Conclusions and Actions of the NRDC 2013 Meeting

Conclusions

General

C1 The next full NRDC meeting will be held in Smolenice, Slovakia from 6 to 9 May 2014.

C2 The next technical NRDC meeting will be held in Vienna, Austria in the 2nd quarter of 2015.

EXFOR General

C3 The next EXFOR Compilation Workshop will be held in Vienna, Austria from 27 to 30 August of 2013.

C4 Compilation performance should be evaluated not only by the number of new entries but also by the number of retransmitted entries where essential revisions are made.

C5 Centres are encouraged to perform EXFOR completeness checking for citation lists where a specific type of experimental works are systematically collected. (*e.g.*, the citation list of Z.Y. Bao *et al*., At. Data Nucl. Data Tables **76** (2000) 70 for *kT*=30 Maxwellian spectrum averaged cross sections).

C6 Compilers were reminded that new entries must be sent to the author for their proof-read. The status code APRVD can be applied only when the author agrees with dissemination of the EXFOR entry.

C7 When authors are reluctant to provide numerical data reported in conference proceedings published within 5 years, an EXFOR entry should not be created for this experimental work.

C8 Compilers were reminded that duplication of the same experimental data in EXFOR entries must be resolved in a timely manner.

C9 Compilers were reminded that errors in EXFOR entries must be corrected in a timely manner.

C10 Quality flags (*e.g.*, deviation from existing experimental data and/or evaluated data expressed by Michel's f-factor, c.f. WP2013-19) can be useful for EXFOR users, and should be made available for all centres (*e.g.*, as a supplemental file to the EXFOR Master File).

Manuals and Dictionaries

C11 Three types of dictionaries (archive, backup and trans) are in use by compilers (WP2013-09).

C12 Dictionary 9-14, 27, 36, 42, 44, 124-125 and 136 are no longer updated, and will not be included in future dictionary transmission. Explanation of codes defined in these dictionaries are available in old dictionaries (Dictionary transmission 9105 or before). If needs arise, they will be added to regular dictionary transmission again.

C13 The Conclusion 6 of the NRDC 2012 Meeting (unification of prefixes in unit codes) was cancelled.

CINDA

C14 The CINDA library are updated by an automatic way by NDS, and regularly transmitted to other centres.

C15 The contents of the NSR databases will be regularly imported to the CINDA Master File.

EXFOR Compilation

C16 Timing information (*e.g.*, irradiation time, cooling time, and measuring time) in activation measurements must be kept in free text under the keyword `METHOD`. Note that these times are not always constants of the experimental work (WP2013-13).

C17 Proposal on the coding rule for probability of *N* particles emission (WP2013-20) was approved. All such data must have SF5=`NUM` without SF4=`NPART`.

C18 Headings `EN-RES-MIN` and `EN-RES-MAX` will be used instead of `EN-MIN` and `EN-MAX` for unresolved resonance parameters (WP2013-21).

C19 When two fragments are specified under headings (`ELEM1` and/or `MASS1`) and (`ELEM2` and/or `MASS2`), they will be coded with a new branch code `CRN` (correlation). If they are for ternary fission, `TER` is combined with `CRN` by a slash (WP2013-22).

C20 Proposal on the coding rule for light-nuclei reaction (WP2013-24) was approved. The heaviest product will not be coded in `REACTION` for resonance parameters.

C21 Irradiation time will be coded under the heading `TIME-IRRD` when the production (unsaturated) thick target yield is coded (WP2013-27).

C22 Proposal on the coding rule for the thick target production yield (WP2013-28) was approved. A new branch code `CH` (per electric charge) will be used when the yields are given per a constant electric charge.

C23 When the beam energy is significantly decreased in the target material (*e.g.*, proton capture cross section measurements), the compiler should try to code appropriate expression of the incident energy (*e.g.*, incident energy at the entrance and exit of the sample material, mean energy with energy resolution) instead of the beam energy.

Software and Dissemination

C24 ZCHEX should be maintained and developed as a NRDC checking code that must be used by compilers.

C25 Compilers are encouraged to estimate errors in digitization following the procedure proposed in WP2013-30 to examine the accuracy of their digitization.

Actions

EXFOR General

A1	All	(Standing action) Give the highest priority to compilation of new articles.
A2	Semkova	Introduce a flag to EXFOR Compilation Control System to indicate articles which are published in conference proceedings and data are not available from the authors.
A3	Semkova	Send an alert message for each new journal issue to the centre responsible for scanning of the journal defined in Appendix B of the NRDC Protocol (Scanning Responsibility).
A4	Semkova	Consider revision of the NRDC Protocol Appendix B based on the capability of each centre.
A5	Semkova	(Continuing action) Add the first author name to the EXFOR Compilation Control System as time permits.
A6	All	(Continuing action) Correct erroneous entries listed on the EXFOR Feedback System on the NRDC web page according to the indicated priorities. All urgent corrections must be done by the next meeting.
A7	Centre Heads	(Continuing action) Nominate participants from the centre to the EXFOR working group coordinated by Zerkin, which will discuss the opportunity to use XML as a new exchange format.
A8	Otsuka Semkova	(Continuing action) Prepare a questionnaire about the usages of compilation tools, and send it to centres.

A9	All	(Continuing action) Respond to the questionnaire mentioned above.
A10	All	Send feedback to the NRDC paper presented at the ND2013 Conference (WP2013-08) to Otsuka by the end of May 2013.

Manuals and Dictionaries

A11	Centre Heads	(Continuing action) Send comments on the Network document to Otsuka by the end of December 2013 to prepare the next update to be reviewed and signed at the NRDC 2014 Meeting.
A12	Otsuka	(Continuing action) Update the Network document following the comments from Centre Heads.
A13	Otsuka	(Continuing action) Update the NRDC Protocol Appendix B (Scanning Responsibility) following the new scanning responsibilities of NNDC and CJD (Conclusion 4 and 5 of NRDC 2012).
A14	Otsuka	(Continuing action) Revise LEXFOR for (a) TOF covariance (WP2011-27); (b) new branch code `ISP` (WP2011-29); (c) specific temperatures for prompt fission neutron spectrum averaged quantities (WP2011-30); (d) compilation of prompt fission neutron quantities (WP2011-31); (e) nuclear resonance fluorescence (WP2012-11); (f) additional reference compiled in another entry (WP2012-12); (g) probability for *N* particles emission (WP2013-20); (h) heading of energy range for unresolved resonance parameters (WP2013-21); (i) resonance parameters for light-nuclei reaction (WP2013-24); (j) partial reaction, reaction product, isomeric state (WP2013-25=CP-D/781rev + CP-C/417 item 3); (k) independent and cumulative data (WP2013-26); (l) irradiation time (WP2013-27); (m) thick target production yield (WP2013-28).
A15	Otsuka	Consider a new LEXFOR chapter to keep selected recommendations from the Consultants Meeting on "Benchmarking of Digitization Software" (Report INDC(NDS)-0629).
A16	Otsuka	(Continuing action) Revise the EXFOR Formats Manual for (a) short nuclide codes in `REACTION` SF7 (WP2011-28); (b) the keyword `ERR-ANALYS` (Conclusion 15 of NRDC 2012); (c) the keyword `SAMPLE` (Conclusion 17 of NRDC 2012); (d) reaction products (WP2013-24).

A17	Otsuka	(Continuing action) Revise the NRDC Protocol according to the Conclusion 20 of NRDC 2012 (exchange of software and co-operation in software development) and Conclusion 7 of NRDC 2013(compilation of data in recent conference proceedings).
A18	Otsuka	(Continuing action) Consider revision of the NRDC Protocol for submission of transmission tapes specialized for corrections.
A19	Otsuka	(Continuing action) Update Dictionaries every four months.
A20	Otsuka	Add a new branch code `CRN` (correlation) to dictionary 31 (WP2013-22).
A21	Otsuka	Make the quantity code `PR,SIG` (prompt fission cross section) obsolete (WP2013-23).
A22	Otsuka	Add the new heading code `TIME-IRRD` to dictionary 24 (WP2013-27).
A23	Otsuka	Include the new modifier code `CH` (per electric charge) to dictionary 34 (WP2013-28).
A24	All	Provide feedback on the draft of EXFOR Formats manual on the new covariance format (WP2013-35) to Zerkin.
A25	Otsuka	(Continuing Action) Assess the correlation properties of uncertainties given under the heading `ERR-1`, `ERR-2` etc. in the existing entries.

CINDA

A26	Zerkin	(Continuing action) Periodically export EXFOR and NSR to CINDA.
A27	Zerkin	(Continuing action) Periodically update the CINDA Master File and distribute it to other Centres.

EXFOR Compilation

A28	Aikawa Pritychenko Taova	(Continuing action) Compile neutron source spectra listed in Table 2 of WP2013-11.
A29	Gritzay	Consider compilation of neutron spectra published in last 10 years.

A30	Hlavač	(Continuing action) Compile proton-induced reaction cross section in R.D. Albert *et al*., J, Phys. Rev. Lett. **6**(1961)13 (CP-D/717(Rev.2) = WP2012-18).
A31	Aikawa Babykina Dupont Pritychenko Takács	(Continuing action) Compile proton-induced isotope production cross sections listed in CP-D/725 (=WP2012-19). Notify Semkova if the assigned centre does not compile high energy (E > 1 GeV) data.
A32	Aikawa Babykina Dupont Lalremruata Pritychenko Semkova Taova	Compile light charged-particle induced isotope production cross sections listed in CP-D/757 (=WP2013-12). Notify Semkova if the assigned centre does not compile high energy (E > 1 GeV) data.
A33	Otsuka	Extract articles reporting reactions to be studied by the IAEA CRP on "Nuclear Data for Charged-particle Monitor Reactions and Medical Isotope Production Reactions" (INDC(NDS)-0630 Tables 1 to 5 = WP2013-13) from WP2012-19 and WP2013-12 for compilation with a priority.
A34	Dupont Otsuka Pritychenko	(Continuing action) Assess the articles reporting keV neutron capture cross section entries listed in WP2012-31, and add these articles with necessary revisions.
A35	Otsuka	Formulate completeness checking against the citation lists in S. Mughabghab's "Atlas of Neutron Resonances", and assign responsibility of the checking to four neutron centres.
A36	Dupont Mikhaylyukova Otsuka Pritychenko	Perform completeness checking described as above.
A37	Pritychenko Semkova	(Continuing action) Assess neutron cross section data useful for standard evaluation listed in WP2011-15, and compile them when appropriate.
A38	Dupont Taova	(Continuing action) Correct entries for data sets which are partial for secondary energies listed in CP-D/718 (=WP2012-22, also registered to the EXFOR Feedback System).
A39	Dupont Mikhaylyukova Pritychenko	(Continuing action) Correct entries using the keyword INC-SOURCE for spontaneous fission as listed in WP2012-35, and move information to another keyword or subentry when necessary.

A40	Aikawa Babykina	Resolve intra-centre duplication listed in CP-D/751 (= first table of WP2013-17).
A41	Aikawa Babykina Dupont Otsuka Pritychenko Taova	Resolve inter-centre duplication listed in CP-D/762 (= second table of WP2013-17).
A42	Babykina Dupont	Resolve the duplication pairs in entries listed in the item 3a of WP2013-17 and Memo CP-D/797.
A43	Otsuka	Summarize the duplication pairs in entries listed in the item 3b of WP2013-17.
A44	Mikhaylyukova	(Continuing action) Add English translation information of Atomnaya Energiya under the keyword `REFERENCE` as listed in WP2011-26 (also registered to the EXFOR Feedback System).
A45	Babykina Mikhaylyukova Taova	(Continuing action) Add English translation information of Yadernaya Fizika under the keyword `REFERENCE` as listed in WP2012-24 (also registered to the EXFOR Feedback System).
A46	Babykina Dupont Mikhaylyukova Otsuka Pritychenko Taova Varlamov	Add English translation information of Yadernye Konstanty under the keyword `REFERENCE` as listed in Tables 1 and 2 of CP-D/777(=WP2013-15, also registered to the EXFOR Feedback System). Also do it for Table 3 as time permits.
A47	Babykina	(Continuing action) Provide a list of English translation information of Russian journals (*e.g.*, Izvestiya Rossiiskoi Akademii Nauk, Seriya Fizicheskaya).
A48	Dupont	(Continuing action) Provide NDS a list of erroneous and suspicious outliers by using the new statistical approach being developed (WP2011-17, WP2013-19) when available.
A49	Dupont	(Continuing action) Provide JANIS–TRANS Checker Log list on every preliminary TRANS-file.
A50	Soppera	(Continuing action) Provide JANIS Import Log created from the EXFOR Master File to Otsuka on a regular basis.
A51	Otsuka	(Continuing action) Assess the JANIS Import Log provided by Soppera as above, and register important errors to the EXFOR Feedback System.

A52	All	(Continuing action) Revise remaining upper case entries and other necessary corrections as time permits (WP2012-20).
A53	All	(Continuing action) According to the list of Entries with NODATA one of the following corrections has to be made (see "Guide for EXFOR Compilers"): (a) restore numerical data from old EXFOR backup in retransmission if data were not superseded before in this Entry; (b) delete Subentry, or the whole Entry, if it is real duplication in reference and data, as well as adding a comment in HISTORY; (c) Add SPSDD under STATUS when it is applicable; (d) Digitize numerical data if the quality of the figures is enough for digitization, if SPSDD not applicable, and if the article was published more than 10 years ago; (e) add UNOBT and comment if it is impossible to digitize the data and the article was published more than 10 years ago; (f) try to find numerical data if the article was published less than 10 years ago.
A54	All	Provide feedback on (1) distinction between partial reaction and isomer production proposed in WP2013-25, and (2) the usage of branch codes for activation cross sections (*e.g.*, IND, CUM, M+, M-) proposed in WP2013-26 by the end of May 2013.
A55	Otsuka	Make final decision on Action 53.

Software and Dissemination

A56	Dupont	Provide a sample file of quality scores (WP2013-19) to Zerkin.
A57	Zerkin Dupont	Assess procedure for inclusion of the quality scores mentioned above to regular distribution with the EXFOR Master File.
A58	NEA DB	(Continuing action) Continue development and testing of the JANIS –TRANS Checker in cooperation with NDS and the other centres.
A59	All	(Continuing action) Provide feedback to NDS on the existing ZCHEX version (on bugs as well as desired additions.). Bugs must be reported with sample entries which are checked and not checked properly by ZCHEX.
A60	Zerkin	(Continuing action) Update ZCHEX based on comments from compilers (*e.g.*, WP2011-36) as time permits.
A61	Zerkin	(Continuing action) Continue development of the EXFOR upload web tool.
A62	Otsuka	(Continuing action) Provide EXFOR News for every EXFOR Master File.

A63	Zerkin	(Continuing action) Every four months produce an EXFOR distribution with (a) full Dictionary distribution; (b) EXFOR in C4 and XC4 format; (c) Dictionaries in MS Access; (d) X4Map and X4Archive.
A64	Zerkin	(Continuing action) Continue development of X4+ (interpreted / extended EXFOR format).
A65	All	(Continuing action) Consider to use the X4+ format for author approval, and also send feedback to Zerkin.
A66	Pikulina Zerkin	(Continuing action) Integrate the X4+ converter code into the EXFOR-Editor.
A67	Zerkin	Assess possibility for creation and distribution of a program package including a standalone platform independent program to generate X4+ from a standalone EXFOR entry.
A68	Zerkin	(Continuing action) Development of a new database encompassing correction factors and relevant comments for suspect/erroneous data (X4-evaluated) presented in WP2010-19; keep NRDC informed about conclusions of discussions on new database.
A69	Zerkin Pritychenko	Assess possibility of translation from EXFOR to NSR.
A70	Zerkin	(Continuing Action) Prepare coding of covariance data for all EXFOR Entries having authors' covariances, and offer them to compilers according to Areas for finalizing and submitting to the database.
A71	Zerkin	Distribute a list of data sets where repetition of value is detected in an independent variable.
A72	JCPRG	(Continuing Action) Continue development and testing of GSYS in cooperation with NDS and other centres.
A73	All	(Continuing Action) Provide JCPRG feedback on GSYS.
A74	Taova	Resolve too low relative (%) digitization error evaluated by InpGraph as recommended in INDC(NDS)-0629.
A75	CNPD	(Continuing Action) Continue development and testing of the EXFOR-Editor and InpGraph in cooperation with NDS and other data Centres, taking into account compilers' remarks.
A76	All	(Continuing Action) Provide CNPD feedback on EXFOR-Editor and InpGraph.