

NEA Data Bank (DB)

Progress report 2014-2015

1. Organization, Staff
2. Contribution to EXFOR
3. JEFF Project, Files
4. JANIS Software

NB: The full report is available as document P2015-09.

1. Organization, Staff

- ❑ One of the NEA/DB staffs (E. Dupont) left at the end of August after 5 years of services and he has been replaced in October by **O. Cabellos**
 - New staff: **C. Diez** (to assist nuclear data services by maintaining, validating and improving basic nuclear data used for the simulation of nuclear applications)

- ❑ The **manpower allocated to nuclear data (ND) activities** is shared among 4 staffs for a total of about 1.7 man-year:
 - DB Nuclear Data Services (~0.7 man-year) & JEFF (~0.4 man-year): F. Michel-Sendis, O. Cabellos
 - DB Software (~0.3 man-year): N. Soppera, M. Bossant
 - Nucl. Sci. WP on ND Evaluation Cooperation – WPEC (~0.3 man-year): O. Cabellos

- ❑ **DB Task Force (TF)** was established to discuss future NEA DB activities and prepare the next NEA strategic plan 2017-2022.
 - Recommendations: “improvement of client services, adapting to new technical developments, enhancing scientific expertise, and enhancing governance”

2. EXFOR – Experimental nuclear data

□ Update and maintenance of the EXFOR database (areas 2 and O)

- Full coverage of experimental results published in open literature
- Revision of old entries is a significant part of the activity
- Peer-review of all transmissions using JANIS

Year	Trans	Entry	
		New	Updated
2010	Total	127	269
2011	Total	119	140
2012	Total	133	238
2013	Total	104	224
2014	2237	8	4
	2238	11	150
	2239	19	7
	2240	3	36
	o051	48	23
	o052	1	66
	Total	90	286
2015 (1st quarter)	2241*	11	5
	o053	59	14
	Total	70	19

Table 1. Detailed statistics of recent NEA transmissions
(*Status = PRELIM)

2. EXFOR – Experimental nuclear data

JANIS Trans Checker

- Peer-review of all NRDC prelim files
- Analysis of JANIS import log for the EXFOR master (cf. WP2014-30)
- Available online at www.oecd-nea.org/janisweb/trans-checker
The standalone ".exe" will be released with new Java version 8u45 in April 2015.

EXFOR checking (“post-SG30” activities)

Verification methods developed within WPEC Subgroup 30 have been implemented at the Data Bank to further improve the quality of EXFOR

▪ **Implementation of cross-checking with evaluated data**

“Cross-checking of Large Evaluated and Experimental Nuclear Reaction Databases”,
by O. Zeydina, A.J. Koning, N. Soppera, D. Raffanel, M. Bossant, E. Dupont, and B. Beuzamy, NDS 120 (2014) 277

▪ **In-depth review of all threshold reaction cross-sections**

“Statistical Verification and Validation of the EXFOR database: (n,n') , $(n,2n)$, (n,p) , (n,α) and other neutron-induced threshold reaction cross-sections” by A.Koning, NEA/DB/DOC(2014)3

3. JEFF Project, Files

- ❑ JEFF-3.2 General Purpose File was released in March 2014
- ❑ JEFF-3.2 Special Purpose Files to be released
 - Decay Data update in 2015
 - Fission Yields (will integrate FY data from GEF/GEFY) update in 2015
- ❑ Beyond JEFF-3.2
 - Business as usual? More technical contributions from DB staff
 - Under discussion with JEFF/SCG, DB TF, NSC EG and NEA
- ❑ NEA/DB working on new developments: “Nuclear Data Evaluation Cycle” (NDEC)
 - a systematized workflow of data for the verification, processing, differential validation and integral benchmarking of evaluated nuclear data
 - developed, hosted, maintained and co-ordinated at the NEA/DB by the DB staff
 - built around already existing NEA tools (JANIS, ICSBEP/DICE, etc...) and implementing new ones, in a collaborative working environment
 - a sub-versioning system to keep traceability of submitted files
 - greatly facilitate the implementation of a more project-managed approach for the production and final Q&A of nuclear data libraries (JEFF, CIELO,...)

4. JANIS – Nuclear data display software

- ❑ JANIS 4.0 released online (Webstart) and on DVD in Oct. 2013
 - The latest ENDF libraries (TENDL2013, TENDL2014,...)
 - Running on command line

- ❑ JANIS 4.1/5.0 to be released in 2016
 - Reorganizing the way evaluated libraries are available
 - Complete ENDF coverage
 - Easy update new data
 - New plotting capabilities (covariances, 3D, ...)
 - New formats (coverx, ace,...)
 - ...

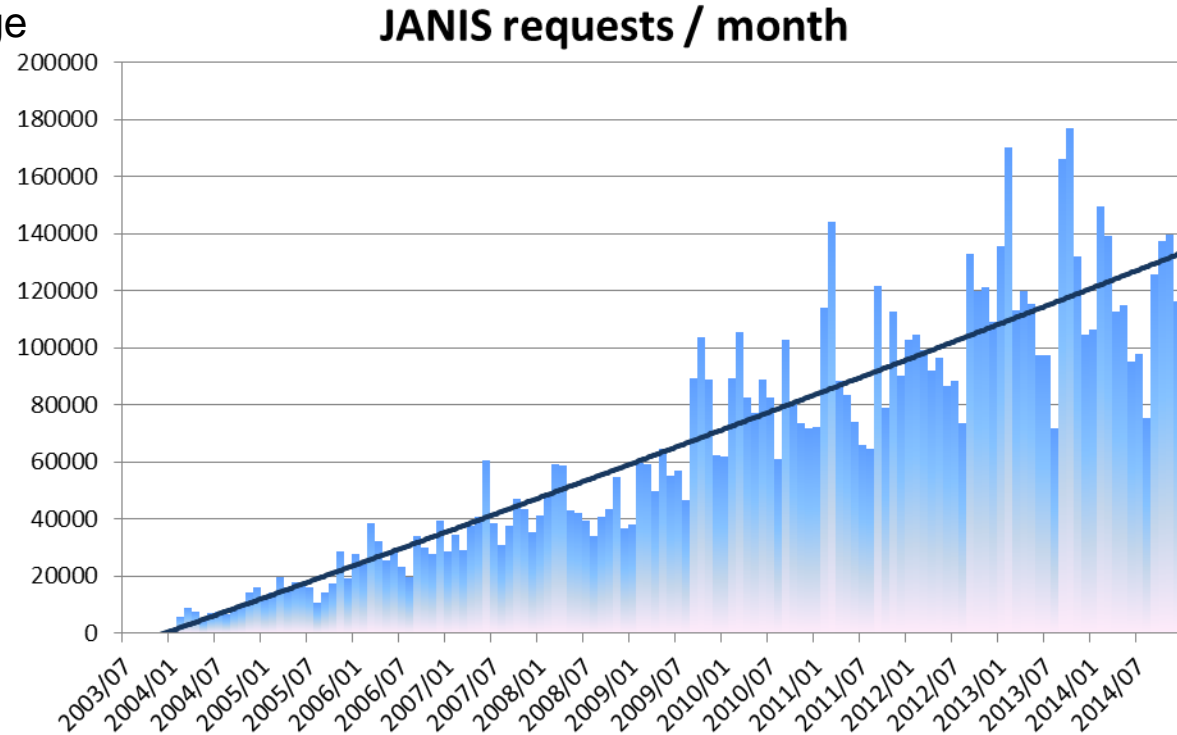


Figure. Number of requests per month to the remote JANIS database since 2003.

Thank you for your attention