

CODING OF NUCLEAR REACTIONS UNDER THE EXFOR RULES

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G. Pikulina, S.Taova

CNPД, Russian Federal Nuclear Center – VNIIEF,

Sarov, Russia

A85	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.
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CORRECTION OF BUGS



IMPLEMENTAION OF MODIFICATIONS

VNIIEF CNPD

Codes ZCHEX, ZORDER and EXFOR-Converter System by V.Zerkin, IAEA/NDS are used
Code JANIS Trans Checker by N.Soppera, NEA DB is used

EXFOR Editor

Compilation into database EXFOR

Version 3.1

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G.Pikulina, S.Taova,
S.Dunaeva

THANKS FOR USE OF EXFOR Editor

Thanks to NRDC community for proposals and testing

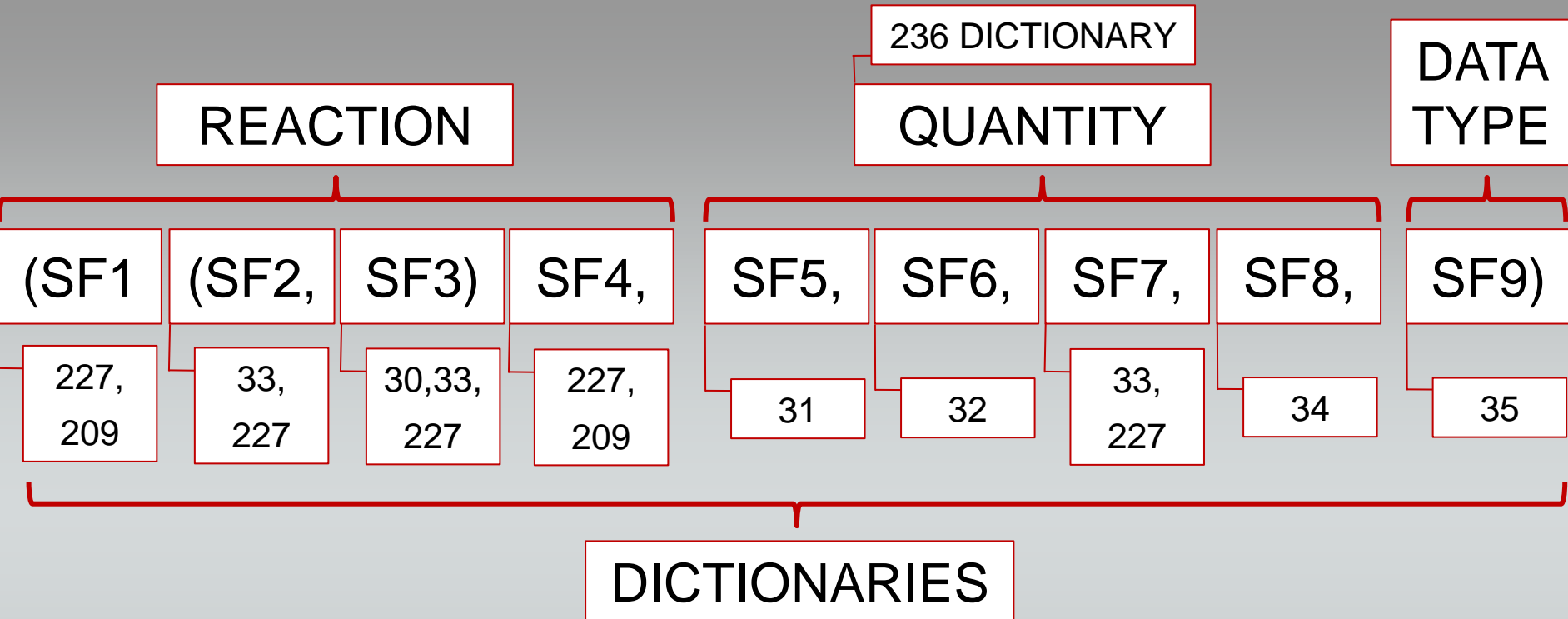
OBJECTIVE – Improvement of interface to be easier and friendlier

**USERS'
FEEDBACKS**



**OWN COMPILING
EXPERIENCE**

PRIMARY TASK – Simplification of the window for the **REACTION** input because of its importance for compiling process



CHALLENGING TASK – to know the essence of nuclear physics process and to code nine subfields using ten EXFOR dictionaries

Mark to use pointer

Input or select values from list

Add or delete reaction record

The screenshot shows the 'REACTION Input (New)' window. At the top, there's a title bar and a 'REACTION' header. Below that is a table with columns: Target SF1, Incident Projectile SF2, Process SF3, Product SF4, Branch SF5, Parameters SF6, Particle Cond. SF7, Modifiers SF8, and Data Code SF9. A 'Pointer' checkbox is on the left. The table contains three rows of reaction data. To the right of the table are 'Add String' and 'Delete String' buttons. At the bottom left, there's a 'Keyword Input Option' section with radio buttons for 'Cursor Position', 'End of File', 'Current SUBENTRY', and 'SUBENTRY:001'. At the bottom center are 'OK', 'Cancel', 'Help', and 'EXFOR-Help' buttons.

Input pointer or separator

Input separator

The screenshot shows the 'REACTION Input' window. At the top, there is a text editor containing the reaction code '(13-AL-27 (G, P) 12-MG-26, , DA/DE)'. Below this, there are 'Compress' and 'Clear' buttons. A 'Pointer' field is set to '1' with an 'Add' button next to it. The main area contains a list of reaction parameters: Target nucleus (SF1: AL-27), Incident Particle (SF2: G - Gammas), Process (SF3: P - Protons), Product (SF4: MG-26), Branch (SF5:), Parameters (SF6:), Particle Considered (SF7:), Modifiers (SF8:), Quantity Code (SF5-8: ,DA/DE - Double diff.cross), and Data Code (SF9:). To the right of these fields are 'Add' buttons and a 'New Record' button. At the bottom, there are 'OK', 'Cancel', 'Help', and 'EXFOR-Help' buttons. A 'Keyword Input Option' section is visible at the bottom left.

Text editor

Mark to use pointer

ADOPTED

Input code or select from list

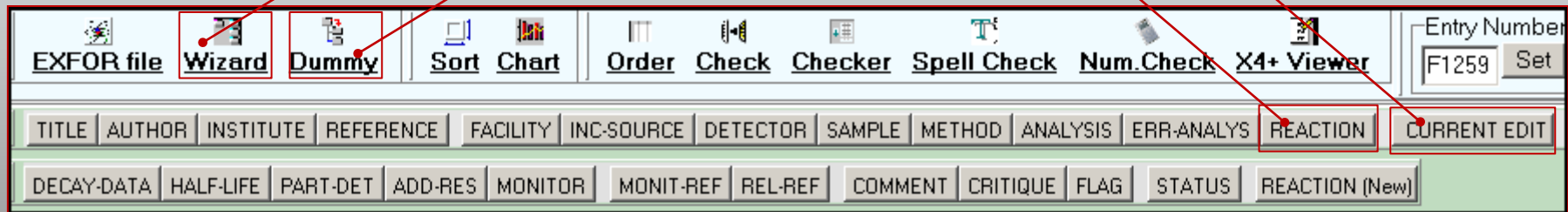
Additional search

Add code to the REACTION record

WHY 2-ND VERSION:

- It has familiar view and traditional options
- It is more convenient and more flexible for information input and search
- It doesn't include supplementary functions and keeps the required ones only

Click to use 2-nd version of the REACTION window



Click to use 1-st version of the REACTION window just for testing

The screenshot shows a software interface with a menu bar and a grid of buttons. The menu bar includes: EXFOR file, Wizard, Dummy, Sort, Chart, Order, Check, Checker, Spell Check, Num.Check, and X4+ Viewer. To the right of the menu bar is an 'Entry Number' field containing 'F1259' and a 'Set' button. Below the menu bar is a grid of buttons: TITLE, AUTHOR, INSTITUTE, REFERENCE, FACILITY, INC-SOURCE, DETECTOR, SAMPLE, METHOD, ANALYSIS, ERR-ANALYS, REACTION, and CURRENT EDIT. The bottom row of buttons includes: DECAY-DATA, HALF-LIFE, PART-DET, ADD-RES, MONITOR, MONIT-REF, REL-REF, COMMENT, CRITIQUE, FLAG, STATUS, and REACTION (New). The 'REACTION (New)' button is highlighted with a red box, and a red arrow points from the instruction box above to it.

■ Processing of floating point data with an exponent of Fortran specific (with additional spaces or with missed symbol 'E') is available now in the Data Table mode

NOCOMMON		0	0		
DATA		4	5		
E-LVL	E-LVL	DATA	DATA-ERR		
MEV	MEV	B	PER-CENT		
8.4600E-01		2.69-01	1.00+01		
2.0840E+00		1.12 -01	1.00 +01		
2.6540E+00		1.27 E-01	1.00 E+01		
2.9570E+00	2.9390E+00	1.11 E-01	1.00 E+01		
3.1220E+00	3.1190E+00	8.50 E-02	1.00 E+01		
ENDDATA		7			
ENDSUBENT		16			

Data Table [Window Title]

Selected Column: 1 | Selected Row: 2

	E-LVL	E-LVL	DATA	DATA-ERR
	MEV	MEV	B	PER-CENT
1	8.4600E-01		2.69-E01	1.00+E01
2	2.0840E+00		1.12E-01	1.00E+01
3	2.6540E+00		1.27E-01	1.00E+01
4	2.9570E+00	2.9390E+00	1.11E-01	1.00E+01
5	3.1220E+00	3.1190E+00	8.50E-02	1.00E+01

Current Subentry
20040002

DATA

Import Sort
Paste Chart
Clear Check

Column

Add Insert
Copy Delete
Rename

- Modified treatment of structure tree of the opened EXOR file is implemented: now clicking on the editor field of the main window opens the corresponding item of the structure tree

SUBENT	C	20040003	20170421
BIB		3	4
REACTION		(26-Fe-0 (N, INI) 26 Fe 0, PAR	
HISTORY		(20170421A) SD: SF4=Fe-0 wa	
		PART-DET moved to Subent 00	
ENDBIB		4	

Corresponding item is selected automatically

Click on text

■ Number of subentries in the regime of new EXFOR file creation with the help of pattern is in the range from 2 up to 999 according to the EXFOR rules

New EXFOR File

ENTRY: F1111 Number of Subentries: 999

CREATE Cancel Help

SUBENTRY 1 Contents

BIB Section:

TITLE FACILITY MONITOR PART-DET
 AUTHOR SAMPLE INC-SOURCE HALF-LIFE
 INSTITUTE DETECTOR ANALYSIS COMMENT
 REFERENCE METHOD ERR-ANALYS CRITIQUE

COMMON Section:

Active
Column Number: 1

Other SUBENTRIES Contents

BIB section:

REACTION ADD-RES
 SAMPLE PART-DET
 DETECTOR HALF-LIFE
 FLAG CORRECTION
 ERR-ANALYS COMMENT
 STATUS CRITIQUE

COMMON Section:

Active
Column Number: 1

DATA Section:

Active
Column Number: 1
Row Number: 1

ENDSUBENT				
SUBENT	F1111997			
ENDSUBENT				
SUBENT	F1111998			
ENDSUBENT				
SUBENT	F1111999	20170518		
BIB				
REACTION				

- The last version of the EXFOR dictionaries (2017.04.26) in the ACCESS format by Victor Zerkin
- The ZCHEX code with the updated dictionaries by Victor Zerkin
- The Janis Trans Checker Code with the updated dictionaries by Nicolas Soppera



THANK YOU!