NEEDS – Nuclear Systems

Joint Evaluated Fission and Fusion (JEFF) library

JEFF-NEEDS Workshop on NUCLEAR DATA MEASUREMENTS

November 25-26, 2013

OECD NEA Data Bank
12 boulevard des Iles
92130 Issy-les-Moulineaux

www.oecd-nea.org

Organizing Committee

C.-O. Bacri (CNRS), S. David (CNRS), E. Dupont (NEA), J.-C. Garnier (CEA)
R. Jacqmin (CEA), F. Michel-Sendis (NEA), A. Plompen (IRMM)

Local Organization and Registration

OECD NEA Data Bank

More information can be found at www.oecd-nea.org/dbdata/meetings/nov2013

Context / Objective

This workshop is the continuation of the series of JEFF-GEDEPEON joint meetings aimed at fostering ties between different nuclear data expert communities, in order to address the needs and challenges of nuclear systems more effectively, and with sufficient anticipation. The workshop is co-organized with the recently created French research framework NEEDS/Nuclear Systems and is scheduled in the same week as the JEFF fall meeting, so as to attract wider participation to both gatherings.

The main objective of the workshop is to bring together teams working on the measurement, modelling and evaluation of nuclear data of interest for the simulation of reactors. The focus will be on possible synergies between experimentalists, theoreticians and evaluators through future joint actions.

The NEEDS challenge is a partnership between French organizations (CNRS, Universities, CEA, IRSN, EDF, AREVA, ANDRA and BRGM). NEEDS is an interdisciplinary research effort on Nuclear, Energy, Environment, Waste and Society. The work is organized by projects that consider all aspects of the relationship between society, nature and nuclear technology. Within NEEDS, the unifying project on Nuclear Systems supports actions in a wide range of scientific areas, such as nuclear data, integral data, instrumentation, innovative reactor concepts and simulation tools, as well as scenarios for comparing suitable options for plants and associated fuel cycles. Thematic workshops are organised every year to bring together national and international experts in one of these research fields.

The November 2013 workshop will also provide inputs to the NEEDS/Nuclear Systems coordination for shaping up the call for 2014 projects dedicated to nuclear data measurement and analysis.

The Joint Evaluated Fission and Fusion File (JEFF) project is a collaboration between NEA Data Bank member countries to produce a common set of evaluated nuclear data, mainly for fission and fusion applications. The JEFF library contains a number of different data types, including neutron and proton interaction data, radioactive decay data, fission yields, and thermal scattering law data. The latest version, JEFF-3.1, is used by the nuclear industry in France and UK. The members of the JEFF project meet twice a year to review progress in measurement, modelling, evaluation and validation of nuclear data with the objective to further improve the JEFF library and to respond to additional users' needs, e.g. covariance data, photon production.

Agenda

Monday morning, November 25, 2013

All presentations and discussions should be in English. Note that the allocated time may vary from one presentation to another in order to give every participant the opportunity to present and discuss his views. The time is shared between the presentation itself (10-20 min) and the discussions (5-10 min).

8:30	Registration at the NEA Reception Desk on the ground floor

Time (*)	Topics	Speaker/Chairperson
Session 1	**INTRODUCTION**	F. Michel-Sendis
9:00 – 9:20	(10') Presentation of NEEDS	S. David (CNRS)
	(10') Summary of previous workshops, recent JEFF developments, and perspectives for the coming years	R. Jacqmin (CEA), A. Plompen (IRMM)
Session 2	**MEASUREMENTS OF FISSION YIELDS AND DECAY DATA**	K.-H. Schmidt
9:20 – 9:50	(20'+10') Isotopic fission-fragment yields and fission probabilities using surrogate reaction in inverse kinematics at GANIL	O. Delaune (CEA)
9:50 – 10:20	(20'+10') The SOFIA and SOFIA2 experiments at GSI	T. Gorbinet (CEA)
10:20 – 10:50	(20'+10') Development of the FALSTAFF spectrometer for the determination of fission-fragment characteristics and neutron multiplicity	D. Doré (CEA)
10:50 – 11:10	(20') Break	
11:10 – 11:35	(20'+5') Measurement of fission yields at LOHENGRIN	O. Serot (CEA)
11:35 – 12:00	(20'+5') Development of a Gas Filled Magnet spectrometer for the measurement of fission yields at LOHENGRIN	A. Chebboubi (LPSC)
12:00 – 12:30	(20'+10') Development of the LICORNE neutron source and measurements of prompt fission gamma-rays	M. Lebois (IPNO)
12:30 – 14:00	Lunch on your own (cafeteria or surrounding area restaurants)	

(*)The time is shared between the presentation itself (10-20 min) and the discussions (5-10 min)

Agenda

Monday afternoon, November 25, 2013

Time (*)	Topics	Speaker/Chairperson
12:30 – 14:00	Lunch on your own (cafeteria or surrounding area restaurants)	
Session 2	**MEASUREMENTS OF FISSION YIELDS AND DECAY DATA (CONT'D)**	R. Mills
14:00 – 14:30	(20'+10') Prompt fission gamma-ray measurements	F.-J. Hambsch (IRMM)
14:30 – 15:00	(20'+10') TAS measurements for reactor antineutrinos and decay heat calculations	A. Porta (Subatech)
15:00 – 15:30	(20'+10') Gamma de-excitation above S_n: what TAS measurements can provide	A. Algora (IFIC Valencia)
15:30 – 16:00	(20'+10') The Decay Data Evaluation Project (DDEP)	M. Kellett (CEA)
16:00 – 16:30	(30') Break	
Session 3	**MEASUREMENTS OF CROSS SECTIONS**	C.-O. Bacri
16:30 – 17:00	(20'+10') Measurement of the ^{233}U(n,γ) cross section	L. Mathieu (CENBG)
17:00 – 17:30	(20'+10') (n,xn γ) reaction cross-section measurements on actinides at GELINA	A. Bacquias (IPHC)
17:30 – 18:00	(20'+10') Results of the ^{232}Th(n,f) fission-fragment angular distribution and status of the measurement of the ^{231}Pa(n,f) cross section	L. Tassan Got (IPNO)
18:00	End of the first day	

(*)The time is shared between the presentation itself (10-20 min) and the discussions (5-10 min)

20:00	Workshop dinner sponsored by NEEDS – Chez Clément, 98 Av. Édouard Vaillant, Boulogne

Agenda

Tuesday, November 26, 2013

Please, note that Tuesday afternoon will be a joint session with the JEFF meeting.

Time (*)	Topics	Speaker/Chairperson
Session 3	**MEASUREMENTS OF CROSS SECTIONS (CONT'D)**	
9:00 – 9:30	(20'+10') Determining inaccessible neutron-induced cross sections with the help of surrogate reactions	B. Jurado (CENBG)
Session 4	**INTEGRAL MEASUREMENTS AND VALIDATION**	E. Dupont
9:30 – 10:00	(20'+10') Measurements in Minerve	R. Jacqmin (CEA)
10:00 – 10:30	(20'+10') Analysis of MERCI decay heat measurement	J.-C. Jaboulay (CEA)
10:30 – 11:00	(30') Break	
Session 5	**NETWORKING**	S. David
11:00 – 11:30	(20'+10') Summary of ERINDA workshop and perspectives	E. Grosse (TUD)
11:30 – 12:00	(20'+10') Overview of the ANDES and CHANDA European programmes	A. Plompen (IRMM)
12:00 – 12:30	(20'+10') CHANDA WP on target and update on CACAO status	C.-O. Bacri (IPNO)
12:30 – 14:00	Lunch on your own (cafeteria or surrounding area restaurants)	
Session 6	**NUCLEAR DATA NEEDS BEYOND JEFF-3.2**	A. Plompen
14:00 – 14:20	(15'+5') Needs for Gen-IV reactors (ASTRID)	R. Jacqmin (CEA)
14:20 – 14:40	(15'+5') Needs for fusion facilities (ITER, IFMIF, DEMO)	U. Fischer (KIT)
14:40 – 15:00	(15'+5') Needs for innovative systems (MYRRHA)	A. Stankovskiy (SCK)
Session 7	**CONCLUSIONS**	
10 min	Closing statements	S. David (CNRS), R. Jacqmin (CEA)
15:10 – 15:30	(20') Break	

(*)The time is shared between the presentation itself (10-20 min) and the discussions (5-10 min)

15:30	Other JEFF presentations. See agenda of the joint session.