	8.40551E+02	6.23173E+00	4.71058E+00
2	Elastic	2.12547E+01	2.39030E+01	1.12460	5.01624E+02	4.66629E+00	3.35046E+00
102	n,gamma	1.03347E+02	1.03140E+02	0.99804	3.38928E+02	1.42895E-01	2.33405E-03
Material(MAT)=6246:Sm-151							
1	Total	1.52220E+04	1.41140E+04	0.92724	3.76610E+03	6.77706E+00	5.00281E+00
2	Elastic	3.92486E+01	3.65600E+01	0.93151	2.97566E+02	3.81745E+00	2.77746E+00
102	n,gamma	1.51828E+04	1.40780E+04	0.92723	3.46510E+03	1.67794E-01	1.62690E-03
Material(MAT)=6249:Sm-152							
1	Total	2.08945E+02	2.10080E+02	1.00544	9.05378E+03	7.03423E+00	5.01463E+00
2	Elastic	2.94540E+00	3.38580E+00	1.14951	6.07396E+03	4.69268E+00	2.95200E+00
102	n,gamma	2.06000E+02	2.06700E+02	1.00338	2.97981E+03	9.10177E-02	9.29597E-04
Material(MAT)=6252:Sm-153							
1	Total	3.35459E+02	3.37240E+02	1.00531	3.11941E+03	6.31137E+00	4.72756E+00
2	Elastic	5.44481E+00	7.11190E+00	1.30618	2.47906E+02	4.17776E+00	3.28170E+00
102	n,gamma	3.30014E+02	3.30130E+02	1.00035	2.86892E+03	5.94565E-04	2.78529E-03
Material(MAT)=6255:Sm-154							
1	Total	1.94372E+01	2.08530E+01	1.07283	2.69253E+02	6.34279E+00	4.73264E+00
2	Elastic	1.10358E+01	1.24530E+01	1.12841	2.35970E+02	4.73673E+00	3.33461E+00
102	n,gamma	8.40141E+00	8.40010E+00	0.99984	3.32715E+01	6.01075E-02	2.31791E-03
Material(MAT)=6325:Eu-151							
1	Total	9.16842E+03	8.25860E+03	0.90076	3.60364E+03	7.03903E+00	5.12993E+00
2	Elastic	3.39374E+00	3.18050E+00	0.93716	2.51581E+02	4.45061E+00	2.84738E+00
102	n,gamma	9.16502E+03	8.25540E+03	0.90075	3.35117E+03	4.61639E-01	1.40000E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=6328:Eu-152							
1	Total	1.27777E+04	1.18250E+04	0.92544	2.67100E+03	6.54564E+00	5.05046E+00
2	Elastic	2.90856E+01	2.93620E+01	1.00949	5.03433E+02	4.24169E+00	3.28122E+00
102	n,gamma	1.27486E+04	1.17960E+04	0.92524	2.16755E+03	5.27810E-01	1.00593E-03
Material(MAT)=6331:Eu-153							
1	Total	3.22975E+02	3.20080E+02	0.99102	1.60556E+03	6.87232E+00	5.21414E+00
2	Elastic	1.03621E+01	1.15480E+01	1.11449	1.96332E+02	4.57751E+00	2.87930E+00
102	n,gamma	3.12613E+02	3.08530E+02	0.98693	1.40921E+03	2.63953E-01	1.00476E-03
Material(MAT)=6334:Eu-154							
1	Total	1.85151E+03	2.20840E+03	1.19273	1.52618E+03	6.57906E+00	4.96817E+00
2	Elastic	6.64621E+00	7.42200E+00	1.11672	1.68460E+02	3.76144E+00	2.61035E+00
102	n,gamma	1.84487E+03	2.20090E+03	1.19300	1.35770E+03	2.21942E-01	2.60257E-03
Material(MAT)=6337:Eu-155							
1	Total	3.77531E+03	3.87080E+03	1.02530	1.60405E+04	6.84272E+00	5.39196E+00
2	Elastic	1.76763E+01	2.04890E+01	1.15912	7.58882E+02	4.59072E+00	2.99332E+00
102	n,gamma	3.75764E+03	3.85040E+03	1.02467	1.52815E+04	2.02071E-01	1.26829E-03
Material(MAT)=6340:Eu-156							
1	Total	4.87636E+02	4.90370E+02	1.00561	1.64423E+03	6.38714E+00	4.74149E+00
2	Elastic	5.59323E+00	7.99790E+00	1.42993	1.50304E+02	4.17578E+00	3.28122E+00
102	n,gamma	4.82043E+02	4.82380E+02	1.00069	1.49225E+03	2.02713E-03	2.78996E-03
Material(MAT)=6343:Eu-157							
1	Total	1.95328E+02	1.95930E+02	1.00310	1.42875E+03	6.40340E+00	4.74570E+00
2	Elastic	5.33907E+00	6.02620E+00	1.12870	1.26464E+02	4.97423E+00	3.27677E+00
102	n,gamma	1.89989E+02	1.89910E+02	0.99957	1.30225E+03	4.35298E-03	2.33843E-03
Material(MAT)=6425:Gd-152							
1	Total	1.06992E+03	1.06940E+03	0.99949	1.58152E+03	7.01419E+00	5.68473E+00
2	Elastic	1.39620E+01	1.56950E+01	1.12415	5.93444E+02	5.15118E+00	3.40192E+00
102	n,gamma	1.05595E+03	1.05370E+03	0.99784	9.88018E+02	2.94815E-01	1.02599E-03
Material(MAT)=6431:Gd-154							
1	Total	8.85890E+01	8.90750E+01	1.00549	5.36009E+02	6.33383E+00	4.73239E+00
2	Elastic	3.58502E+00	4.04570E+00	1.12849	2.89576E+02	4.63566E+00	3.36103E+00
102	n,gamma	8.50040E+01	8.50300E+01	1.00030	2.46433E+02	3.07980E-01	2.61100E-03
Material(MAT)=6434:Gd-155							
1	Total	6.07915E+04	5.13060E+04	0.84396	1.70604E+03	6.98683E+00	5.68006E+00
2	Elastic	5.90253E+01	5.73340E+01	0.97134	1.61822E+02	4.51608E+00	3.24257E+00
102	n,gamma	6.07325E+04	5.12480E+04	0.84384	1.54415E+03	3.48948E-01	2.07595E-05

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=6437:Gd-156							
1	Total	7.10870E+00	7.82650E+00	1.10097	3.08778E+02	6.71988E+00	5.38375E+00
2	Elastic	5.57268E+00	6.28940E+00	1.12861	2.08567E+02	4.76107E+00	3.07230E+00
102	n,gamma	1.53602E+00	1.53710E+00	1.00071	1.00206E+02	1.19318E-01	1.77620E-03
Material(MAT)=6440:Gd-157							
1	Total	2.55015E+05	2.17300E+05	0.85209	9.44337E+02	6.70060E+00	5.39500E+00
2	Elastic	1.76028E+03	1.60260E+03	0.91042	1.82054E+02	4.47803E+00	3.08984E+00
102	n,gamma	2.53255E+05	2.15690E+05	0.85169	7.61984E+02	2.04190E-01	7.61219E-05
Material(MAT)=6443:Gd-158							
1	Total	6.01037E+00	6.46360E+00	1.07541	1.95442E+02	6.42782E+00	4.74784E+00
2	Elastic	3.50975E+00	3.96120E+00	1.12862	1.32648E+02	4.83559E+00	3.29698E+00
102	n,gamma	2.50062E+00	2.50240E+00	1.00072	6.27807E+01	5.57585E-02	2.88859E-03
Material(MAT)=6449:Gd-160							
1	Total	4.49666E+00	4.97650E+00	1.10670	1.65552E+02	6.46297E+00	4.75316E+00
2	Elastic	3.72656E+00	4.20610E+00	1.12870	1.57311E+02	4.89067E+00	3.28209E+00
102	n,gamma	7.70102E-01	7.70310E-01	1.00027	8.22007E+00	8.00632E-02	2.34045E-03
Material(MAT)=6525:Tb-159							
1	Total	2.97831E+01	3.06330E+01	1.02855	6.06881E+02	6.71619E+00	5.00964E+00
2	Elastic	6.57074E+00	7.41640E+00	1.12871	1.93682E+02	4.03216E+00	2.49924E+00
102	n,gamma	2.32124E+01	2.32170E+01	1.00019	4.12930E+02	1.59049E-01	1.77106E-03
Material(MAT)=6528:Tb-160							
1	Total	5.30385E+02	5.30920E+02	1.00101	1.31478E+03	6.46066E+00	4.75429E+00
2	Elastic	5.40696E+00	6.10290E+00	1.12871	1.80098E+02	4.33765E+00	3.25410E+00
102	n,gamma	5.24978E+02	5.24820E+02	0.99969	1.13468E+03	4.41010E-03	2.92251E-03
Material(MAT)=6637:Dy-160							
1	Total	6.33488E+01	6.41790E+01	1.01311	2.31679E+03	6.45683E+00	4.75434E+00
2	Elastic	2.31584E+00	2.60320E+00	1.12411	6.40656E+02	4.67200E+00	3.65687E+00
102	n,gamma	6.10330E+01	6.15760E+01	1.00889	1.67613E+03	7.66040E-01	2.67380E-03
Material(MAT)=6640:Dy-161							
1	Total	6.16906E+02	6.12950E+02	0.99359	1.24958E+03	7.13719E+00	5.18371E+00
2	Elastic	1.65957E+01	1.84680E+01	1.11279	1.62276E+02	5.33577E+00	3.70596E+00
102	n,gamma	6.00310E+02	5.94480E+02	0.99030	1.08681E+03	1.35669E-01	3.08394E-03
Material(MAT)=6643:Dy-162							
1	Total	1.93849E+02	1.94790E+02	1.00488	3.51660E+03	7.14106E+00	5.18370E+00
2	Elastic	1.23686E-02	1.24760E-02	1.00866	7.68876E+02	5.72222E+00	3.75696E+00
102	n,gamma	1.93836E+02	1.94780E+02	1.00488	2.74771E+03	7.15063E-02	1.33693E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=6646:Dy-163							
1	Total	1.27615E+02	1.29430E+02	1.01425	1.71747E+03	7.13464E+00	5.18371E+00
2	Elastic	3.38905E+00	3.80460E+00	1.12262	2.27802E+02	5.14334E+00	3.65376E+00
102	n,gamma	1.24226E+02	1.25630E+02	1.01130	1.48945E+03	9.51243E-02	2.90953E-03
Material(MAT)=6649:Dy-164							
1	Total	2.97751E+03	2.97920E+03	1.00057	8.86309E+02	7.22037E+00	5.26036E+00
2	Elastic	3.26899E+02	3.60740E+02	1.10352	5.43651E+02	4.88048E+00	3.01316E+00
102	n,gamma	2.65061E+03	2.61850E+03	0.98788	3.42589E+02	2.99838E-02	1.34147E-03
Material(MAT)=6725:Ho-165							
1	Total	7.22400E+01	7.34850E+01	1.01723	9.15277E+02	6.88753E+00	5.32534E+00
2	Elastic	8.79578E+00	9.92200E+00	1.12804	2.40350E+02	4.23773E+00	2.87544E+00
102	n,gamma	6.34442E+01	6.35630E+01	1.00187	6.74922E+02	1.22018E-01	1.27051E-03
Material(MAT)=6825:Er-162							
1	Total	2.69420E+01	2.79900E+01	1.03891	6.94011E+02	6.74843E+00	5.42452E+00
2	Elastic	8.02722E+00	9.05440E+00	1.12796	2.42991E+02	4.80704E+00	2.67860E+00
102	n,gamma	1.89148E+01	1.89360E+01	1.00112	4.51020E+02	1.81869E-01	1.63762E-03
Material(MAT)=6831:Er-164							
1	Total	2.20816E+01	2.32510E+01	1.05296	3.40948E+02	6.78852E+00	5.45805E+00
2	Elastic	9.12779E+00	1.02980E+01	1.12823	1.74418E+02	4.67453E+00	2.70048E+00
102	n,gamma	1.29538E+01	1.29530E+01	0.99992	1.66528E+02	3.75123E-01	1.63762E-03
Material(MAT)=6837:Er-166							
1	Total	2.92535E+01	3.08500E+01	1.05458	3.65356E+02	6.82014E+00	5.50210E+00
2	Elastic	1.24858E+01	1.40860E+01	1.12812	2.53647E+02	4.65353E+00	2.75532E+00
102	n,gamma	1.67677E+01	1.67650E+01	0.99982	1.11693E+02	9.57374E-02	1.93330E-03
Material(MAT)=6840:Er-167							
1	Total	6.44406E+02	6.88930E+02	1.06909	3.45779E+03	6.83830E+00	5.51464E+00
2	Elastic	1.33758E+00	1.41300E+00	1.05639	4.84767E+02	4.32610E+00	2.71959E+00
102	n,gamma	6.43069E+02	6.87520E+02	1.06912	2.97299E+03	9.42873E-02	1.97240E-03
Material(MAT)=6843:Er-168							
1	Total	1.17142E+01	1.28700E+01	1.09865	2.36914E+02	6.85496E+00	5.53530E+00
2	Elastic	8.98476E+00	1.01400E+01	1.12858	1.98795E+02	4.67989E+00	2.76975E+00
102	n,gamma	2.72949E+00	2.72990E+00	1.00014	3.81001E+01	3.59995E-02	1.89858E-03
Material(MAT)=6849:Er-170							
1	Total	1.77795E+01	1.93240E+01	1.08684	6.15132E+02	6.81984E+00	5.50199E+00
2	Elastic	1.20024E+01	1.35440E+01	1.12847	5.69983E+02	4.60897E+00	2.72149E+00
102	n,gamma	5.77708E+00	5.77920E+00	1.00036	4.51291E+01	2.29469E-02	1.86103E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E÷3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=7125:Lu-175							
1	Total	2.95134E+01	3.03920E+01	1.02976	8.02165E+02	7.22216E+00	5.25740E+00
2	Elastic	6.43598E+00	7.25530E+00	1.12730	1.81486E+02	5.07417E+00	3.02075E+00
102	n,gamma	2.30775E+01	2.31360E+01	1.00255	6.20680E+02	1.63859E-01	2.25000E-03
Material(MAT)=7128:Lu-176							
1	Total	2.09953E+03	3.59380E+03	1.71170	1.07081E+03	7.22920E+00	5.26000E+00
2	Elastic	2.51529E+00	4.20640E+00	1.67232	1.51063E+02	5.04403E+00	2.95252E+00
102	n,gamma	2.09701E+03	3.58960E+03	1.71175	9.19744E+02	2.05325E-01	3.08394E-03
Material(MAT)=7225:Hf-174							
1	Total	5.97764E+02	5.95910E+02	0.99690	1.11876E+03	7.14368E+00	5.32588E+00
2	Elastic	4.81196E+01	5.37080E+01	1.11614	6.78027E+02	4.60652E+00	2.74155E+00
102	n,gamma	5.49645E+02	5.42200E+02	0.98646	4.40732E+02	2.76722E-01	4.18124E-06
Material(MAT)=7231:Hf-176							
1	Total	2.68569E+01	2.76080E+01	1.02798	1.12105E+03	7.14374E+00	5.36465E+00
2	Elastic	5.52947E+00	6.23160E+00	1.12698	4.27084E+02	4.68666E+00	2.75094E+00
102	n,gamma	2.13274E+01	2.13770E+01	1.00231	6.93962E+02	9.37184E-02	4.21718E-07
Material(MAT)=7234:Hf-177							
1	Total	3.72003E+02	3.79470E+02	1.02006	8.01142E+03	7.12749E+00	5.37822E+00
2	Elastic	3.61527E-02	4.34800E-02	1.20268	7.99304E+02	4.56377E+00	2.88401E+00
102	n,gamma	3.71967E+02	3.79420E+02	1.02004	7.21212E+03	1.63819E-01	1.93670E-07
Material(MAT)=7237:Hf-178							
1	Total	9.05826E+01	9.16380E+01	1.01165	3.93222E+03	7.14114E+00	5.50544E+00
2	Elastic	6.62578E+00	7.43310E+00	1.12184	2.06033E+03	4.67231E+00	3.07960E+00
102	n,gamma	8.39568E+01	8.42050E+01	1.00295	1.87188E+03	5.55173E-02	7.33680E-10
Material(MAT)=7240:Hf-179							
1	Total	4.85817E+01	4.94760E+01	1.01841	7.78365E+02	7.12497E+00	5.40086E+00
2	Elastic	7.79444E+00	8.77390E+00	1.12567	2.70093E+02	4.64117E+00	2.93616E+00
102	n,gamma	4.07873E+01	4.07020E+01	0.99791	5.08273E+02	1.05363E-01	7.51594E-08
Material(MAT)=7243:Hf-180							
1	Total	3.54024E+01	3.82670E+01	1.08091	2.90435E+02	7.14400E+00	5.47607E+00
2	Elastic	2.23048E+01	2.51690E+01	1.12840	2.60839E+02	4.71468E+00	2.79554E+00
102	n,gamma	1.30976E+01	1.30980E+01	1.00003	2.95910E+01	3.28680E-02	4.12239E-06
Material(MAT)=7328:Ta-181							
1	Total	2.63431E+01	2.71260E+01	1.02973	8.90488E+02	6.99496E+00	5.35709E+00
2	Elastic	5.66599E+00	6.38500E+00	1.12690	2.29957E+02	4.62119E+00	2.97818E+00
102	n,gamma	2.06771E+01	2.07410E+01	1.00310	6.59489E+02	8.74364E-02	2.05527E-07

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=7331:Ta-182							
1	Total	8.31941E+03	1.36640E-04	1.64241	1.32945E+03	6.78987E+00	5.36137E+00
2	Elastic	3.11518E+01	5.39930E-01	1.73321	2.86348E+02	3.76921E+00	2.74027E+00
102	n,gamma	8.28826E-03	1.36100E+04	1.64207	1.04310E+03	6.79110E-02	4.19999E-03
Material(MAT)=7431:W-182							
1	Total	2.95817E+01	3.07720E+01	1.04022	1.10207E+03	6.80930E+00	5.19820E+00
2	Elastic	8.86836E+00	9.99330E+00	1.12685	4.73903E+02	4.40062E+00	2.54248E+00
102	n,gamma	2.07133E-01	2.07780E+01	1.00314	6.28168E+02	6.62525E-02	1.00365E-03
Material(MAT)=7434:W-183							
1	Total	1.25024E+01	1.28210E+01	1.02548	8.00412E+02	6.82503E+00	5.20403E+00
2	Elastic	2.38810E+00	2.69340E+00	1.12785	4.65478E+02	3.93781E+00	2.84059E+00
102	n,gamma	1.01143E+01	1.01280E+01	1.00131	3.34524E+02	5.02757E-02	1.00000E-03
Material(MAT)=7437:W-184							
1	Total	9.07071E+00	1.00190E+01	1.10457	3.07775E+02	6.73050E+00	5.21498E+00
2	Elastic	7.37288E+00	8.32090E+00	1.12859	2.91747E+02	4.28077E+00	2.53799E+00
102	n,gamma	1.69783E+00	1.69830E+00	1.00028	1.60286E+01	3.75970E-02	1.00382E-03
Material(MAT)=7443:W-186							
1	Total	4.03905E+01	4.05810E+01	1.00472	3.57154E+03	6.72157E+00	5.21980E+00
2	Elastic	9.33799E-01	1.06260E+00	1.13791	3.04267E+03	4.28046E+00	2.80972E+00
102	n,gamma	3.94567E+01	3.95190E+01	1.00157	5.28861E+02	3.59600E-02	1.00418E-03
Material(MAT)=7525:Re-185							
1	Total	1.21064E+02	1.22680E+02	1.01337	2.00825E+03	6.78826E+00	5.31250E+00
2	Elastic	8.89129E+00	9.95690E+00	1.11985	2.78889E+02	4.23946E+00	2.67870E+00
102	n,gamma	1.12172E+02	1.12720E+02	1.00492	1.72936E+03	1.81562E-01	1.10000E-03
Material(MAT)=7531:Re-187							
1	Total	8.66662E+01	8.74780E+01	1.00937	5.30616E+02	6.78742E+00	5.32780E+00
2	Elastic	9.96233E+00	1.11900E+01	1.12321	2.37180E+02	4.18181E+00	2.69852E+00
102	n,gamma	7.67039E+01	7.62880E+01	0.99458	2.93436E+02	1.17055E-01	1.08200E-03
Material(MAT)=7600:Os-Nat							
1	Total	3.13972E+01	3.32760E+01	1.05984	5.18558E+02	6.86504E+00	5.12511E+00
2	Elastic	1.54613E+01	1.74420E+01	1.12812	3.37977E+02	4.56026E+00	2.68762E+00
102	n,gamma	1.59359E+01	1.58340E+01	0.99359	1.80509E+02	7.70746E-02	1.00000E-03
Material(MAT)=7725:Ir-191							
1	Total	9.68343E+02	9.66440E+02	0.99803	3.86285E+03	6.66963E+00	5.21126E+00
2	Elastic	1.39551E+01	1.52040E+01	1.08949	3.06755E+02	4.01167E+00	2.79307E+00
102	n,gamma	9.54388E+02	9.51240E+02	0.99670	3.55608E+03	1.85196E-01	6.08002E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=7731:Ir-193							
1	Total	1.31430E+02	1.35740E+02	1.03279	1.67601E+03	6.67738E+00	5.21157E+00
2	Elastic	1.93851E+01	2.18050E+01	1.12482	3.00700E+02	4.13909E+00	2.79672E+00
102	n,gamma	1.12044E+02	1.13930E+02	1.01687	1.37527E+03	9.15473E-02	2.75201E-03
Material(MAT)=7800:Pt-Nat							
1	Total	2.00324E+01	2.15580E+01	1.07617	2.69995E+02	6.26322E+00	5.36706E+00
2	Elastic	1.20310E+01	1.35790E+01	1.12870	1.58395E+02	4.56523E+00	3.00000E+00
102	n,gamma	8.00146E+00	7.97890E+00	0.99718	1.11600E+02	6.77970E-02	3.96946E-04
Material(MAT)=7925:Au-197							
1	Total	1.05592E+02	1.06960E+02	1.01293	1.93816E+03	6.65283E+00	5.30290E+00
2	Elastic	6.85598E+00	7.71680E+00	1.12556	3.75048E+02	4.65321E+00	2.63617E+00
102	n,gamma	9.87362E+01	9.92400E+01	1.00511	1.56309E+03	7.79598E-02	1.32637E-03
Material(MAT)=8025:Hg-196							
1	Total	3.18798E+03	3.16310E+03	0.99218	8.55166E+02	6.64303E+00	5.20526E+00
2	Elastic	1.09816E+02	1.21810E+02	1.10922	4.34881E+02	5.16363E+00	2.74304E+00
102	n,gamma	3.07817E+03	3.04120E+03	0.98801	4.20284E+02	6.15329E-03	1.45443E-08
Material(MAT)=8031:Hg-198							
1	Total	1.47998E+01	1.64500E+01	1.11153	3.17602E+02	6.64053E+00	5.22630E+00
2	Elastic	1.28141E+01	1.44630E+01	1.12865	2.43293E+02	5.11554E+00	2.78936E+00
102	n,gamma	1.98569E+00	1.98780E+00	1.00105	7.43088E+01	3.18854E-02	1.21163E-07
Material(MAT)=8034:Hg-199							
1	Total	2.21631E+03	2.20040E+03	0.99280	8.02529E+02	6.68114E+00	5.24483E+00
2	Elastic	6.66964E+01	7.40670E+01	1.11051	3.63836E+02	4.64541E+00	2.77126E+00
102	n,gamma	2.14962E+03	2.12630E+03	0.98915	4.38692E+02	3.05981E-02	1.96322E-07
Material(MAT)=8037:Hg-200							
1	Total	1.60035E+01	1.78780E+01	1.11711	2.06389E+02	6.65760E+00	5.25734E+00
2	Elastic	1.45605E+01	1.64340E+01	1.12870	2.03938E+02	5.08095E+00	2.75192E+00
102	n,gamma	1.44302E+00	1.44330E+00	1.00021	2.45097E+00	2.15159E-02	2.57438E-07
Material(MAT)=8040:Hg-201							
1	Total	2.22817E+01	2.41460E+01	1.08367	2.58054E+02	6.72394E+00	5.26926E+00
2	Elastic	1.44977E+01	1.63630E+01	1.12864	2.21754E+02	4.60320E+00	2.78757E+00
102	n,gamma	7.78400E+00	7.78330E+00	0.99992	3.43704E+01	2.02538E-02	4.21484E-07
Material(MAT)=8043:Hg-202							
1	Total	1.95614E+01	2.14410E+01	1.09611	1.83390E+02	6.66376E+00	5.27444E+00
2	Elastic	1.46063E+01	1.64860E+01	1.12868	1.80269E+02	5.11331E+00	2.81855E+00
102	n,gamma	4.95501E+00	4.95560E+00	1.00012	3.12131E+00	1.36221E-02	4.76889E-07

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=8049:Hg-204							
1	Total	2.98988E+01	3.37440E+01	1.12859	3.11622E+02	6.67551E+00	5.30762E+00
2	Elastic	2.94673E+01	3.32650E+01	1.12888	3.08942E+02	5.32461E+00	2.84798E+00
102	n,gamma	4.31436E-01	4.78530E-01	1.10916	2.67972E+00	8.64935E-03	2.91008E-07
Material(MAT)=8100:Tl-Nat							
1	Total	1.36267E+01	1.56630E+01	1.14944	2.14424E+02	6.58845E+00	5.17003E+00
2	Elastic	1.00346E+01	1.13260E+01	1.12870	2.00676E+02	4.86679E+00	2.58451E+00
102	n,gamma	3.59208E+00	4.33710E+00	1.20740	1.37484E+01	1.25110E-02	9.00357E-04
Material(MAT)=8225:Pb-204							
1	Total	1.18449E+01	1.33300E+01	1.12156	1.45504E+02	6.36148E+00	5.23565E+00
2	Elastic	1.12242E+01	1.26690E+01	1.12870	1.43727E+02	5.17991E+00	2.72486E+00
102	n,gamma	6.60683E-01	6.60870E-01	1.00028	1.77749E+00	1.21825E-02	2.26710E-03
Material(MAT)=8231:Pb-206							
1	Total	1.12938E+01	1.27430E+01	1.12836	1.29231E+02	6.18956E+00	5.26210E+00
2	Elastic	1.12640E+01	1.27140E+01	1.12870	1.29140E+02	5.04027E+00	2.74370E+00
102	n,gamma	2.97897E-02	2.97960E-02	1.00022	9.12451E-02	3.00133E-03	1.10198E-03
Material(MAT)=8234:Pb-207							
1	Total	1.14855E+01	1.28720E+01	1.12074	1.32088E+02	6.48572E+00	5.27379E+00
2	Elastic	1.07735E+01	1.21600E+01	1.12870	1.31710E+02	5.41224E+00	2.75159E+00
102	n,gamma	7.11997E-01	7.12170E-01	1.00025	3.77978E-01	2.36486E-03	1.33946E-03
Material(MAT)=8237:Pb-208							
1	Total	1.13994E+01	1.28660E+01	1.12869	1.38569E+02	6.48581E+00	5.39161E+00
2	Elastic	1.13989E+01	1.28660E+01	1.12870	1.38568E+02	6.11461E+00	2.82321E+00
102	n,gamma	4.92088E-04	4.92200E-04	1.00024	1.10300E-03	8.65541E-04	1.19036E-03
Material(MAT)=8325:Bi-209							
1	Total	9.35393E+00	1.05530E+01	1.12822	1.44197E+02	6.50480E+00	5.33433E+00
2	Elastic	9.31994E+00	1.05190E+01	1.12869	1.44007E+02	5.78545E+00	2.73943E+00
102	n,gamma	3.38443E-02	3.38520E-02	1.00023	1.91082E-01	3.12345E-03	1.60094E-03
Material(MAT)=8825:Ra-223							
1	Total	1.43132E+02	1.44770E+02	1.01143	8.70886E+02	7.55826E+00	6.17677E+00
2	Elastic	1.24280E-01	1.40270E-01	1.12870	4.33546E+02	5.24637E+00	3.11688E+00
18	Fission	7.00023E-01	7.00210E-01	1.00027	7.66372E-01	5.56997E-02	5.57000E-02
102	n,gamma	1.30004E+02	1.30040E+02	1.00028	4.36318E+02	4.61810E-02	3.75182E-06

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=8828:Ra-224							
1	Total	2.45285E+01	2.61440E+01	1.06587	3.52674E+02	7.55845E+00	6.13193E+00
2	Elastic	1.25281E+01	1.41400E+01	1.12870	3.23764E+02	5.51840E+00	3.12072E+00
102	n,gamma	1.20004E+01	1.20004E+01	1.00027	2.88986E+01	3.15041E-02	2.74345E-06
Material(MAT)=8831:Ra-225							
1	Total	1.12426E+02	1.14010E+02	1.01406	9.84561E+02	7.57423E+00	6.14293E+00
2	Elastic	1.24277E+01	1.40270E+01	1.12870	3.89302E+02	5.27561E+00	3.12460E+00
102	n,gamma	9.99983E+01	9.99800E+01	0.99981	5.94560E+02	5.06573E-02	1.57332E-06
Material(MAT)=8834:Ra-226							
1	Total	2.26138E+01	2.46960E+01	1.09207	4.95187E+02	7.57081E+00	6.15378E+00
2	Elastic	9.82243E+00	1.10660E+01	1.12658	2.13272E+02	5.51589E+00	3.12828E+00
18	Fission	6.99996E-06	6.99940E-06	0.99992	5.66293E-06	3.49115E-04	1.15001E-02
102	n,gamma	1.27913E+01	1.36300E+01	1.06558	2.81874E+02	1.08481E-01	3.21174E-05
Material(MAT)=8925:Ac-225							
1	Total	1.01246E+03	1.01430E+03	1.00183	1.86205E+03	7.56480E+00	6.14287E+00
2	Elastic	1.24277E+01	1.40270E+01	1.12870	2.71348E+02	5.23432E+00	3.12460E+00
102	n,gamma	1.00003E+03	1.00030E+03	1.00025	1.59042E+03	1.71229E-01	3.76429E-06
Material(MAT)=8928:Ac-226							
1	Total	1.12431E+02	1.14060E+02	1.01450	1.91552E+03	7.56141E+00	5.61669E+00
2	Elastic	1.24276E+01	1.40270E+01	1.12869	2.33384E+02	5.21479E+00	3.17445E+00
102	n,gamma	1.00003E+02	1.00030E+02	1.00031	1.68213E+03	1.75222E-01	5.72558E-09
Material(MAT)=8931:Ac-227							
1	Total	9.14049E+02	1.04340E+03	1.14148	1.98721E+03	7.62148E+00	6.17021E+00
2	Elastic	1.24275E+01	1.40270E+01	1.12870	3.28913E+02	5.31166E+00	3.13747E+00
18	Fission	2.90100E-04	2.90100E-04	1.00030	1.76322E-04	1.26572E-02	1.24000E-01
102	n,gamma	9.01621E+02	1.02930E+03	1.14166	1.65734E+03	3.55656E-03	1.38926E-09
Material(MAT)=9025:Th-227							
1	Total	1.74949E+03	1.75160E+03	1.00120	1.84870E+03	7.58441E+00	5.62352E+00
2	Elastic	1.24275E+01	1.40270E+01	1.12869	2.24342E+02	5.23137E+00	3.17291E+00
18	Fission	2.02007E+02	2.02060E+02	1.00029	2.06325E+02	4.83964E-01	2.05000E+00
102	n,gamma	1.53505E+03	1.53550E+03	1.00028	1.41797E+03	1.97199E-01	5.01486E-08
Material(MAT)=9028:Th-228							
1	Total	1.33008E+02	1.35040E+02	1.01526	1.58426E+03	7.58646E+00	5.64353E+00
2	Elastic	1.28332E+01	1.44550E+01	1.12639	4.14912E+02	5.47683E+00	3.18439E+00
18	Fission	3.00009E-01	3.00080E-01	1.00025	1.33314E-01	1.05035E-01	5.49001E-01
102	n,gamma	1.19875E-02	1.20288E+02	1.00340	1.16914E+03	8.03674E-02	2.40360E-10

121

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=9031:Th-229							
1	Total	1.04164E+02	1.08670E+02	1.04326	1.85545E+03	7.62080E+00	6.18694E+00
2	Elastic	9.95927E+00	1.11750E+01	1.12203	1.77560E+02	5.15630E+00	3.13947E+00
18	Fission	3.08209E+01	3.13550E+01	1.01733	4.40460E+02	4.83964E-01	2.05000E+00
102	n,gamma	6.33838E+01	6.61400E+01	1.04349	1.23525E+03	2.09081E-01	7.86926E-06
Material(MAT)=9034:Th-230							
1	Total	2.91775E+01	3.00750E+01	1.03075	1.22375E+03	8.45268E+00	6.30469E+00
2	Elastic	6.09280E+00	6.85070E+00	1.12440	3.72177E+02	5.39743E+00	3.52056E+00
18	Fission	0.00000E+00	0.00000E+00	0.00000	4.80897E-03	1.79644E-01	6.49999E-01
102	n,gamma	2.30847E+01	2.32240E+01	1.00603	8.51349E+02	1.99949E-02	1.10289E-02
Material(MAT)=9040:Th-232							
1	Total	2.03780E+01	2.19990E+01	1.07955	3.03115E+02	7.77239E+00	5.84382E+00
2	Elastic	1.29746E+01	1.46070E+01	1.12582	2.17304E+02	4.81953E+00	2.75871E+00
18	Fission	0.00000E+00	0.00000E+00	0.00000	3.30946E-06	7.79584E-02	3.45946E-01
102	n,gamma	7.40345E+00	7.39220E+00	0.99848	8.56465E+01	9.01425E-02	1.00002E-03
Material(MAT)=9043:Th-233							
1	Total	1.47808E+03	1.48020E+03	1.00145	8.61895E+02	7.63938E+00	5.67011E+00
2	Elastic	1.30281E+01	1.47080E+01	1.12891	2.07301E+02	5.33693E+00	3.16731E+00
18	Fission	1.50042E-01	1.50600E+01	1.00373	1.02684E+01	1.11388E-01	4.09999E-01
102	n,gamma	1.45005E+03	1.45050E+03	1.00028	6.43523E+02	8.86580E-02	6.07111E-09
Material(MAT)=9046:Th-234							
1	Total	1.47780E+01	1.64550E+01	1.11350	3.86105E+02	7.67125E+00	5.67955E+00
2	Elastic	1.30280E+01	1.47050E+01	1.12873	2.92502E+02	5.54452E+00	3.16799E+00
18	Fission	0.00000E+00	0.00000E+00	0.00000	0.00000E+00	3.62950E-02	1.50000E-01
102	n,gamma	1.75003E+00	1.75030E+00	1.00014	9.34817E+01	1.02234E-01	1.54057E-07
Material(MAT)=9131:Pa-231							
1	Total	2.35368E+02	2.35050E+02	0.99864	7.17568E+02	8.45151E+00	6.42764E+00
2	Elastic	8.45702E+00	9.39688E+00	1.11112	1.22088E+02	4.77976E+00	2.77152E+00
18	Fission	1.03869E-02	1.05460E-02	1.01533	1.20888E-01	9.81066E-01	1.97174E+00
102	n,gamma	2.26901E+02	2.25640E+02	0.99445	5.94653E+02	3.93544E-01	1.12225E-01
Material(MAT)=9134:Pa-232							
1	Total	1.76216E+03	1.83220E+03	1.03976	1.21376E+03	7.68521E+00	5.67482E+00
2	Elastic	3.27448E+01	3.66970E+01	1.12069	2.03149E+02	5.10827E+00	3.18163E+00
18	Fission	1.51732E+03	1.57180E+03	1.03594	8.64233E+02	1.10250E+00	1.38100E+00
102	n,gamma	2.12095E+02	2.23680E+02	1.05464	1.46324E+02	7.41860E-02	5.62267E-09

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=9137:Pa-233							
1	Total	4.98816E+01	5.00990E-01	1.00436	9.89572E+02	7.32459E+02	5.42088E+00
2	Elastic	8.43156E+00	9.49140E+00	1.12570	1.32624E+02	4.50493E+02	3.01434E+00
18	Fission	0.00000E+00	0.00000E+00	0.00000	0.00000E+00	4.60094E-01	1.58187E+00
102	n,gamma	4.14500E+01	4.06080E+01	0.97968	8.54733E+02	1.86990E-01	6.66667E-03
Material(MAT)=9219:U-232							
1	Total	1.57196E+02	1.54300E+02	0.98159	8.75547E+02	8.58339E+00	6.38921E+00
2	Elastic	7.54020E+00	8.46640E+00	1.12283	1.43146E+02	4.71590E+00	3.01517E+00
18	Fission	7.70858E+01	7.52960E+01	0.97679	4.15894E+02	2.48405E+00	1.23814E+00
102	n,gamma	7.25705E+01	7.05390E+01	0.97201	3.16405E+02	1.04713E-01	5.60544E-02
Material(MAT)=9222:U-233							
1	Total	5.88496E+02	5.89330E+02	1.00141	1.04193E+03	7.68530E+00	5.91376E+00
2	Elastic	1.19929E+01	1.35040E+01	1.12599	1.41505E+02	4.51252E+00	3.01951E+00
18	Fission	5.31236E+02	5.29160E+02	0.99609	7.62395E+02	1.91137E+00	2.31117E+00
102	n,gamma	4.52673E+01	4.66630E+01	1.03084	1.37969E+02	7.27508E-02	7.47467E-04
Material(MAT)=9225:U-234							
1	Total	1.19273E+02	1.20580E+02	1.01100	9.39733E+02	7.80521E+00	5.86053E+00
2	Elastic	1.94487E+01	2.17580E+01	1.11876	3.07807E+02	4.70804E+00	2.82329E+00
18	Fission	6.69642E-02	6.63140E-02	0.99030	8.21712E-01	1.17046E+00	1.97837E+00
102	n,gamma	9.97569E+01	9.87590E+01	0.99000	6.30902E+02	1.11551E-01	1.00005E-03
Material(MAT)=9228:U-235							
1	Total	6.98719E+02	6.85930E+02	0.98169	5.52906E+02	7.65918E+00	5.87234E+00
2	Elastic	1.51153E+01	1.69400E+01	1.12069	1.44079E+02	4.41418E+00	2.85230E+00
18	Fission	5.84932E+02	5.71190E+02	0.97651	2.68845E+02	1.21851E+00	2.06000E+00
102	n,gamma	9.86724E+01	9.77930E+01	0.99109	1.39845E+02	9.53408E-02	1.20890E-03
Material(MAT)=9231:U-236							
1	Total	1.37120E+01	1.47920E+01	1.07873	6.02388E+02	7.69863E+00	5.86721E+00
2	Elastic	8.35453E+00	9.42350E+00	1.12795	2.53163E+02	4.82887E+00	2.78350E+00
18	Fission	6.12983E-02	6.14330E-02	1.00220	4.33526E+00	5.94222E-01	1.63115E+00
102	n,gamma	5.29616E+00	5.30660E+00	1.00198	3.44749E+02	7.61704E-02	2.55198E-03
Material(MAT)=9234:U-237							
1	Total	4.78448E+02	4.70180E+02	0.98272	1.32922E+03	8.11983E+00	5.83283E+00
2	Elastic	2.44354E+01	2.68690E+01	1.09958	2.00806E+02	4.59660E+00	2.70663E+00
18	Fission	1.70230E+00	1.67320E+00	0.98292	4.43703E+01	8.86875E-01	1.53306E+00
102	n,gamma	4.52310E+02	4.41640E+02	0.97641	1.08304E+03	5.63979E-02	2.53830E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E_0)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=9237:U-238							
1	Total	1.21209E+01	1.33370E-01	1.10033	5.92421E+02	7.90121E+00	5.95861E+00
2	Elastic	9.43722E+00	1.06480E-01	1.12828	3.17285E+02	4.92815E+00	2.77514E+00
18	Fission	2.65124E-05	2.65390E-05	1.00100	1.21666E-03	3.01253E-01	1.17879E+00
102	n,gamma	2.68363E+00	2.68910E+00	1.00205	2.74955E+02	6.98823E-02	2.51665E-03
Material(MAT)=9340:Np-235							
1	Total	1.81433E+02	1.82980E+02	1.00854	1.05418E+03	7.42042E+00	5.92372E+00
2	Elastic	1.14244E+01	1.28950E+01	1.12872	1.65720E+02	4.39513E+00	2.97160E+00
18	Fission	1.99985E+01	1.99840E+01	0.99926	3.68405E+01	1.88716E+00	2.44871E+00
102	n,gamma	1.50010E+02	1.50100E+02	1.00063	8.51438E+02	1.21911E-01	7.37811E-04
Material(MAT)=9343:Np-236							
1	Total	3.48303E+03	3.48320E+03	1.00004	1.42780E+03	7.76557E+00	5.84944E+00
2	Elastic	1.22963E+01	1.38790E+01	1.12872	1.45609E+02	5.08571E+00	3.14800E+00
18	Fission	2.76978E+03	2.76860E+03	0.99959	1.02340E+03	1.92231E+00	2.43181E+00
102	n,gamma	7.00944E+02	7.00640E+02	0.99956	2.58791E+02	1.89506E-01	1.00377E-03
Material(MAT)=9346:Np-237							
1	Total	1.75802E+02	1.75010E+02	0.99547	8.31491E+02	7.85367E+00	5.78427E+00
2	Elastic	1.40851E+01	1.57320E+01	1.11691	1.69672E+02	4.65189E+00	2.78498E+00
18	Fission	2.03650E-02	1.98750E-02	0.97593	6.36694E-01	1.33431E+00	2.15590E+00
102	n,gamma	1.61697E+02	1.59250E+02	0.98490	6.60804E+02	1.58595E-01	1.07209E-03
Material(MAT)=9349:Np-238							
1	Total	2.25073E+03	2.23270E+03	0.99197	1.15393E+03	7.84587E+00	6.05519E+00
2	Elastic	2.08548E+01	2.32930E+01	1.11691	1.42947E+02	4.86251E+00	2.91457E+00
18	Fission	2.02703E+03	2.00830E+03	0.99078	9.10283E+02	1.48823E+00	1.85000E+00
102	n,gamma	2.02846E+02	2.01020E+02	0.99099	1.00612E+02	3.39726E-02	1.06197E-02
Material(MAT)=9352:Np-239							
1	Total	8.75253E+01	8.89010E+01	1.01571	6.17232E+02	7.85505E+00	5.53495E+00
2	Elastic	1.05221E+01	1.18760E+01	1.12871	1.60415E+02	4.75175E+00	2.65197E+00
18	Fission	0.00000E+00	0.00000E+00	0.00000	4.12331E-02	1.44754E+00	2.42000E+00
102	n,gamma	7.70032E+01	7.70240E+01	1.00027	4.56264E+02	2.02180E-01	1.00005E-05
Material(MAT)=9428:Pu-236							
1	Total	2.05227E+02	2.05470E+02	1.00118	1.37044E+03	7.88166E+00	5.95089E+00
2	Elastic	9.17836E+00	1.03360E-01	1.12613	1.54037E+02	4.47911E+00	2.75396E+00
18	Fission	1.64821E+02	1.63890E+02	0.99438	9.49574E+02	2.09937E+00	2.54773E+00
102	n,gamma	3.12278E+01	3.12390E-01	1.00037	2.66711E+02	6.22997E-02	8.02168E-04

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E_0)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=9431:Pu-237							
1	Total	2.65184E+03	2.65410E+03	1.00084	1.40075E+03	7.56532E+00	6.42911E+00
2	Elastic	1.17589E+01	1.32730E+01	1.12872	1.39822E+02	4.25632E+00	3.32070E+00
18	Fission	2.10007E+03	2.10060E+03	1.00027	1.07056E+03	3.00804E+00	2.69321E+00
102	n,gamma	5.40018E+02	5.40170E+02	1.00028	1.90351E+02	3.18665E-02	2.40001E-03
Material(MAT)=9434:Pu-238							
1	Total	5.86500E+02	5.65140E+02	0.96358	4.11853E+02	8.81707E+00	6.86876E+00
2	Elastic	2.85777E+01	3.14730E+01	1.10132	2.34842E+02	6.01833E+00	3.58387E+00
18	Fission	1.78811E+01	1.71190E+01	0.95736	2.74921E+01	1.98604E+00	2.71459E+00
102	n,gamma	5.40041E+02	5.16550E+02	0.95650	1.49374E+02	9.82352E-02	5.86100E-09
Material(MAT)=9437:Pu-239							
1	Total	1.02646E+03	1.10730E+03	1.07879	6.28125E+02	7.80185E+00	5.79457E+00
2	Elastic	7.99042E+00	8.80680E+00	1.10217	1.53245E+02	4.61805E+00	2.75043E+00
18	Fission	7.47785E+02	7.88570E+02	1.05454	2.92961E+02	1.79099E+00	2.41800E+00
102	n,gamma	2.70686E+02	3.09960E+02	1.14509	1.81119E+02	5.50898E-02	2.00097E-03
Material(MAT)=9440:Pu-240							
1	Total	2.88552E+02	2.96290E+02	1.02681	9.45309E+03	7.83441E+00	5.79421E+00
2	Elastic	2.66692E+00	2.82780E+00	1.06034	9.65766E+02	4.78578E+00	2.68371E+00
18	Fission	5.91596E-02	6.10930E-02	1.03269	3.35686E+00	1.34866E+00	2.14480E+00
102	n,gamma	2.85826E+02	2.93400E+02	1.02650	8.48383E+03	8.33478E-02	2.06826E-03
Material(MAT)=9443:Pu-241							
1	Total	1.38638E+03	1.44550E+03	1.04265	8.93360E+02	7.86018E+00	5.81392E+00
2	Elastic	1.12591E+01	1.24770E+01	1.10815	1.52373E+02	5.19542E+00	3.30462E+00
18	Fission	1.01214E+03	1.05950E+03	1.04677	5.60857E+02	1.65052E+00	2.29800E+00
102	n,gamma	3.62975E+02	3.73540E+02	1.02912	1.80110E+02	1.20515E-01	1.04967E-07
Material(MAT)=9446:Pu-242							
1	Total	2.71347E+01	2.83680E+01	1.04544	1.45376E+03	7.95644E+00	5.95370E+00
2	Elastic	8.33694E+00	9.38480E+00	1.12568	3.22976E+02	4.81846E+00	2.79060E+00
18	Fission	2.55742E-03	2.57220E-03	1.00579	2.53511E-01	1.15468E+00	2.08860E+00
102	n,gamma	1.87952E+01	1.89800E+01	1.00985	1.13023E+03	8.92200E-02	7.99999E-04
Material(MAT)=9449:Pu-243							
1	Total	2.89010E+02	2.89070E+02	1.00021	9.88402E+02	7.86099E+00	5.69267E+00
2	Elastic	1.94913E+01	2.17790E+01	1.11740	1.60741E+02	4.64947E+00	2.59107E+00
18	Fission	1.81406E+02	1.79910E+02	0.99173	5.53202E+02	1.06513E+00	1.90000E+00
102	n,gamma	8.81122E+01	8.73850E+01	0.99175	2.74439E+02	4.39346E-02	1.60000E-03

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E₀)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=9452:Pu-244							
1	Total	1.14745E+01	1.27080E-01	1.10747	2.95806E+02	7.83117E+00	5.43671E+00
2	Elastic	9.64444E+00	1.08820E-01	1.12833	1.90117E+02	4.89269E+00	3.07582E+00
18	Fission	0.00000E+00	0.00000E+00	0.00000	6.59113E-02	9.92188E-01	1.68905E+00
102	n,gamma	1.83003E+00	1.82550E+00	0.99752	1.05320E+02	1.76183E-02	2.80001E-03
Material(MAT)=9458:Pu-246							
1	Total	8.10580E+02	8.09600E+02	0.99880	8.40216E+02	7.91779E+00	5.99026E+00
2	Elastic	1.08221E+01	1.22150E+01	1.12870	1.47986E+02	4.00224E+00	2.97763E+00
18	Fission	0.00000E+00	0.00000E+00	0.00000	6.48026E-04	7.34052E-01	1.64370E+00
102	n,gamma	7.99758E+02	7.97390E+02	0.99704	6.92103E+02	1.14833E+00	9.34958E-04
Material(MAT)=9543:Am-241							
1	Total	6.62526E+02	6.73610E+02	1.01673	1.68875E+03	7.81430E+00	5.74149E+00
2	Elastic	1.22568E+01	1.32800E+01	1.08350	1.53352E+02	4.59900E+00	2.51013E+00
18	Fission	3.15054E+00	3.33380E+00	1.05816	1.07808E+01	1.36486E+00	2.67000E+00
102	n,gamma	6.47119E+02	6.57000E+02	1.01527	1.52449E+03	2.57275E-01	7.01920E-04
Material(MAT)=9546:Am-242							
1	Total	2.32143E+03	2.43740E+03	1.04997	1.30915E+03	7.75437E+00	5.71219E+00
2	Elastic	7.67958E+00	8.66930E+00	1.12887	1.36205E+02	4.45838E+00	2.84035E+00
18	Fission	2.09476E+03	2.19950E+03	1.05001	9.86371E+02	1.75829E+00	2.17538E+00
102	n,gamma	2.18985E+02	2.29250E+02	1.04688	1.86528E+02	4.74753E-02	7.33552E-04
Material(MAT)=9547:Am-242M							
1	Total	7.63436E+03	8.36870E+03	1.09619	1.89817E+03	7.75507E+00	5.72723E+00
2	Elastic	5.26670E+00	6.57790E+00	1.24895	1.26681E+02	4.35948E+00	2.51956E+00
18	Fission	6.39825E+03	7.00790E+03	1.09529	1.53266E+03	1.84471E+00	2.54984E+00
102	n,gamma	1.23084E+03	1.35420E+03	1.10024	2.38793E+02	7.53542E-02	7.33552E-04
Material(MAT)=9549:Am-243							
1	Total	8.42904E+01	8.62350E+01	1.02307	1.95021E+03	7.72909E+00	5.70066E+00
2	Elastic	7.47918E+00	8.38580E+00	1.12122	1.61350E+02	4.47966E+00	2.81774E+00
18	Fission	8.13240E-02	8.23540E-02	1.01267	2.19959E+00	1.06590E+00	2.14333E+00
102	n,gamma	7.67299E+01	7.77670E+01	1.01352	1.78650E+03	2.26210E-01	8.84191E-04
Material(MAT)=9552:Am-244							
1	Total	2.91156E+03	2.99270E+03	1.02785	1.70151E+03	7.82589E+00	5.93596E+00
2	Elastic	1.16463E+01	1.31450E+01	1.12870	1.37607E+02	4.56686E+00	2.81081E+00
18	Fission	2.29994E+03	2.36580E+03	1.02864	1.24956E+03	1.76323E+00	2.43779E+00
102	n,gamma	5.99978E+02	6.13710E+02	1.02289	3.14342E+02	3.39147E-01	1.77551E-07

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=9553:Am-244M							
1	Total	2.01169E+03	2.21740E+03	1.10226	1.70155E+03	7.82538E+00	5.93596E+00
2	Elastic	1.16457E+01	1.31450E+01	1.12870	1.37565E+02	4.52984E+00	2.81081E+00
18	Fission	1.60006E+03	1.76290E+03	1.10180	1.24961E+03	1.76323E+00	2.43779E+00
102	n,gamma	3.99984E+02	4.41320E+02	1.10334	3.14319E+02	3.70872E-01	1.12652E-06
Material(MAT)=9625:Cm-240							
1	Total	1.98403E+02	1.95230E+02	0.98400	8.93147E+02	7.62454E+00	5.97487E+00
2	Elastic	1.31128E+01	1.46210E+01	1.11501	1.91895E+02	4.94067E+00	3.05862E+00
18	Fission	9.75210E+00	9.50570E+00	0.97473	3.68128E+01	1.70213E+00	2.56284E+00
102	n,gamma	1.75538E+02	1.71100E+02	0.97473	6.64223E+02	2.83989E-01	7.74123E-04
Material(MAT)=9628:Cm-241							
1	Total	2.86193E+03	2.86420E+03	1.00080	1.42094E+03	7.49123E+00	6.00732E+00
2	Elastic	1.21052E+01	1.36630E+01	1.12870	1.41496E+02	4.41660E+00	3.15932E+00
18	Fission	2.59952E+03	2.60020E+03	1.00025	1.16694E+03	2.68056E+00	2.83800E+00
102	n,gamma	2.50311E+02	2.50390E+02	1.00030	1.12277E+02	2.35780E-02	0.00000E+00
Material(MAT)=9631:Cm-242							
1	Total	3.25962E+01	3.39580E+01	1.04179	3.02031E+02	8.09505E+00	6.14814E+00
2	Elastic	1.16331E+01	1.31160E+01	1.12744	1.82767E+02	4.62613E+00	2.75081E+00
18	Fission	5.06396E+00	5.04420E+00	0.99611	1.11382E+01	1.64784E+00	2.67226E+00
102	n,gamma	1.58991E+01	1.57990E+01	0.99368	1.07896E+02	3.23300E-02	3.84774E-05
Material(MAT)=9634:Cm-243							
1	Total	7.57660E+02	7.59050E+02	1.00183	1.89927E+03	7.99333E+00	6.27963E+00
2	Elastic	9.94587E+00	1.11020E+01	1.11622	1.47045E+02	4.44528E+00	2.89415E+00
18	Fission	6.17563E+02	6.20180E+02	1.00424	1.55416E+03	2.17436E+00	2.75658E+00
102	n,gamma	1.30151E+02	1.27770E+02	0.98168	1.98026E+02	1.93723E-02	6.95557E-05
Material(MAT)=9637:Cm-244							
1	Total	1.79673E+01	1.88440E+01	1.04880	9.22156E+02	7.56185E+00	6.69383E+00
2	Elastic	6.99615E+00	7.88500E+00	1.12705	3.18499E+02	4.84835E+00	3.07582E+00
18	Fission	6.03671E-01	5.96880E-01	0.98875	1.08169E+01	1.59232E+00	3.08001E+00
102	n,gamma	1.03675E+01	1.03620E+01	0.99950	5.92593E+02	1.26891E-01	3.00001E-03
Material(MAT)=9640:Cm-245							
1	Total	2.51088E+03	2.37760E+03	0.94693	1.03822E+03	7.88030E+00	5.77180E+00
2	Elastic	1.08990E+01	1.22000E+01	1.11934	1.38582E+02	4.63005E+00	2.72536E+00
18	Fission	2.14110E+03	2.02860E+03	0.94748	7.94141E+02	1.73924E+00	2.31345E+00
102	n,gamma	3.58885E+02	3.36780E+02	0.93841	1.05451E+02	8.55642E-02	9.59492E-04

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=9643:Cm-246							
1	Total	1.06829E+01	1.18760E-01	1.11172	2.91042E+02	7.92288E+02	5.71424E+00
2	Elastic	9.22731E+00	1.04130E-01	1.12854	1.71938E+02	4.84050E+00	2.72817E+00
18	Fission	1.44196E-01	1.44550E-01	1.00246	4.72170E+00	1.21329E+00	1.89824E+00
102	n,gamma	1.31135E+00	1.31830E+00	1.00533	1.13989E+02	1.07675E-01	1.00001E-03
Material(MAT)=9646:Cm-247							
1	Total	1.47773E+02	1.46410E+02	0.99075	1.27586E+03	8.04082E+00	5.80739E+00
2	Elastic	8.79213E+00	9.87380E+00	1.12303	1.40990E+02	4.87505E+00	2.75132E+00
18	Fission	8.17765E+01	7.98630E+01	0.97661	6.00584E+02	1.90942E+00	2.53913E+00
102	n,gamma	5.72043E+01	5.66680E+01	0.99063	5.34238E+02	7.69887E-02	1.48236E-08
Material(MAT)=9649:Cm-248							
1	Total	9.46845E+00	1.03120E+01	1.08913	5.87232E+02	8.07564E+00	5.82899E+00
2	Elastic	6.52770E+00	7.36510E+00	1.12829	3.15874E+02	5.37627E+00	2.76539E+00
18	Fission	3.70031E-01	3.70410E-01	1.00101	1.12763E+01	1.23979E+00	2.68000E+00
102	n,gamma	2.57072E+00	2.57690E+00	1.00239	2.59727E+02	5.44384E-02	1.04940E-09
Material(MAT)=9652:Cm-249							
1	Total	2.11936E+01	2.23320E+01	1.05373	3.85445E+02	8.09977E+00	6.00847E+00
2	Elastic	9.20178E+00	1.03850E+01	1.12854	1.67732E+02	4.29340E+00	2.67397E+00
18	Fission	1.02332E-01	1.01890E-01	0.99570	1.55007E+02	2.10511E+00	2.36769E+00
102	n,gamma	1.75865E+01	1.75850E+01	0.99990	6.22590E+01	1.37328E-02	8.75960E-04
Material(MAT)=9655:Cm-250							
1	Total	1.24948E+02	1.29730E+02	1.03828	1.11081E+03	8.14933E+00	6.00927E+00
2	Elastic	3.95898E+01	4.45380E+01	1.12498	8.06468E+02	4.93756E+00	2.71391E+00
18	Fission	2.08910E-03	2.09140E-03	1.00112	7.65082E-02	1.52016E+00	2.16040E+00
102	n,gamma	8.53565E+01	8.51910E+01	0.99806	3.03844E+02	2.36550E-02	4.75167E-04
Material(MAT)=9746:Bk-247							
1	Total	2.88158E+02	2.81690E+02	0.97755	1.50215E+03	7.98469E+00	6.01006E+00
2	Elastic	1.23480E+01	1.36370E+01	1.10438	1.58482E+02	4.64499E+00	2.80160E+00
18	Fission	9.19367E+01	8.93510E+01	0.97187	4.47887E+02	9.97879E-01	2.25354E+00
102	n,gamma	1.83873E+02	1.78700E+02	0.97187	8.95275E+02	1.11018E-01	8.49091E-04
Material(MAT)=9752:Bk-249							
1	Total	7.18874E+02	1.07870E+03	1.50049	1.29914E+03	8.10993E+00	5.81701E+00
2	Elastic	3.93473E+00	4.66360E+00	1.18525	1.68565E+02	5.07220E+00	2.74684E+00
18	Fission	3.97027E+00	5.95950E+00	1.50102	6.49433E+00	9.55483E-01	2.67000E+00
102	n,gamma	7.10969E+02	1.06800E+03	1.50224	1.12336E+03	1.58534E-01	2.29838E-09

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=9755:Bk-250							
1	Total	1.32407E+03	1.25280E+03	0.94615	8.45482E+02	8.15285E+00	5.82051E+00
2	Elastic	1.22451E+01	1.35090E+01	1.10324	1.40576E+02	4.83577E+00	2.75066E+00
18	Fission	9.58642E+02	9.05610E+02	0.94468	5.05696E+02	2.04094E+00	2.07649E+00
102	n,gamma	3.53184E+02	3.33650E+02	0.94468	1.98892E+02	3.24960E-02	8.02854E-09
Material(MAT)=9852:Cf-249							
1	Total	2.17580E+03	2.10850E+03	0.96909	3.03201E+03	8.09670E+00	6.01349E+00
2	Elastic	6.23064E+00	6.76760E+00	1.08618	1.29952E+02	4.73579E+00	2.92032E+00
18	Fission	1.66528E+03	1.61280E+03	0.96846	2.20828E+03	1.73867E+00	2.28922E+00
102	n,gamma	5.04289E+02	4.89010E+02	0.96970	6.93734E+02	1.66645E-01	8.55210E-04
Material(MAT)=9855:Cf-250							
1	Total	1.95119E+03	1.96020E+03	1.00463	9.18706E+03	8.15380E+00	5.83854E+00
2	Elastic	1.67689E+02	1.84650E+02	1.10115	7.49318E+02	5.28430E+00	2.75106E+00
18	Fission	4.09059E+00	4.07240E+00	0.99555	1.93633E+01	1.87399E+00	2.72133E+00
102	n,gamma	1.77941E+03	1.77150E+03	0.99555	8.41801E+03	9.96477E-02	4.96617E-07
Material(MAT)=9858:Cf-251							
1	Total	8.19537E+03	8.17050E+03	0.99697	6.80460E+03	7.91474E+00	5.77377E+00
2	Elastic	1.21116E+01	1.38540E+01	1.14385	3.03977E+02	4.58164E+00	2.60142E+00
18	Fission	5.32159E+03	5.31190E+03	0.99817	4.88709E+03	1.71653E+00	2.40000E+00
102	n,gamma	2.86167E+03	2.84480E+03	0.99412	1.61349E+03	7.80842E-02	1.00000E-03
Material(MAT)=9861:Cf-252							
1	Total	6.37779E+01	6.46940E+01	1.01437	3.29341E+02	7.84384E+00	5.74373E+00
2	Elastic	1.11084E+01	1.25070E+01	1.12591	1.71241E+02	4.72008E+00	2.60000E+00
18	Fission	3.21755E+01	3.18840E+01	0.99093	1.11029E+02	1.89635E+00	2.52929E+00
102	n,gamma	2.04940E+01	2.03040E+01	0.99072	4.70546E+01	4.18569E-02	8.00008E-04
Material(MAT)=9867:Cf-254							
1	Total	1.71212E-01	1.84900E+01	1.07996	1.97600E+02	8.30810E+00	5.85843E+00
2	Elastic	1.06210E+01	1.19880E+01	1.12873	1.76926E+02	5.26532E+00	2.76645E+00
18	Fission	2.00005E+00	2.00050E+00	1.00022	1.38344E+01	2.14566E+00	2.64781E+00
102	n,gamma	4.50015E+00	4.50140E+00	1.00028	6.48603E+00	6.65454E-03	2.33501E-09
Material(MAT)=9913:Es-253							
1	Total	2.10995E+02	2.22680E+02	1.05539	6.99419E+03	9.76273E+00	9.76000E+00
2	Elastic	9.81451E+00	1.10180E+01	1.12261	6.81419E+02	9.76231E+00	9.76000E+00
102	n,gamma	2.01180E+02	2.11660E+02	1.05211	6.31277E+03	4.23303E-04	0.00000E+00

Table 9. Simple integral neutron cross-section data from JEFF-3.1 calculated with the INTER computer code (*cont.*)

MT	Reaction	σ (2200 m/s)	Avg σ [1E-5 to 10] eV	G fact (Avg σ)/σ(E$_0$)	Avg res integ [5E-1 to 1E+5] eV	Avg σ fiss [1E+3 to 2E+7] eV	σ (E14) 1.4E+7 eV
Material(MAT)=9914:Es-254							
1	Total	2.00485E+03	2.00550E+03	1.00033	1.37294E+03	8.31076E+00	5.86267E+00
2	Elastic	1.06210E+01	1.19880E+01	1.12873	1.48113E+02	5.17089E+00	2.76645E+00
18	Fission	1.96606E+03	1.96660E+03	1.00028	1.20746E+03	2.18469E+00	2.22184E+00
102	n,gamma	2.81654E+01	2.69110E+01	0.95546	1.73685E+01	6.92355E-02	1.86848E-09
Material(MAT)=9916:Es-255							
1	Total	7.90532E+01	8.04400E+01	1.01754	5.56108E+02	8.34678E+00	5.86913E+00
2	Elastic	1.06209E+01	1.19880E+01	1.12872	1.95205E+02	5.27618E+00	2.77075E+00
18	Fission	1.34305E+01	1.34350E+01	1.00032	8.25400E+01	2.23506E+00	2.75813E+00
102	n,gamma	5.50018E+01	5.50170E+01	1.00028	2.78050E+02	4.02055E-02	1.77280E-09
Material(MAT)=9936:Fm-255							
1	Total	3.39673E+03	3.39910E+03	1.00069	1.43394E+03	8.35407E+00	5.87337E+00
2	Elastic	1.06209E+01	1.19880E+01	1.12872	1.69072E+02	5.13490E+00	2.77075E+00
18	Fission	3.36011E+03	3.36110E+03	1.00029	1.16353E+03	2.32759E+00	2.36716E+00
102	n,gamma	2.60008E+01	2.60080E+01	1.00028	1.01252E+02	2.03360E-02	4.04429E-09