NSCL/MSU Data Center Status Report

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NSCL/MSU Nuclear Data Center

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- established in December 2014
- became a member of the NSDD network at 2015 NSDD at Vienna
- took over the responsibility for evaluation of mass chains A=31–44
- compiles data for XUNDL, including all data from NSCL and FRIB
- helps develop, improve and maintain the analysis and utility codes
- it plays a unique role as part of the FRIB/NSCL facilities
- current members:
  - Michael Thoennessen
  - Jun Chen

Status of ENSDF evaluations

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- ✓ **responsibility**: A=31-44 mass region
- ✓ **past activities**: completed mass chains A=39, 40, 138, 42 &109 (partial) since December 2014
- ✓ **plan**: evaluate 2 mass chains per year

Mass Chain	Year of last evaluation	Evaluator of last evaluation	Current status
31	2013	C. Ouellet and B. Singh	Up-to-date
32	2011	C. Ouellet and B. Singh	Up-to-date
33	2011	J. Chen and B. Singh	Up-to-date
34	2012	N. Nica and B. Singh	Up-to-date
35	2011	J. Chen, J. Cameron and B. Singh	Up-to-date
36	2011	N. Nica, J. Cameron and B. Singh	Up-to-date
37	2012	J. Cameron, J. Chen and B. Singh	Up-to-date
38	2007	J. Cameron and B. Singh	Under-evaluation (by J. Chen)
39	2017	J. Chen	in-review
40	2015	J. Chen	Up-to-date
41	2015	C. D. Nesaraja and E. A. McCutchan	Up-to-date
42	2016	J. Chen and B. Singh	Up-to-date
43	2015	B. Singh and J. Chen	Up-to-date
44	2011	J. Chen, B. Singh and J. Cameron	Up-to-date
138	2016	J. Chen	in-review

In addition to the primary responsibility of mass-chains A=31-44 for ENSDF data evaluation, NSCL/MSU data center also takes on additional mass chain, selected from the evaluation priority list made by NNDC and coordinated within the NSDD network.

Status of XUNDL compilations and code development

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❑ XUNDL compilations of nuclear structure and decay data

- ✓ **responsibility:** priorities given to data from NSCL and FRIB
- ✓ **past activities**: compiled 170 papers (307 data sets) since December 2014
- ✓ **plan**: compile 50-60 papers per year generating 80-100 data sets

❑ Code development and maintenance

- ✓ **responsibility**: improve existing or develop new utility and analysis programs for data compilation, evaluation and dissemination
- ✓ **past activities**: developed a working and stable version of a large-scale Java program (JAVA-NDS) being used in generating publish-ready PDF file for the journal of Nuclear Data Sheets and for web-display of ENSDF and XUNDL databases
- ✓ **plan**: continue to maintain JAVA-NDS; continue to maintain and improve utility programs developed by J. Chen and other existing programs

❑ For future harvest of FRIB data

- ✓ **plans**: promptly compiling, evaluating and disseminating all new data from FRIB; also establish procedures and effectively guide researchers to compile data from the current operation of the Coupled Cyclotron Facility at NSCL in preparation for the operation of FRIB.