Status report of the Bucharest Data Centre (May 2017 – April 2019)

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Introduction

The NSDD Data Centre was established in IFIN-HH, Bucharest in 2015 with two evaluators, each of them dedicating 0.2 FTE to evaluation: Alexandru Negret and Sorin Pascu. The activity is currently supported by IFIN-HH and IAEA, S. Pascu being the main scientific investigator in a Research Contract funded by IAEA.

The Bucharest Centre is responsible for the following mass chains:

Mass	Cut-off date of the latest ENSDF evaluation	Observations
57	September 24, 1998	Under evaluation by A. Negret, B. Singh and R. Firestone (Post-review)
58	January 10, 2010	^{58}Co updated by C. D. Nesaraja and B. Sing (cut-off date 31.10.2015)
59	April 1st, 2018	Evaluation by S. Basunia
117	March 1, 2009	^{117}Mo, ^{117}Tc and ^{117}Ru updated by B. Singh (cut-off date 20.7.2015)
118	November 1, 1992	^{118}Mo, ^{118}Tc and ^{118}Ru updated by B. Singh (cut-off date 31.5.2015) ^{118}Rh, ^{118}Pd and ^{118}Ba updated by B. Singh (cut-off date 15.12.2006)
119	December 1, 2008	^{119}Tc and ^{119}Ru updated by B. Singh (cut-off date 20.7.2015)

Evaluation activities

During the last two years the following evaluation activities were performed in Bucharest:

The full evaluation of the A=57 mass chain by A. Negret, B. Singh and R. Firestone. The evaluation was submitted for review and the comments were received in 2018 and they are currently being implemented.

Also, A. Negret and B. Singh completed the evaluation of the individual nucleus ^{86}Sr (the latest evaluation of the A=86 mass chain being performed in 2015 by the same authors). The new evaluation of ^{86}Sr is not yet included in ENSDF.

S. Pascu, B. Singh, A. Rodionov and G. Shulyak completed the full evaluation of A=130 that was submitted for review.

A collaboration between the Data Centres from Bucharest and Debrecen performs the full evaluation of the A=101 mass chain. A. Negret was in charge of the ^{101}Sn, ^{101}In, ^{101}Cd and ^{101}Ag isotopes, S. Pascu evaluated ^{101}Nb, ^{101}Mo and ^{101}Tc while the other isotopes were evaluated by the colleagues from Debrecen. At the moment, we are merging all the datasets into one complete evaluation that will later be submitted for review.

S. Pascu started working on the A=118 mass chain in the framework of the Research Contract funded by IAEA. The first four nuclei (^{118}Mo, ^{118}Tc, ^{118}Ru, ^{118}Rh) have been evaluated and the work will continue in the next year with the next five or six nuclei.

Other activities

A significant effort was directed during the last year to attracting new sources of funding towards ENSDF evaluation in Europe. The three European data centres (Bucharest, Debrecen, Sofia) submitted a Letter of Intent stating their wish to participate in the Horizon 2020 Euratom proposal SANDA. The Letter of Intent was appreciated by the core group proposing the SANDA project and consequently the ENSDF activity was included in the proposal. Further, the SANDA proposal was reviewed by the experts of the European Commission and judged favorably. At the current moment negotiations take place. We note that this is the first time when the nuclear structure evaluation for ENSDF is included in one of the nuclear data projects funded at the European level which constitutes a very favorable evolution.

Following the discussions during the last NSDD meeting (Berkeley, 2017), A. Negret was involved in the development of a Nuclear Structure Experimental Issues (NSEI) Database linked to ENSDF. The purpose of such a database is to gather nuclear structure experimental requests from various users of ENSDF that may identify cases where experimental data is missing or is questionable. Further, the nuclear structure community of experimentalists can react to the NSEI requests either by solving the issue using available results or by planning new experimental investigations. A web page was hosted by the servers of the Berkeley University:

https://nucleardata.berkeley.edu/hpnsrl/

The next step of this project is to make it available first to the NSDD network and then to other scientific communities.