

Status Report on Nuclear Structure and Decay Data activities carried out at the Nuclear Data Centre in Sofia

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period covered: 2017-2019

1. Intro

During the 22nd network meeting, held from 22nd to 26th of May 2017 at the Lawrence Berkeley National Laboratory, CA, USA, a new nuclear data centre was established at the University of Sofia "St. Kl. Ohridski". One evaluator (SL) has been assigned to the Center dedicating a total of 0.2 FTEs to the project. The purpose of the centre is to perform horizontal mass-chain evaluations for inclusion in ENSDF. The centre is responsible for 5 mass chains. These are A=106, 107, 108, 111, 112.

2. Status of the mass chains

Mass chain	Last Evaluation	Evaluators
106	May, 2007	Full evaluation: D.De Frenne & A. Negret 36 refs since last evaluation cutoff date
	June, July 2015	Add ons: B. Singh (Sr, Y, Zr, Nb) 9 new refs since 2015
107	March 2008	Full evaluation: J. Blachot 28 refs since last evaluation cutoff date
	June 2015	Add ons: B. Singh (Sr, Y, Zr) 8 new refs since 2015
108	July 2008	Full evaluation: J. Blachot 27 refs since last evaluation cutoff date
	June, July 2015	Add ons: B. Singh (Y, Zr) 6 new refs since 2015
111	February 2008	Full evaluation: J. Blachot 23 refs since last evaluation cutoff date
	June/July 2015	Add ons: B. Singh (Zr, Nb, Mo) 11 new refs since 2015
112	August 2014	Full evaluation: S. Lalkovski & F. Kondev 10 refs since last evaluation cutoff date

None of which are in the high priority list, sent on 1st of May 2018.

3. Evaluation activities

Main focus in the period covered was on A=105 which is indeed on the high-priority list.

Last evaluation cut off date: 1st Sept. 2004;

Join activity with the Nuclear Data Centre @ Debrecen (János Timár, Zoltán Elekes)

Status: mass chain evaluated and submitted on 31st of October 2018.

Check list and Comments received 21st of November 2018.

Ready for re-submission by 8th of April 2019.

4. Plans for the next 2 years

Last year, the centre had joined the SANDA (Supplying Accurate Nuclear Data for energy and non-energy Applications) initiative, a Horizon 2020 project proposal, which was approved this year and expected to start in Sept.2019. The centre has joined the proposal in its **WP4: Nuclear data evaluations and uncertainties; Task 4.2. Fission yields and nuclear structure and decay data evaluations; Sub-task 4.2.2. Evaluation of nuclear structure and decay data.** Dedicated effort (SL) – 5.3 person-months for mass chains evaluation only.

Hence, funding for two years effort at a level of 0.22 FTE is now considered to be secured from end-2019 to end-2021. Nuclear Data evaluations of one mass chain (A=107) will be performed in this period. Depending on the progress and the amount of work on A=107, a second mass chain data evaluation will start (most likely A=106).