NEA Data Bank Progress Report 2019-2021

NRDC 2021, Virtual meeting

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Outline

- **NEA Data Bank**

- **EXFOR**

- **NEA GitLab page**

- **JANIS**

- **Other activities**

NEA Data Bank

▸ On 1st of January 2021, **Bulgaria** became the 34th member of the OECD Nuclear Energy Agency and the 28th member of its Data Bank

Argentina	Austria	Belgium
Bulgaria	Czech Republic	Denmark
Finland	France	Germany
Greece	Hungary	Italy
Japan	Korea	Mexico
Netherlands	Norway	Poland
Portugal	Romania	Russia
Slovak Republic	Slovenia	Spain
Sweden	Switzerland	Turkey
United Kingdom		

NEA Data Bank

‣ **Michael Fleming** is the new acting Head of the Data Bank

‣ The Data Bank has a staff of 9 working in three main areas: Computer Programme Services (CPS), Nuclear Data Services (NDS), and the Thermochemical Database Project (TDB)

‣ Due to COVID-19 NEA staff has been working remotely since March 2019

EXFOR

- Update and maintain the EXFOR database for data coming from DB countries
  - Neutron-induced data (Area 2)
  - Gamma- and charged-particle induced data (Area O)

- RO: **D. Foligno** with two IT support:
  - N. Soppera
  - M. Bossant

- Revise old entries, compile new articles

- Review the transmissions coming from other centers

- Propose MEMOS allowing the EXFOR format to include new quantities

Table 2: Detailed summary of the NEA DB transmissions to EXFOR since the last meeting in 2019, including both new and updated (sub)entries. Tranmissions listed as preliminary as of the drafting of this report are marked with a (*).

Year	Transmission	Entries	Subentries
2021	2299*	20	95
	2298*	10	36
	2297	12	93
	2296	62	311
	2295	25	145
	2294	35	294
	2293	10	61
	2292	8	54
	2291	47	286
	o083*	16	57
	o082	4	24
	o081	61	505
	o080	10	43
	o079	50	222
2020	2290	49	113
	2289	13	59
	2288	20	85
	2287	33	129
	2286	6	39
	2285	26	140
	2284	3	15
	2283	50	227
	o078	6	24
	o077	15	50
	o076	27	108
	o075	11	60
	o074	3	31
	o073	48	350
2019	2282	29	135
	2281	17	73
	2280	46	313
	2279	14	45
	2278	42	123
	2277	4	24
	o072	34	110
	o071	25	874
	o070	9	52
	o069	2	8
	o068	60	352
	o067	30	234

NEA DB transmissions

- NEA DB in-house statistics

Table 1: Summary of the NEA DB transmissions to EXFOR over the years 2008-present. Data marked with a (*) includes transmissions listed as preliminary as of the drafting of this report.

Year	Transmissions	Nb. of Trans.	Entries	Subentries
2021	o079-o083*, 2291-2299*	14*	370*	2226*
2020	o073-o078, 2283-2290	14	310	1430
2019	o065-o072, 2268-2282	23	632	4675
2018	o062-o064, 2260-2267	11	316	2099
2017	o059-o061, 2252-2259	11	360	2420
2016	o055-o058, 2243-2251	13	455	3944
2015	o053-o054, 2241-2242	4	155	1264
2014	o051-o052, 2236-2240	7	386	3246
2013	o050, 2231-2235	6	404	2558
2012	o046-o049, 2227-2230	8	384	2218
2011	o040-o045, 2222-2226	11	565	3295
2010	o040-o042, 2214-2222	12	355	2027
2009	o038-o039, 2204-2213	12	303	2222
2008	o034-o037, 2190-2203	18	450	3397

NEA DB transmissions

- More than **350 entries per year**
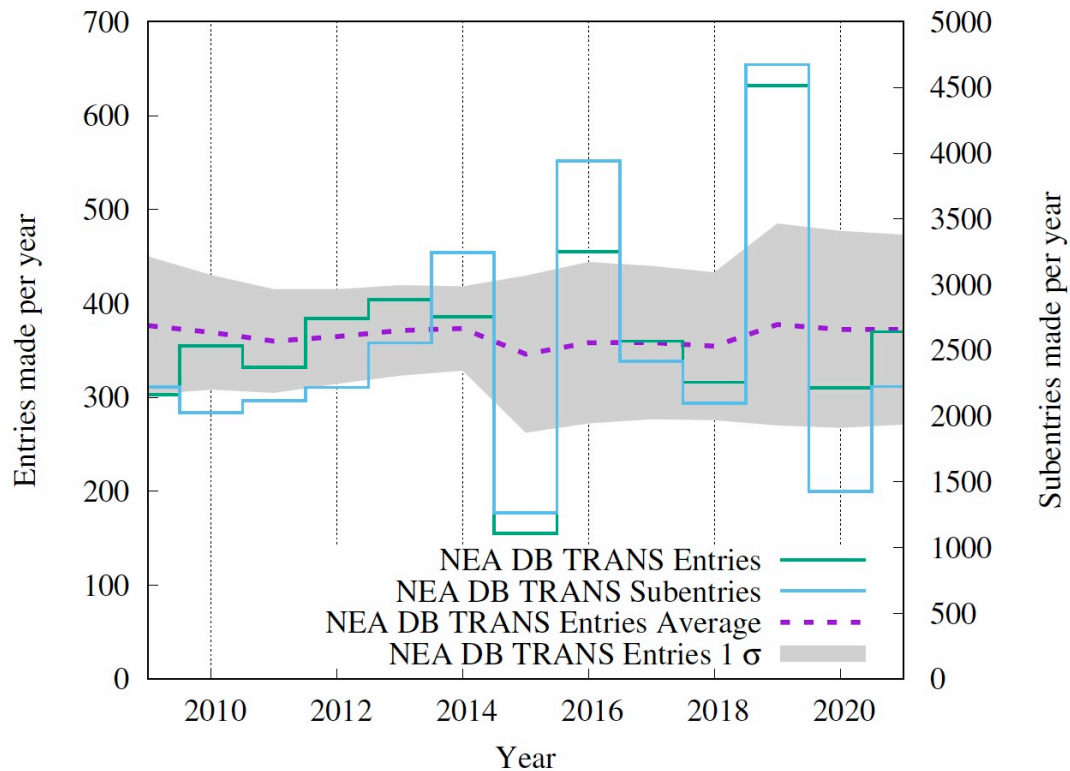
Figure 2: The total number of entries and subentries in NEA DB TRANS per year over the last decade. Note that 2021 figures include preliminary, unfinalised data in the IAEA-NDS open area as of April 2021.

CP-N Memos

- **19 MEMOS** proposed since the last meeting

Memo CP-N

OECD NEA Data Bank (NEA-DB)

disc:for discussion; m:to be in manual; M:added into manual; l:to be in error list; L:added into error list; a:to be in article list; A:added into article list; wd: withdrawn

No.	Type	kb	Date	Subject	Dict.	Remark
0168	pdf	58	2021-04-20	Dict. 236 (Quantities): TRS,POL/DA/DA/DE,*/*/*+*,ANA		-
0167	pdf	59	2021-03-08	Dict. 236 (Quantities): ISP/SEC,KE and ISP/PR/FRG,NU		-
0166	pdf	57	2021-02-01	Dict. 24 (Data headings): TKE-ERR-D		-
0165	pdf	58	2020-01-14	Dict. 236: DI,SIG,,SFC		-
0164	pdf	58	2020-01-11	Dict. 236 (Quantities): PRE/PR/FRG,NU		-
0163	pdf	60	2020-01-11	Dict. 236 (Quantities): PRV,AKE,*F; PRV,AKE,LF+HF; PRV,FY/DE,LF+HF;PRV,KE		-
0162rev	pdf	64	2021-01-08	Dictionary 236(Quantities) PAR,DA,*,RAB		-
0162	pdf	52	2020-12-14	(Superseded by Memo CP-N/0162(Rev.))		-
0161	pdf	53	2020-12-09	Dict. 5: JPS/CP, Dict. 24: KT-DUM-ERR, and Dict. 236: ,ALF,,TTA		-
0160	pdf	112	2020-10-28	Dictionary 236 (Quantities): PR,DA/DE,N - obsolete	9123	-
0159	pdf	69	2020-08-24	NEANDC(OR)-140 references	-	L
0158	pdf	54	2020-07-31	Dictionary 236 (Quantities): (SEC),ZP	9123	-
0157	pdf	54	2020-07-30	Dictionary 236 (Quantities): ISP/IND,FY	9123	-
0156	pdf	345	2020-06-23	New WPEC Subgroup 50	-	-
0155	pdf	54	2020-05-26	Dictionary 236 (Quantities): E-EXC-RES	9122	-
0154	pdf	54	2020-04-15	Dictionary 236 (Quantities): CHG,SIG	wd	-
0153	pdf	72	2019-06-03	Dictionary 007 (Conferences): 2017ATTICA	9120	-
0152	pdf	53	2019-04-23	Dictionary 24 (Data Headings): MOM-TR-CM	9120	-
0151	pdf	53	2019-04-23	Dictionary 236 (Quantities): CUM,PY,,TT	9122	-

NEA DB GitLab page

- More efficient GitLab page in support of EXFOR activities

NEA DB GitLab page

- Global view of the status of the files

Nb of ongoing prelims

Step in the review process

Prelim name

Person responsible of the step

Deadline

NEA DB GitLab page

- Easier communication, version control

Other activities - JEFF

- JEFF-4T0 was released in November 2020, and it is still under development

- JEFF-4 is foreseen for 2024

- New evaluations include U^{235}, $Pu^{238-240,242}$, O^{16}, Rh^{103}, Am^{241}, $Gd^{155-158,160}$, $W^{180,182-186}$, Tc^{99}, $Ag^{197-109}$, $Eu^{151,153-155}$, $Lu^{173,175-176}$,

- The JEFF Nuclear Data Week was held 27-30 April 2021

- A new Task Force on burn-up simulations for nuclear data validation has been launched

JANIS-4.1 (September 2020)

- First release after **7 years**

- New functionalities:
  - drag & drop files over JANIS window
  - display covariances (MF31, MF40)
  - visualization improvements
  - ...

- Improved functionalities:
  - shorter paths to EXFOR data
  - plot zoom with mouse wheel
  - ...

- For more information, visit
  https://www.oecd-nea.org/janis
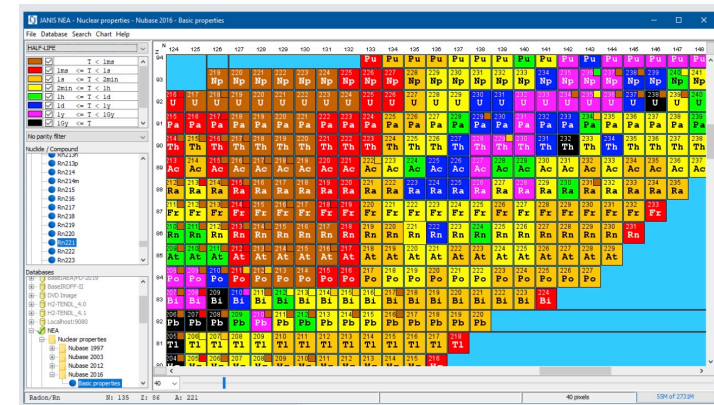
Other activities - WPEC (NSC)
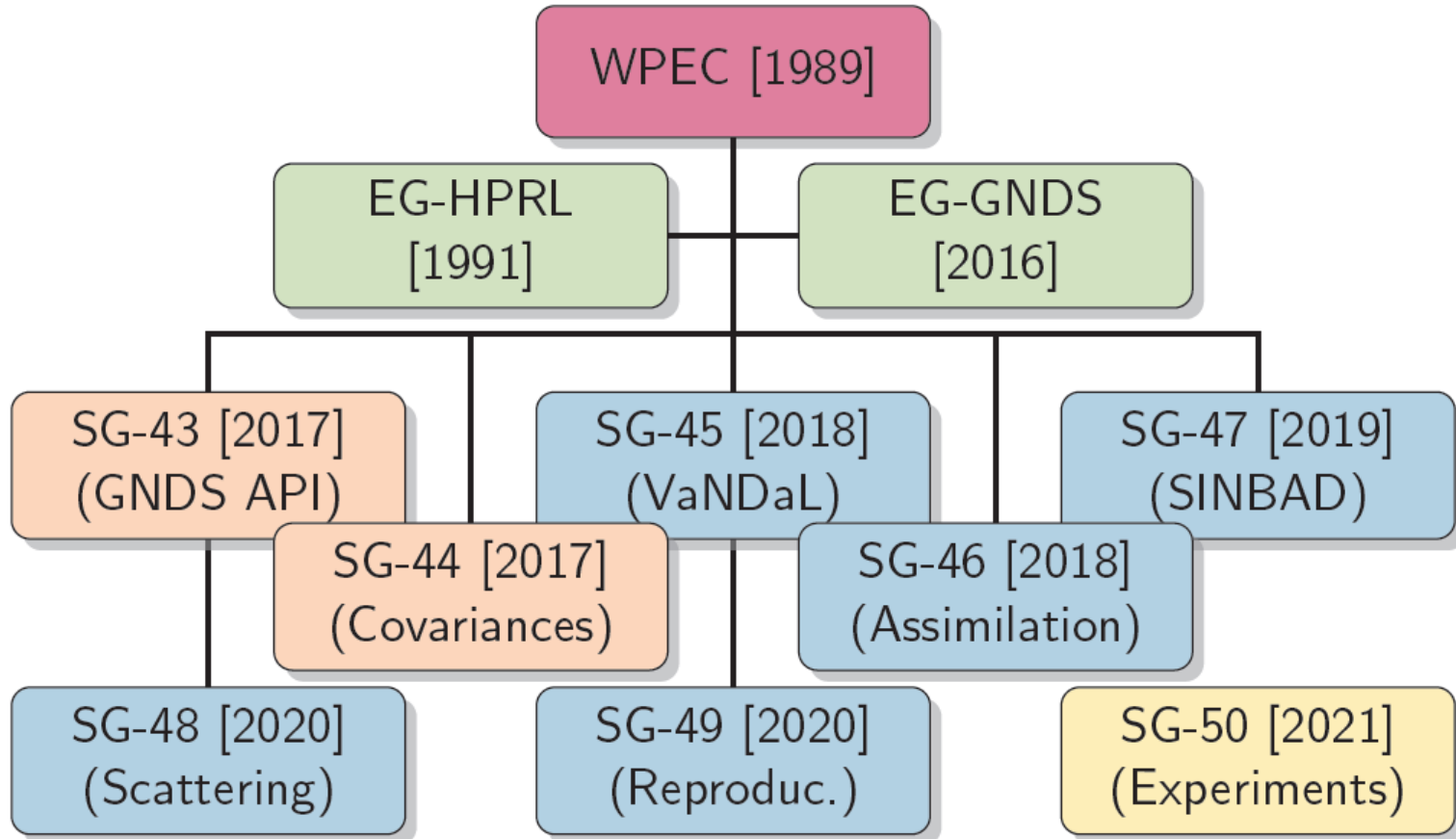
Other activities - WPEC (NSC)

EG-GNDS: Generalized Nuclear Data Structure

Obj: To create and maintain a modern international standard for the storage of nuclear data

SG48: Thermal Scattering

Obj: To advance the state-of-the-art in thermal scattering evaluated data, processing and validation

C [1989]

EG-GNDS [2016]
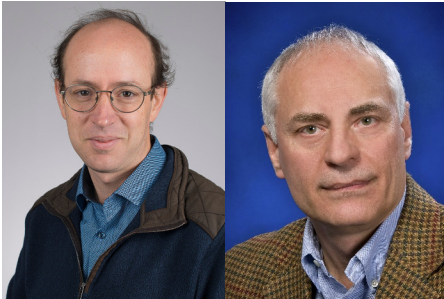
(Covariances)

SG-48 [2020] (Scattering)

SG-49 (Repr

Other activities - WPEC (NSC)

SG49: Reproducibility
Obj: Enable reproducibility in evaluation by documenting the processes and developing tools to store knowledge

SG50: Experimental Database
Obj: To develop derived databases from EXFOR that incorporate unofficial corrections and evaluator judgement

SG-48 [2020] (Scattering)

SG-49 [2020] (Reproduc.)

SG-50 [2021] (Experiments)

Thank you for your attention