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To : Distribution

From : Isabelle Forest

Subject : Dictionary update pages

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F4.12.1

Please find attached update pages for the CINDA coding manual.

Yours sincerely,

Forest

Isabelle Forest

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INFORMATION
85 08 05
ACKNOWLEDGEMENT

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BRIEF GUIDE TO CODING

TARGET columns 1 - 5

Z	columns 1 - 2	Single element specification.
A	columns 3 - 5	Single isotopes and mono-isotopic elements. Leave blank for natural multi-isotope elements.

Alternative Codes

CMP	columns 3 - 5	Chemical compounds other than those with special codes. Enter Z of principal element.
MANY	columns 1 - 4	References with many target elements
FPROD	columns 1 - 5	Unseparated fission products.

The element specification is the chemical symbol. D and T are used for deuterium and tritium respectively. (NEADB also accepts the symbol H for all hydrogen isotopes and compounds). The target isotope should be coded even when the reference is to properties of the compound nucleus (resonance parameters, fission barriers, capture gamma spectra).

CROSS SECTION columns 6 - 8

Coded information on reaction type and measured property. See Section III.1 for a list of codes. Follow the convention of least Z for light particle products.

LABORATORY columns 9 - 11

Enter the code for the laboratory of the principal authors; See Section II.3 for ambiguous cases.

BLOCK NUMBER columns 12 - 14

Leave blank for new entries unless you wish two or more entries to be blocked together : Section II.4.

READER column 15

Enter your Reader number or letter.

OPERATION column 16

BLANK	Entries for work in other service areas
A	New entries in the reader's service area
B	To block a new entry with existing entries
M	To modify an existing entry
D	To delete an existing entry
L	To link two blocks together
K	To destroy an existing block.

HIERARCHY column 17

Enter either the alphabetic or numeric code. The usual choice is a blank or 3.

Alphabetic	Numeric	
M	1	Main references - definitive publications
T	4	Translations
N	5	Progres reports, abstracts, etc., not to appear in the book after blocking with a complete report.
D	6	Data index entries.

WORKTYPE column 18

D	Evaluations
C	Compilations
E	Experimental measurements
T	Theoretical calculations
M	Mixtures of experimental and theoretical work.

TARGET

Format

Columns 1 - 2	Chemical symbol of the target element, left adjusted for single letter symbols.
Columns 3 - 5	Isotope mass number, right adjusted with leading zeros. (NEADB also accepts leading blanks) Leave blank for natural elements containing a mixture of isotopes. (NEADB also accepts zeros with or without leading blanks).

Coding rules

1. Single isotopes

Experiments and calculations giving information for specific isotopes, either using isotopically enriched targets, or by identification of isotopes from the reactions themselves, should be coded with the specific isotope numbers.

Monoisotopic and nearly monoisotopic elements should be coded with the appropriate isotope number. A list of elements in this category is given below.

Inclusion of an element in this list implies that an experiment using a natural element target will only yield useful information about neutron reactions with the dominant element.

Examples

Isotope	Code
Al-27	AL027
W-186	W 186

4. Hydrogen Isotopes

Deuterium and tritium isotopes or compounds are specified by the chemical symbols D and T respectively. NEADB also accepts the symbol H for all hydrogen isotopes and compounds.
N.B. The symbols D and T are not valid for exchange format.

5. Inverse reactions

In some cases the principle of detailed balance allows the cross-section of an inverse neutron-induced reaction to be calculated. However it is not usually possible to extract useful information unless an absolute value is given of the cross-section leading directly to the ground state of a stable product nucleus. If useful information can be deduced about a neutron-induced reaction, enter the work under this reaction with the word INVERSE (or INV.) immediately after the author's name in the comment.

6. Gamma-induced reactions

Photo-neutron production (for some light nuclei) and photo-fission are an exception to the rule on coding inverse reactions. Enter the target nucleus. See Section II.2 for restrictions on this type of entry.

7. Compound nucleus properties

Entries should be coded under the target nucleus (i.e. the compound nucleus less one neutron). This is particularly important for Resonance parameters, capture gamma spectra. Level density information is an exception and should be coded under the nucleus for which the level density is given.

8. Spontaneous Fission

For spontaneous fission, enter the isotope concerned (this is an exception to the convention on entering targets).

11. Chemical compounds

Properties of chemical compounds are entered under the principal element (columns 1 - 2) followed by either a specific chemical code or the code CMP (columns 3 - 5) for compounds not in the following list. The internal sortcode defines the order in which compounds appear in the CINDA book. The sortcode of CMP is 415.

CODE	SORTCODE	COMPOUND
H BNZ	401	Benzene (C6H6)
H CXX	403	Organic compounds other than BNZ, MTH, PFN, PHL, PLE
H MTH	405	Methane (CH_4)
H PFN	407	Paraffin (= kerosene)
H PHL	409	Phenyl (di-, ter- poly-)
H PLE	411	Polyethylene
H WTR	413	Water (H_2O), ice, steam
D DXX	435	Deuterium compounds except D2O and Zr-deuteride. Includes mixed H-D compounds. D CMP is not permitted.
D D2O	437	Heavy water, D2O and HDO
T TXX	445	Tritium compounds except Zr-tritide. T CMP is not permitted. Includes mixed H-T and D-T compounds.
BEOXI	417	Beryllium oxide
N AIR	419	Air
N AMM	421	Ammonia compounds
SIOXI	417	Silicon oxide (glass, mica)
ZRHYD	423	Zirconium hydride (+ deuteride and tritide)
U OXI	417	Uranium oxide

For compounds not in this list, the choice of principal element should be the element of greatest interest to reactor or solid-state physicists, or that responsible for the major component of the measured quantity. If important information is lost in making such a choice, separate entries can be made for each important element, but such multiple entries should be avoided.

The name or formula of the compound should always be given as fully as possible in the comment field (in parentheses).

REACTION QUANTITY

Format

Columns 6 - 8 code for reaction quantity measured or calculated. Left adjusted for two letter codes. The internal sortcode defines the order in which reactions are listed in the CINDA book.

Neutron nuclear scattering

SEL	5	Elastic
DEL	7	Differential elastic
POL	9	Polarization
POT	11	Potential
SIN	13	Total inelastic
DIN	15	Differential inelastic
SCT	19	Elastic + inelastic

Neutron production

N2N	39	(n,2n)
NXN	41	(n,3n)(n,4n)...
NEM	43	Neutron emission

Gamma ray production

NG	29	(n,γ)
RIG	31	Capture reson. integral
SNG	33	(n,γ) gamma spectrum
DNG	35	Inelastic γ
NEG	37	Nonelastic γ

Charged particle production

NP	45	(n,p)
NNP	47	(n,np)
PEM	48	Proton emission
ND	49	(n,d)
NND	51	(n,nd)
DEM	52	Deuteron emission
NT	53	(n,t)
NNT	55	(n,nt)
TEM	56	Triton emission
NHE	57	(n,He3)
NA	59	(n,α)
NNA	61	(n,nα)
AEM	62	Alpha emission

Fission

NF	63	Fission
RIF	65	Fission resonance integral
ALF	67	Alpha
ETA	69	Eta
NU	71	Nu
NUD	73	Delayed neutrons
NUF	75	Fragment neutrons
SFN	77	Fission neutron spectrum
SFG	79	Fission γ spectrum
FPG	81	Fission product γ
FPB	82	Fission product β
NFY	83	Fragment yield
FRS	85	Fragment energy distribution
CHG	87	Fragment charge distribution

Aggregate cross sections

TOT	3	Total
SNE	21	Nonelastic
ABS	23	Absorption
RIA	25	Absorption resonance integral

Resonance parameters

RES	89	Resonance parameters
STF	91	Strength function
LDL	93	Level density

Gamma-induced reactions

GF	95	Photo fission
GN	97	(γ,n)

Special quantities

EVL	1	Evaluation (used in addition to other specific quantities)
TSL	17	Thermal scattering

	Reaction	Threshold (MeV)	CINDA Entry 1 2 3 4 5 6 7 8	Notes
Z=1	H-1(n,γ)D-2	0.	H 0 0 1 N G	(Where NG is
	D-2(n,γ)T-3	0	D 0 0 2 N G	permitted, SNG
	D-2(n,2n p)	3.34	D 0 0 2 N 2 N	and RIG are of
	T-3(n,2n d)	8.35	T 0 0 3 N 2 N	course accepted
	T-3(n,3n p)	11.31	T 0 0 3 N X N	too.).
Z=2	He-3(n,γ)He-4	0	H E 0 0 3 N G	
	He-3(n,p t)	0	H E 0 0 3 N P	
	He-3(n,2d)	4.35	H E 0 0 3 N D	
	He-3(n,n p d)	7.32	H E 0 0 3 N N P	
	He-3(n,2n 2p)	14.	H E 0 0 3 N 2 N	
	He-4((n,d t)	21.97	H E 0 0 4 N D	
	He-4(n,n p t)	24.76	H E 0 0 4 N N P	
	He-4(n,2n)He-3	25.72	H E 0 0 4 N 2 N	
	He-4(n,n 2d)	29.80	H E 0 0 4 N N D	
Z=3	Li-6(n,γ)Li-7	0	L I 0 0 6 N G	
	Li-6(n,t α)	0	L I 0 0 6 N T ←	More usually, the
	Li-6(n,n d α)	1.71	L I 0 0 6 N N D	alpha particle is
	Li-6(n,p)He-6	3.19	L I 0 0 6 N P	observed. If so,
	Li-6(n,2n p α)	5.43	L I 0 0 6 N 2 N	mention it in the
	Li-6(n,n t)He-3	18.42	L I 0 0 6 N N T	comment field.
	Li-7(n,γ)Li-8	0.	L I 0 0 7 N G	
	Li-7(n,n t α)	2.81	L I 0 0 7 N N T	
	Li-7(n,2n)Li-6	8.29	L I 0 0 7 N 2 N	
	Li-7(n,d)He-6	8.87	L I 0 0 7 N D	
	Li-7(n,2n d α)	11.06	L I 0 0 7 N 2 N	
	Li-7(n,n p)He-6	11.41	L I 0 0 7 N N P	
	Li-7(n,3n p α)	14.76	L I 0 0 7 N X N	

	Reaction	Threshold (MeV)	CINDA Entry 1 2 3 4 5 6 7 8	Notes
Z=4	Be-9(n,γ)Be-10	0	B E 0 0 9 N G	
	Be-9(n,α)He-6	0.67	B E 0 0 9 N A	
	Be-9(n,2n 2α)	1.85	B E 0 0 9 N 2 A	
	Be-9(n,t)Li-7	11.59	B E 0 0 9 N T	
	Be-9(n,p)Li-9	14.74	B E 0 0 9 N P	
	Be-9(n,d)Li-8	16.28	B E 0 0 9 N D	
	Be-9(n,n d)Li-7	18.54	B E 0 0 9 N N D	
	Be-9(n,n p)Li-8	18.76	B E 0 0 9 N N P	
	Be-9(n,n t)Li-6	19.66	B E 0 0 9 N N T	
	Be-9(n,3 n)Be-7	22.85	B E 0 0 9 N X N	
	Be-9(n,n He-3)He-6	23.54	B E 0 0 9 N H E	(No separate quantity exists for n,nHe).
Z=5	B-10(n,γ)B-11	0	B 0 1 0 N G	
	B-10(n,p)Be-10	0	B 0 1 0 N P	
	B-10(n,t 2α)	0	B 0 1 0 N T	Via Be-8, Li-7**, or 3 particle break up to ground state and 1st excited state; the 2nd excited state decays to t+α.
	B-10(n,α)Li-7	0	B 0 1 0 N A	
	B-10(n,d)Be-9	4.79	B 0 1 0 N D	
	B-10(n,n α)Li-6	4.90	B 0 1 0 N N A	
	B-10(n,n d 2α)	6.62	B 0 1 0 N N D	
	B-10(n,n p)Be-9	7.24	B 0 1 0 N N P	
	B-10(n,2n p 2α)	9.28	B 0 1 0 N 2 N	
	B-10(n,He-3)Li-8	17.32	B 0 1 0 N H E	
	B-10(n,n He-3)Li-7	19.56	B 0 1 0 N H E	(No separate quantity for n,nHe-3)
	B-10(n,n t)Be-7	20.54	B 0 1 0 N N T	
	B-10(n,3n)B-8	29.72	B 0 1 0 N X N	
	B-11(n,α)Li-8	7.23	B 0 1 1 N A	
	B-11(n,n α)Li-7	9.44	B 0 1 1 N N A	
	B-11(n,d)Be-10	9.82	B 0 1 1 N D	
	B-11(n,t)Be-9	10.42	B 0 1 1 N T	
	B-11(n,p)Be-11	11.70	B 0 1 1 N P	
	B-11(n,n p)Be-10	12.25	B 0 1 1 N N P	
	B-11(n,n t 2α)	12.25	B 0 1 1 N N T	
	B-11(n,2n)B-10	12.50	B 0 1 1 N 2 N	
	B-11(n,n d)Be-9	17.25	B 0 1 1 N N D	
	B-11(n,3n p 2α)	21.70	B 0 1 1 N X N	
	B-11(n,He-3)Li-9	25.73	B 0 1 1 N H E	
	B-11(n,n He-3)Li-8	29.68	B 0 1 1 N H E	(No separate quantity for n,nHe-3).

	Reaction	Threshold (MeV)	CINDA Entry 1 2 3 4 5 6 7 8	Notes
Z=6	C-12(n,γ)C-13	0.	C 0 1 2 N G	Carbon is a "nearly
	C-12(n,α)Be-9	6.17	C 0 1 2 N A	monoisotopic" element;
	C-12(n,n 3α)	7.98	C 0 1 2 N N A	input programs will not
	C-12(n,p)B-12	13.63	C 0 1 2 N P	accept a natural 'C'
	C-12(n,d)B-11	14.87	C 0 1 2 N D	target.
	C-12(n,n p)B-11	17.29	C 0 1 2 N N P	
	C-12(n,t)B-10	20.50	C 0 1 2 N T	
	C-12(n,2n)C-11	20.28	C 0 1 2 N 2 N	
	C-12(N,He-3)Be-10	21.09	C 0 1 2 N H E	
	C-12(n,n He-3)Be-9	28.47	C 0 1 2 N H E	
	C-12(n,n d)B-10	27.28	C 0 1 2 N N D	
	C-12(n,n p t 2α)	29.65	C 0 1 2 N N T	Not NNP.
	C-12(n,3n)C-10	34.47	C 0 1 2 N X N	

Note At one time, reactions with incident neutron energies >20 MeV were excluded from CINDA. This arbitrary limit has now been dropped, but there are still very few entries for neutron energies above 15 MeV.

Forbidden ZAQ Combinations

In addition to fission quantities, the following combinations are forbidden for Z 6 :

H 001	ABS	T 003	AEM	LI 006	NA
	AEM		NA		ND
	DEM		ND		NHE
	DIN		NHE		NNA
	DNG		NNA		NNP
	GN		NND		NXN
	NA		NNP		
	ND		NNT		
	NEG		NP	LI 007	NA
	NEM		NT		NHE
	NHE		TEM		NNA
	NNA				NND
	NND				NP
	NNP	HE 003	AEM		NT
	NNT		NA		
	NP		NHE		
	NT		NNA	BE 009	NNA
	NXN		NND		
	N2N		NNT		
	PEM		NT		
	RIA		NXN		
	SCT				
	SIN				
	SNE	HE 004	AEM		
	TEM		NA		
			NHE		
			NNA		
D 002	AEM		NNT		
	DEM		NP		
	NA		NT		
	ND		NXN		
	NHE				
	NNA				
	NND	LI	NA		
	NNP		ND		
	NNT		NHE		
	NP		NNA		
	NT		NND		
	NXN		NT		
	TEM				

Reaction (Goldstein notation)	Code	Expansion in CINDA book
	NP	(n,p)
$\sigma_{n,p}(E)$	NNP	(n,np)
	PEM	(n,x+p)
	ND	(n,d)
$\sigma_{n,p}(E,\theta)$	NND	(n,nd)
etc...	DEM	(n,x+d)
	NT	(n,t)
	NNT	(n,nt)
$\sigma_{n,np}(E)$	TEM	(n,x+t)
	NHE	(n,He3)
	NA	(n,α)
$\sigma_{n,np}(E,\theta)$	NNA	(n,nα)
etc...	AEM	(n,x+α)

Charged particle production

These quantities cover all total and partial cross-sections, angular and energy distributions, prompt gamma rays following these reactions, etc. It is important to specify more more exactly in the comment what was measured, even if it is simply the total cross-section for that reaction.

Note 1 : If two or more neutrons are emitted, use N2N or NXN.

Note 2 : Production of a given charged particle may be due to, say, (n,p)+(n,np). In this case, make entries for both quantities.

Note 3 : If observed, (n,nHe-3) is coded as (n,He3).

NEADB block number assignment

When a new lab-ZAQ combination is created, the block number 150 is assigned. When a new block is added to an existing lab-ZAQ combination, the block number is the last assigned number plus one.

If an entire block is deleted (by delete, link or kill command) the block number is not reassigned.

READER CODE

Format

Column 15 — An alphabetic or numeric code identifying the reader, or group of readers preparing CINDA entries

LIST OF NDB CINDA READER CODES

Code	Reader	Country
'5'	H. Bruneder	Austria
'B'	F. Poortmans	Belgium
'6'	F. Højerup	Denmark
'E'	A. Paulsen	Euratom
'F'	F. Wasastjerna	Finland
'Y'	H. Derrien	France
'Z'	H. Behrens	Germany
'4'	A. Ventura	Italy
'N'	T. Nakagawa	Japan
'('	H. Gruppelaar	Netherlands
'3'	I.L. Wood	Norway
'L'	F. Manero	Spain
'9'	E. Ramström	Sweden
'S'	K. Jänker	Switzerland
'W'	M.F. James	United Kingdom

Operation 'D' (CINDA Centres only)

A deletion command must specify the KEY of the entry, the reader symbol of the person making the deletion, and operation 'D'. The KEY contains some redundant information (the entry could logically be specified by its serial number only) which means that the operation will probably be rejected automatically in case of a punching error, instead of deleting the wrong entry.

Format for deletion of entries

Columns	1- 5	Z and A, or compound code	KEY
	6- 8	Quantity code	
	9-11	Laboratory code	
	12-14	Block number	
	15	Symbol of reader making the deletion	
	16	Operation code 'D'	
	19-26	Serial number, with leading zeros, in the form '00576928'.	

Operation 'K' (CINDA Centres only)

Format for deletion of blocks

Columns	1-14	Block key (Z,A,Q,Lab,Block No. as above)
	15	Reader symbol
	16	Operation code 'K'
	19-20	'00' (zeros)
	21-26	Serial No. of any entry in the block.
	28-31	'KILL'

All entries with that block key will be deleted.

Operation 'L' (CINDA Centres only)

The block number assigned to a particular CINDA entry can be changed only by deletion of the entry, followed by addition of a similar entry with the new block number. It is possible to save the reader from the need to transcribe a number of entries in order to carry out this operation, if the necessary "dummy" operations on individual entries are generated by the input program.

The result of the LINK operation is to merge block X into block Y. Block X disappears (is 'KILLed') and copies of the entries within it are added to block Y, with new serial numbers, by a succession of operations 'B' on these individual copy entries. The "first" entry of block Y will be the first entry of the combined block : if block X contains any entry with hierarchy '1' = 'Main", this value will be set to '2' in Y.

Format for Linking Two Blocks

Columns	1-11	Z,A,Q, Lab common to both blocks
	12-14	Block No. of X (block to be deleted)
	15-16	Reader symbol, code 'L' for 'LINK'
	19-21	'00' (zeros)
	19-26	Serial No. of any entry in block X
	28-31	The word 'LINK'
	42-44	Block No. of Y (block to enlarged) in the Reference 'DATE' field
optional	(45,46-53)	(N, M, T or D; serial Nos. To change the hierarchy
	(54,55-62)	or delete specific entries in block X)
	(63,64-71)	
	73-74	'00' (zeros)
	75	Serial No. of any entry in block Y.

Interference between 'K' and 'L', and operations on individual entries

Centres are asked to ensure that individual operations on the same block are consistent.

Operation 'M' (CINDA Centres only)

Unless a mistake has been made in Lab, ZAQ or in assigning a given entry to a particular pre-existing block, or a paper has been withdrawn by the author, there is normally no need to delete entries. Most changes should be made by modifying the existing entries.

Format for modification entries

Columns 1-14	ZA or compound, Quantity, Lab code, Block number of the entry to be changed;
15	Symbol of reader making the change;
16	Operation code 'M'.
19-26 or 73-80	The serial number of the entry is written with leading zeros in columns 19-26, or in columns 73-80 if the energy is to be changed.

Any or all of the following fields may be modified:

Column	Field		
17	Hierarchy	EITHER	blank for no change
		OR	the alphabetic or numeric value of the new hierarchy. (The blank alphabetic code cannot be used - enter an underscore or a 3).
		N.B. 1)	Data index entries (hierarchy D=6) may not be assigned a new hierarchy, nor may any other entry be assigned hierarchy D=6.
		2)	An entry with hierarchy 1 may not be assigned a new hierarchy.
18	Worktype	EITHER	blank for no change
		OR	the new worktype code.
19-26	Energy	EITHER	the serial number with leading zeros for no change
		OR	the new Emin Emax Combination.
		N.B. 1)	Underscores are read as blanks
		2)	Both Emin and Emax must be specified even if one remains unchanged
		3)	Emin and Emax cannot both be modified to blank.

27-24	Reference & publication date	EITHER OR	blank for no change the new reference type, reference and publication date.
		N.B. 1)	Underscores are read as blanks
		2)	Reference type, reference and publication date must all be given, even if they are not all modified.
45-80	Comments	EITHER OR	blank for no change the new comment field.
		N.B.	If the serial number occupies columns 73-80, these columns are reset to blank before modifying.

Two modify commands are needed to modify both the energy and comment fields (unless columns 73-80 are to be blanked).

Any modification prohibited by the above rules must be made by a delete and a block (or add) command.

Hierarchy codes (cont/d)

'N' Entries should be given hierarchy 5 (No book flag) when the article contains an incomplete account of the work (Abstracts, some progress reports) and does not give any numerical or graphical data which is not available from another source.

Where an entry with hierarchy 5 is an unblocked single line, it will be included in CINDA publications, otherwise not. Readers should assign no-book flags whenever appropriate, as this helps to slow down the growth of CINDA cumulations.

'D' = 'data index entry'. Such entries are made by data centres to give more precise information about the numerical and evaluated data they are able to supply on request; especially data exchanged between centres in EXFOR format, and standard evaluated files. Internal value '6'. Because file names and accession numbers have a special structure, the format of the reference field is specialised; hierarchy 6 may not be modified to another value, nor may an existing entry have its hierarchy changed to 6.

Data index entries must have a numeric reference type.

WORKTYPE

Format

Column 18 — Alphabetic code to identify the type of work coded.

Code	Expansion in CINDA book	
E	Expt	Experimental measurement
T	Theo	Theoretical work, or calculation based on theory (as distinct from some evaluations in which models are used for interpolation between experimental points).
M	ExTh	Experimental measurement plus theoretical work extensive enough to have merited publication on its own (a comparison of an elastic angular distribution with an optical model calculation is not regarded as fulfilling this criterion).
C	Comp	Compilation of experimental (or theoretical) data.
D	Eval	Evaluation (critical examination of data) eventually producing a "best" or "recommended" value or set of values, even if only a single quantity is covered. Where an evaluation covers a complete set of cross-sections (cross checked for consistency) in some energy range, a further global entry (Quantity EVL, worktype D) should be made for the target referred to.
R	Revw	Review (summary of experimental or theoretical information). Is more biased towards comparison of experiment and theory than either 'Comp" or 'Eval', but such references may be of interest as containing data which could be fitted into one of these categories.

Alphabetic Energy Codes for Spectrum Averages

These codes are intended to describe quantities averaged over typical neutron spectra. They may occasionally be combined with numerical codes or with other alphabetic codes to indicate that both values are given. For instance, a code MAXW 25-2 should be used when both a maxwellian spectrum average and a value for monochromatic neutrons are given

Code (right adjusted)	Expansion in CINDA Book	Description
COLD	Cold	Subthermal neutron spectrum
MAXW	Maxw	Maxwellian neutron spectrum at a temperature of 293°K.
PILE	Pile	A reactor spectrum with a non-Maxwellian energy distribution.
FAST	Fast	A Fast-reactor spectrum
FISS	Fiss	An unmoderated fission neutron spectrum.

Non spectrum codes

NDG	None	No data given
SPON	Spont	Spontaneous fission (Use for quantities associated with neutrons, fission fragments and gammas following spontaneous fission).
TR	Thrsh	Threshold Energy. If possible a numerical value should be given.

Specific Combinations of Codes

MAXW25-2	Maxw 2.5-2	Maxwellian spectrum and 0.025 eV monochromatic neutrons
PILE25-2	Pile 2.5-2	Pile spectrum and 0.025 eV monochromatic neutrons
MAXW PILE	Maxw Pile	Both indicated spectrum averages are given.
MAXW FISS	Maxw Fiss	
MAXW FAST	Maxw fast	
SPON MAXW	Spon Maxw	
TR^^UP	Thresh up.	No upper limit specified above threshold. (A limit should be given if possible).

General Combinations of Alphabetic and Numeric Codes

If both a spectrum average and monochromatic neutron values are given, the alphabetic spectrum code should be entered in the minimum energy field (columns 19-22) and the numerical value in the maximum energy field (columns 23-26).

If the numerical value is less than the conventionally assigned energy of the spectrum code, two separate entries should be made.

These equivalences are given below for internal sorting processes.

Energy equivalent for sorting

COLD	Zero → 1 eV
MAXW	0.025 eV
PILE	0.025 eV
FAST	1 MeV
FISS	1 MeV
SPON	Zero
TR	0.5 MeV → 5 MeV
TR UP	0.5 MeV → 10 MeV

Conference Proceedings

1) Reference type C

The format is indicated below. The conference identification codes in CINDA follow the established EXFOR codes, but only include the first eight characters. A directory of codes is given in Appendix 2.

Columns 28-29	Year of Conference
Columns 30-35	Location of Conference (truncated to 6 characters if necessary)
Columns 36-37	Volume number, or a numeric paper sign
Columns 38-41	Page number, right adjusted
Columns 42-44	Date of Conference - as for journals.

2) Reference type S

Conference proceedings should be entered under a report code only if no previous entries had appeared in CINDA with a conference designation of the more usual form.

If the conference proceedings are to be entered with a report code, reference type 'S' (not 'R') should be used, but otherwise the reference should be coded in exactly the same format as other reports in the same series. The date given in columns 42-44 should be that of the report, to conform with the rest of the report series.

Sometimes conference preprints are assigned laboratory report numbers (this is the case for many contributions from Karlsruhe, which are numbered in the KFK-series). Entries should be made for both the conference paper number and the report.

CINDA Centres only

DATA INDEX REFERENCES

These entries serve two purposes : for CINDA users, they are intended to replace the data indices previously published separately by the centres, while within CINDA itself they carry the computer-readable information which constitutes its links to the numerical data files.

Most data index entries are made semi-automatically within the CINDA centres.

Data index entries have a numeric reference type and hierarchy 'D'=6.

Format

Columns 27-41 — The type of data, with data retrieval information. Type categories currently in use are as follows :

Column 27 = '4' Data exchanged in EXFOR
Columns 28-32 = EXFOR
Columns 33-37 = Work number. Five numeric digits.
Column 38 = Subwork number. Three numeric digits or blank. Blank implies that more than one subwork number corresponds to that block.

NOTE : A 'null' EXFOR entry, exchanged to show that data is not available, is coded under reference type '0' = zero, thus :

Column 27 = '0'
Columns 28-38 = 'EXFOR', work number
Columns 39-41 = blank or subwork number as for type '4'

If a 'null' EXFOR entry appears in the book, 'no data available' should appear in the comment.

AUTHOR NAME AND COMMENTS

Format

Columns 45-80	Author name terminated by a full stop '.' (single author) or a plus sign '+' (multiple authors. Author names are not required for data index lines (hierarchy 6, numeric reference type. If no author exists for any other line, enter '.' in column 45. The author name (if any) is followed by additional, abbreviated information about the work.

Author flag

A non blank author flag is generated for every line with hierarchy other than 6, where the author delimiter appers in column 46-80.

Character set

Comments may only contain the following characters:

Upper case alphabetic A to Z

Numeric 0 to 9

Blank

Special characters + - .) (* 1 = 1 , % < > : ; ! ? &

Transliteration of the Russian Alphabet

The following conventional transliterations have been adopted for CINDA. These conversions are similar to the ISO-scheme, but with some modifications for a computer character set :

А	Б	В	Г	Д	Е	Ё	Ж	З	И	Й	К	Л	М	Н	О	П
A	B	V	G	D	E	E	ZH	Z	I	J	K	L	M	N	O	P

Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
R	S	T	U	F	KH	C	CH	SH	SHCH	'	Y	'	E	JU	JA

CINDA COVERAGE CONTROL

CINDA coverage control is no longer exchanged between centres. The following describes coverage entries received by NEADB from area 2 readers.

The CINDA coverage file consists of an ordered list of references and reference ranges with the five categories of information : COV, GAP, ZERO, YES and SAME; defined below.

The ordering in the file is primarily by the reference identification showing a continuous incrementation, i.e., report number or journal volume. This allows a range of consecutive publication units in the same coverage category to be reduced in the file to only a lower and upper limit to each continuous range.

A publication unit consists of :

1. A report, i.e., KFK-1632 August 73.
2. A conference proceedings volume 75KIEV 1 1975.
3. A journal volume, i.e., NP/A 279 February 77. The issue number can be entered as supplementary information.

Code Specifications

COV — A specified publication unit has been covered and any relevant articles have been coded in CINDA.

GAP — A publication unit, or article, is known to have been missed in the coverage.

ZERO — The publication unit does not contain information relevant to CINDA. This category should not be used for journals, but may be used for reports and conferences if the coder believes the explicit indication of no relevance to CINDA is useful and necessary.

YES — A specific article in a publication unit has been coded in CINDA, but the complete publication unit has not been covered. The complete reference as for CINDA should be given.

SAME — A SAME-entry refers to a publication unit that carries a double or multiple reference and can be quoted under any of them. Multiple - n - references require the preparation of (n-1) ZZ - SAME entries.