

Report on the Seventh Asian Nuclear Reaction Database Development Workshop

SARSEMBAYEVA Aiganym, DAGVADORJ Ichinkhorloo
Faculty of Science, Hokkaido University

Abstract

The Seventh Asian Nuclear Reaction Database Development Workshop was held on November 8-11, 2016 at China Nuclear Data Center, China Institute of Atomic Energy, China. The workshop provided a good opportunity for sharing information and promoting cooperation on nuclear data activities in Asia. It was valuable and fruitful for participants in the workshop. A brief summary on the workshop is presented in this report.

The International Network of the Nuclear Reaction Data Centres (NRDC) is a world-wide network of nuclear data centres organized under the auspices of the International Atomic Energy Agency (IAEA). It has been established to coordinate collection, compilation, and dissemination of nuclear data on an international scale. Nuclear data have been widely utilized in various fields such as: nuclear physics, astrophysics, nuclear engineering, medicine, etc. The China Nuclear Data Center (CNDC) cooperates in nuclear data compilation with the International Network of Nuclear Reaction Data Centres (NRDC) under the auspices of the International Atomic Energy Agency (IAEA). The NRDC has 13 member institutes worldwide and collaborates in compilation of experimental nuclear reaction data.

Table 1. Nuclear Reaction Data Centres (NRDC)

Centre	Scope	Country
NNDC	ND, CPND and PhND measured in USA and Canada	USA
NEA DB	ND and CPND measured in NEA DB countries not covered by other centers	France
NDS	ND, CPND and PhND not covered by other centers	Austria
CJD	ND measured in former USSR	Russia
CNDC	ND and CPND measured in China	China
ATOMKI	CPND measured in collaboration with ATOMKI	Hungary
NDPCI	ND, CPND and PhND measured in India	France
JAEA/NDC	Evaluation	Japan
JCPRG	CPND and PhND measured in Japan	Japan
KNDC	ND, CPND and PhND measured in Korea	Republic of Korea
CDFE	PhND (coordinated with other centers)	Russia
CNPD	CPND (coordinated with other centers)	Russia
UkrNDC	ND, CPND and PhND measured in Ukraine	Ukraine

There are five Asian institutes in the NRDC; China Nuclear Data Centre (CNDC), China, Bhabha Atomic Research Centre (BARC), India, Hokkaido University Nuclear Reaction Data Centre (JCPRG) and JAEA Nuclear Data Center, Japan, and Korea Nuclear Data Center (KNDC), Korea. The four centres among the five, CNDC, BARC, JCPRG and KNDC, are in charge of compilation of domestic nuclear reaction data. The centre heads of the four institutes cooperate to promote nuclear data activities with special focus on compilation. Under the Asian cooperation, the Seventh Workshop on Asian Nuclear Reaction Database Development was held on November 8-11, 2016 at China Nuclear Data Center, China Institute of Atomic Energy, China. This workshop is followed by the workshops in Sapporo (Japan, 2010), Beijing (China, 2011), Pohang (Korea, 2012), Almaty (Kazakhstan, 2013), Mumbai (India, 2014), Sapporo (Japan, 2015) and Beijing (China, 2016). A brief summary on the workshop is reported. The topics of the workshop includes, information on activities of the nuclear data centres, nuclear data compilation, data evaluation, computational simulations and other related subjects. The participants from Austria, Japan, Korea and Mongolia have attended the workshop. In this workshop, 17 presentations related to the research work and activities of the respective data centres were presented. One is based on the development of a new Java-based EXFOR editor, and the second one on the study of low-energy nuclear reactions of light nuclei based on cluster structures, in CDCC. The workshop was very fruitful for participants



Fig. 1: Group photo.

and its continuation was requested. The next workshop was proposed to be held in Ulaanbaatar, Mongolia. The details of the workshop are summarized in the proceedings [1].

Acknowledgement

The authors are grateful for the financial support from the Nuclear Reaction Data Centre (JCPRG), Hokkaido University to attend the workshop.

References

- [1] Eds.; G. Chen, N. Otuka. Proceedings of the Seventh AASPP Workshop on Asian Nuclear Reaction Database Development, INDC(CPR)-062, (2017)

The 7th Asian Nuclear Reaction Database Development Workshop

8 - 11 Nov., 2016, Beijing, China

Meeting Room: China Hall of Science and Technology Room B407

Agenda (Draft 2016-11-06)

Date	Time	Program	Participant	Chairman	
Nov. 8 (Tue.)	9:30 -- 10:00	Registration		Zhigang Ge	
	10:00 -- 11:00	Opening & Welcome Address			
	11:00 -- 11:30	Coffee Break & Group Photo			
	11:30 -- 12:30	EXFOR – status, compilation activities and new developments	V.Semkova (IAEA)		
	12:30 -- 14:00	Lunch			
	14:00 -- 14:50	Activation cross sections of alpha-induced reactions on natural palladium for ¹⁰³ Ag production	M.Aikawa (Hokkaido University)	Xichao Ruan	
	14:50 -- 15:40	Recently Progress of Nuclear Data Evaluations and Activities in China	Zhigang Ge (CIAE)		
	15:40 -- 16:10	Coffee Break			
	16:10 -- 16:40	Nuclear data measurement activities at CIAE	Xichao Ruan (CIAE)	M.Aikawa	
	16:40 -- 17:10	Nuclear Data Activities using Cyclotron and electron linac	Kim Guinyun (Kyungpook National University)		
	18:00 -- 20:00	Welcome Banquet			
Nov. 9 (Wed.)	9:00 -- 9:50	Recent Nuclear Data Activities at KAERI	Young-Sik Cho (KAERI)	Kim Guinyun	
	9:50 -- 10:40	An evaluation of alpha-clustering in (n, α) reaction and alpha-decay	Myagmarjav Odsuren (National University of Mongolia)		
Date	Time	Program	Participant	Chairman	
	10:40 -- 11:00	Coffee Break			
	11:00 -- 11:30	Measurements and evaluations of excitation functions at CIAE	Jiang Liyang (CIAE)	Young-Sik Cho	
	11:30 -- 12:00	Review of fission product yields measurements in key laboratory of nuclear data	Feng Jing (CIAE)		
	12:00 -- 14:00	Lunch			
	14:00 -- 14:30	Evaluation of deuteron-induced excitation functions for ¹⁸⁶ W(d, p) ¹⁸⁷ W and ¹⁸⁶ W(d, 2n) ¹⁸⁶ Re	Jimin Wang (CIAE)	Myagmarjav Odsuren	
	14:30 -- 15:00	Low energy scattering cross sections for ⁶ Li+n and ⁷ Li+n reactions	Ichinkhorloo Dagvadorj (JCPRG)		
	15:00 -- 15:30	A new java-based EXFOR editor	Aiganym Sarsembayeva (JCPRG)		
	15:00 -- 15:30	Coffee Break			
	15:30 -- 17:30	EXFOR Compilation	All		
Nov. 10 (Thu.)	9:00 -- 9:50	Investigation of Activation Cross-Sections of Alpha-Induced Nuclear Reactions on Natural Silver	Kim Kwangsoo (Kyungpook National University)	V.Semkova	
	9:50 -- 10:40	Measurement and EXFOR Compilation of the Neutron-Induced Activation Cross Sections in the Energy Range up to 20 MeV	V.Semkova (IAEA)		
	10:40 -- 11:00	Coffee Break			
	11:00 -- 11:30	Recent EXFOR Compilation in CNDC	Guochang Chen (CIAE)	Zhigang Ge	
	11:30 -- 12:00	Theoretical calculation of n+ ⁶ Li	Xi Tao (CIAE)		
	12:00 -- 14:00	Lunch			
	14:00 -- 14:50	Introduction of digitization software GDgraph	Guochang Chen (CIAE)	Zhigang Ge	
	14:50 -- 15:50	GDgraph training			
	15:50 -- 16:20	Coffee Break			
	16:20 -- 17:30	EXFOR Compilation	All		
Nov. 11 (Fri.)	9:00 -- 10:00	Closing remarks		Zhigang Ge	