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NNDC Report to NRDC

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NNDC update: staff and budget

Staff

- P. Oblozinsky stepped down as the NNDC head, Mike Herman took over since the middle of January 2009
- Staff status: 11 regular staff members + 3 postdocs
- Nuclear reaction effort: 2 staff + 2 postdocs (M. Pigni, C. Mattoon)

Budget

- DOE Office of Science: support for the NNDC as the national facility
 - represents ~85% of the NNDC budget
 - **we feel that we have solid support and prospect is stable**
 - more emphasize on applications
 - new US Government: more money for science
- Other funding: developed over last several years as additional funding
 - DOE Nuclear Energy (advanced reactors)
 - DOE National Nuclear Security Agency (nuclear criticality safety)

NNDC update: nuclear reaction data

CSEWG coordination

- ENDF/B-VII.0 library released in 2006, continues to be tested
- ENDF/B-VII.1 library will be released in ~2010

Evaluations

- Criticality safety - covariance estimates for large number of materials
- Advanced fuel cycle - covariance library for advanced burner reactors

Compilations

- Done by two external collaborators (S. Hlavac, O. Schwerer)
- This arrangement works pretty well, will continue for next ~5 years

Web service

- Sigma retrieval system, version 3.0 released in March 2009
- Overall service continues to grow rapidly (~40% growth in 2008)

Computer upgrade

- 130,000 US\$ for upgrade and modernization of the NNDC computers
- Migration to MySQL (Sybase increased the cost drastically)

NNDC compilation statistics since October 2008

Compilations are done by Stanislav

PRELIM	NEW		CORRECTED	
	Entries	Subentries	Entries	Subentries
C088	16	158		
C090	19	277		
C091	13	87		
L012	6	19		
1351	19	155	12	13
1353	12	122	35	35
TOTAL	85	818	47	48

Type of entries

Neutron entries	CP entries	Photon entries
31	48	6

Compilation of papers from APS journals since January 2009

Journal	Published	Compiled	Prepared*	To do
Phys. Rev. C	33	21	7	5
Phys. Rev. Lett.	9	2	1	6
Total	42	23	8	11

* Compiled and checked (locally), not yet in PRELIM

Type of entries

Neutron entries	CP entries	Photon entries
5	37	0

Data gathering

Tables	From author	Scanned	Waiting
14	18	0	8

NNDC quality assurance process

Otto checks what Stanislav compiled

Checking EXFOR compilations

- „4-eyes“ principle: double-check by experienced 2-nd person
- Also still a training component
- Mainly manual checking: CHEX is useful & necessary tool but not perfect
- Check for duplications: may occur with the same or different reference
- Check for related articles: cross-reference, 2nd reference for same entry

Details of checking

- Completeness of data reported in article
- Data types within compilation scope
- REACTION coding and correct use of independent variables and units
- Dictionary codes, pointers
- Quantity definitions according to LEXFOR
- Uncertainties, ERR-ANALYS
- Free text wording and spelling

NNDC – IAEA communication on EXFOR

Otto serves as main interface between the NNDC and both NDS and NRDC

- Clarification of new or unusual data types with NDS, memos
- PRELIM files checked once more before submittal to NDS - NRDC
- Answering to feedback from NRDC centres

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