

**KARLSRUHE**  
**CHARGED**  
**PARTICLE**  
**GROUP**

**Information**

KERNFORSCHUNGSZENTRUM · D-7600 KARLSRUHE · POSTFACH 3640 · TELEX 7826-484

Memo CP-B/2

25. June 1976

Subject: Updating of Dictionaries

Reference: Memo CP-D/4 and EXFOR INTERNAL DICTIONARY UPDATE 760609

In general we agree to the proposed changes in the dictionaries because they reflect in our opinion the results of the discussion at the April-Meeting. However, in some cases we have comments and/or proposals.

Referring to the paragraphs of Memo CP-D/4

- 1) and 2): Accepted
- 3): The separation of Dict. 20 in two sets is accepted.
- 4): Accepted, but we propose to cancel SF 7 under 'REACTION'. SF 7 contains information about the particle or radiation detected, which is given in the KACHAPAG-File under the keywords 'PART-DET' and/or 'RAD-DET'. If for the compilation of neutron data these keywords would be used also, then SF 7 could be omitted altogether.
- 5): We agree to the new codes except for INTAN, where we would prefer INTAD (INtegration of ANgular Distribution) because this abbreviation is already used in the KACHAPAG-File.
- 6) and 8): Accepted.
- 7): The expansion certainly has a much lower priority than the updating of the Checkprogram. Later on an expansion for the keyword 'REACTION' should be provided; therefore, we propose to include already the brackets in the codes (see below).

Referring to EXFOR INTERNAL DICTIONARY UPDATE 760609

- | Dict. | Line      | (Numbers as given in the NDS-print out)  |
|-------|-----------|--|
| 2     | 11I/1-13  | <p>At the April-Meeting it was decided that the request for expansion is indicated by adding behind the closing parenthesis</p> <p>- a point                    or (!)</p> <p>- blanks filling up the rest of the line.</p> <p>Both possibilities are now already used by us.</p>  |
| 2     | 38I/14-15 | See above under paragraph 4).  |
| 2     | 66I/2-7   | <p>The keyword 'ADD-RES' introduced by us should be used to indicate that the publication contains other important information which is not directly connected with the data given in the file. For instance, if the main emphasis of the work was given to the determination of the decay data of a new nuclide the code 'DECAY' should be entered. The actual values are given under the keyword 'DECAY-DATA' if they were used for obtaining the data listed in the data section. Therefore, 'ADDITIONAL RESULTS AND' should be deleted in line 2-66I/2, and in line 2-66I/7 the code 'ADD-RES' should be replaced by 'PART-DET'.</p> |
| 2     | 81I/20-23 | <p>The condition stated in line 22 is not correct. In addition, we would prefer a better definition of SF 5, because the actual abundance of the observed radiation is important and not the number of transitions. Therefore the lines 20 to 23 should be replaced by</p> <p>SF 5 ABUNDANCE OF OBSERVED RADIATION (E.G. PHOTONS)<br/>PER DECAY. FLOATING POINT NUMBER</p> <p>SF 3, 4 AND 5 MAY BE REPEATED AS OFTEN AS<br/>NECESSARY, TRAILING EMPTY SUBFIELDS ARE OMITTED.</p>   |

- 16 18I/I-2 We have learned in the meanwhile that the code 'C' under 'HISTORY' has the same meaning as the code 'COMP'. Therefore, 'COMP' should be deleted.
- 16 20I/I The line should be replaced by:  
CURVE (DATA READ FROM A CURVE) WITH A DATA POINT READER BY THE COMPILER.
- 16 20I/2 The line should be replaced by:  
CPX (DATA OBTAINED FROM THE DATA FILE PREPARED BY MCGOWAN ET AL.). THEY ARE PARTLY PUBLISHED IN ....  
(Continue with line 20I/3).
- 16 20I/5 Replace 1960 by 1966
- 16 20I/7 Add behind this line:  
SOME OF THE DATA IN THIS DATA FILE ARE OBTAINED BY A DATA POINT READER.
- 17 1I/(4) The explanation for the code 'N' is wrong, please replace by  
THIS CODE IS USED WHENEVER THE OTHER CODES IN DICT. 17 DO NOT APPLY. EXPLANATION IN FREE TEXT OBLIGATORY.  
The lines 2-14I/5+6 should be deleted.
- 20 The following new codes should be added:  
Z-DIS (CHARGE DISTRIBUTION)  
A-DIS (MASS DISTRIBUTION)  
COMP (COMPARISON WITH CALCULATED VALUES)  
THEO (THEORY)
- 20 1I/(3) Replace the explanation by  
DECAY (DECAY PROPERTIES INVESTIGATED)
- 21 15I/11-12 Please use the new definition:  
EDEG (ENERGY-DEGRADATION BY FOLLS) THE PROJECTILE ENERGY WAS CONSIDERABLY DEGRADED BEFORE HITTING THE TARGET. THE INITIAL PROJECTILE ENERGY AND THE REFERENCE OF THE ENERGY LOSS RELATION USED SHOULD BE STATED.

- 22 18I/8-9 We apply in the KACHAPAG-File the code 'COIN' instead of 'COINC', because 'COINC' is already used under the keyword 'METHOD' (Dict. 21).
- 23 6I/I We prefer 'INTAD' (see above under paragraph 5)).
- 25 55I/2 The international abbreviation for Curie is Ci. Therefore, we propose to use the following codes:  
MUCI/MUA MICRO-CURIE/MICRO-AMPERE  
MUCI/MUAHR MICRO-CURIE/MICRO-AMPERE-HOUR
- 30-33 For the expansion (see under paragraph 7)) brackets should be provided in the explanation of the codes.
- 31 1I/(10-16) The codes 'M+', 'M-' and '(M)' do apply also to 'TTY', 'FY' and 'PY'. Therefore, more general explanations should be used:  
M+ (INCLUDING FORMATION VIA ISOMERIC TRANSITION)  
M- (EXCLUDING FORMATION VIA ISOMERIC TRANSITION)  
(M) (INCLUDING/EXCLUDING OF FORMATION VIA ISOMERIC TRANSITION IS REGARDED BY THE COMPILER AS UNCERTAIN) EXPLANATION IS OBLIGATORY.
- 31 1I/(17-23) The codes 'IND', 'CUM', '(CUM)' and a new code 'DCUM' should get more clarifying definitions:  
IND (INDEPENDENT) PRODUCTION OF THE PRODUCT NUCLIDE VIA DIRECT FORMATION ONLY  
CUM (CUMULATIVE) PRODUCTION OF THE PRODUCT NUCLIDE VIA DIRECT FORMATION AND RADIOACTIVE DECAY  
(= 'DCUM' + 'M+')  
DCUM (CUMULATIVE PRODUCTION EXCLUDING ISOMERIC TRANSITION) PRODUCTION OF THE PRODUCT NUCLIDE VIA DIRECT FORMATION AND RADIOACTIVE DECAY, EXCLUDING ISOMERIC TRANSITION (= 'CUM' - 'M+')  
(CUM) (APPLICATION OF THE CODE 'CUM' OR 'DCUM' IS REGARDED BY THE COMPILER AS UNCERTAIN) EXPLANATION IS OBLIGATORY.
- 31 Dict. 31 should contain the codes 'PR', 'DL', 'CN', 'DI', 'BIN', 'TER' and 'CHN' from the original Dict. 12.

32 1I/(2-4) Replace the lines by:  
SIG (INTEGRAL CROSS SECTION) FOR THE FORMATION  
OF THE SPECIFIED PRODUCT NUCLIDE OR THE  
SPECIFIED REACTION TYP (X,Y)  
TTY (THICK-TARGET-YIELD) FOR THE SPECIFIED PRODUCT  
NUCLIDE  
PY (PRODUCT YIELD) FOR THE SPECIFIED PRODUCT  
NUCLIDE IN ...  
(Continue with line 1I/5)

32 The code 'EM' is missing; we would propose the  
following definition:  
EM (EMISSION OF THE GIVEN PARTICLE OR PROMPT  
GAMMA). ONLY THE GIVEN OUTGOING PARTICLE OR  
SPECIFIED PROMPT GAMMA WERE DETECTED, NEGLECTING  
ALL OTHERS. THEREFORE THIS CODE SHOULD BE APPLIED  
ONLY, IF SF 3 OF 'REACTION' CONTAINS + X.

32 1I/(14) In which connection is 'ASY' used? May be additional  
explanations should be given.

35 1I/(3) Replace the line THEO by the new code:  
CALC (CALCULATED DATA)

Distribution:

- A. F.E. Chukreev, CAJaD
- B. H. Münzel, KaChaPaG
- C. S. Pearlstein, NNCSN
- D. J. Schmidt, NDS
- E. H. Tanaka, Study Group
- F. G. Dearnaley, AERE
- G. H. Behrens, ZAED
- H. A. Marcinkowski, IBJ
- I. L. Lesca, NDCC
- K. D.C. Agrawal, Varanasi
- L. N.N., Obninsk

- (1) Your center identification is A instead of 7.
- (2) Many codes and statements are not given in the publication (yellow underlined). It should be stated if they are obtained by private communication from the author, from additional publications or if they are comments by the compiler. Sources with important additional information which are not cited in the publication should be given under the keyword 'Reference' (for instance private communications).
- (3) It is not necessary to give EPMAX and EDMAX here. The energies are obvious from the data-section. If under the keyword 'Method' the code EDEG is given the initial projectile energy and the reference for the specific energy loss table used should be stated if possible.
- (4) 22.5 does not agree with 22.4 of subentry 4 and 5.
- (5) EPMAX as well as EDMAX do not apply for all following subentries and therefore should not be given in subentry 1.
- (6) Coding has been altered.
- (7) Wrong reference. Allegedly: P.P. Dmitriev +, AE, 24, 279, 68
- (8) Should be omitted because NAICR is a scintillation counter.
- (9) In the publication: systematic error  $\pm 15\%$ . Is this the overall error?
- (10) Why do you include empty lines?
- (11) New codes: MUCI/MUAHR
- (12) In the publication 2 values at 22.1 MeV are given. Both values should be entered or it should be stated that an average is given which was calculated by the compiler.  
Why is the error here only 10 % ?  
In general only those errors given explicitly in the publication should be entered in the data section.

ENTRY ① 70002 750711  
 SUBENT ② 70002001 750711  
 BIB 12 21  
 TITLE (YIELDS FOR ISOTOPES BA-133M AND BA-133, ISOMERIC RATIOS IN REACTIONS CS-133(P,N)BA-133M,G AND CS-133(D,2N)BA-133M,G)  
 AUTHOR (P.P.DMITRIEV,G.A.MOLIN,M.V.PANARIN)  
 INSTITUTE ② (UCCPFEI)  
 REFERENCE (J,AE,35,61,73) ATOMNAJA ENERGIJA V,35,P,61,1973  
 FACILITY ②③ (CYCLO,UCCPFEI) EDMAX=22,1,EDMAX=22,5,MEV ⑤  
 MONITOR ②③ (29-CU-65(D,2N)30-ZN-65)P,P.DMITRIEV,N,N,KRASNOV, ATOMNAJA ENERGIJA,V,18,P,184,1965  
 ② (29-CU-65(P,N)30-ZN-65) N,N,KRASNOV,P,P.DMITRIEV, ATOMNAJA ENERGIJA,V,20,P,57,1966  
 DETECTOR ④⑩ (GCIN,NAICR) ⑩  
 ERR-ANALYS ②③ UNCERTAINTIES INCLUDE RANDOM ERROR OF PHOTOPEAK-AREA AND DECAY CURVE ANALYSIS AS WELL AS SYSTEMATIC ERRORS ASSOCIATED WITH COUNTER EFFICIENCIES AND SPREAD IN BEAM ENERGY. ERRORS IN DECAY SCHEME ARE NOT INCLUDED.  
 ANALYSIS (GAREA) should be deleted. Include keyword HISTORY  
 METHOD ② (SITA,EXTB,EDGE,MONOEM,CHSEP) → MOSEP  
 STATUS (GEXP) should be deleted  
 SAMPLE TARGETS = CS(CL) AND CS(NO3)  
 ENDBIB 21  
 NCCOMMON  
 ENDSUBENT 22  
 SUBENTRY 70002002 750711  
 BIB 2 3  
 REACTION ④ (55-CS-133(P,N)56-BA-133,TTY)  
 PART-DET ⑥ (56-BA-133,DG) HALF-LIFE 7,2YR  
 356+382 KEV PHOTONS,0,77 PER DECAY  
 ENDBIB 3  
 NCCOMMON  
 DATA 3 6  
 EN DATA DATA-ERR  
 MEV ⑪ ~~XXX/XXX-HR~~ ~~XXX/XXX-HR~~  
 8,3 0,055 0,008  
 11,4 0,24 0,036  
 13,5 0,39 0,059  
 17,0 0,505 0,077  
 19,2 0,55 0,083  
 22,1 ⑫ 0,565 0,061  
 ENDDATA 8  
 ENDSUBENT 16  
 SUBENT 70002003 750711  
 BIB 2 3  
 REACTION ④ (55-CS-133(P,N)56-BA-133M,TTY)  
 PART-DET ⑥ (56-BA-133M,DG) HALF-LIFE 38,9 HR  
 276 KEV PHOTONS,0,17 PER DECAY

① 7000200000001  
 7000200100001  
 7000200100002  
 7000200100003  
 7000200100004  
 7000200100005  
 7000200100006  
 7000200100007  
 7000200100008  
 7000200100009  
 7000200100010  
 7000200100011  
 7000200100012  
 7000200100013  
 7000200100014  
 7000200100015  
 7000200100016  
 7000200100017  
 7000200100018  
 7000200100019  
 7000200100020  
 7000200100021  
 7000200100022  
 7000200100023  
 7000200100024  
 7000200100025  
 7000200199999  
 ⑩ 7000200200001  
 7000200200002  
 7000200200003  
 7000200200004  
 7000200200005  
 7000200200006  
 7000200200007  
 7000200200008  
 7000200200009  
 7000200200010  
 7000200200011  
 7000200200012  
 ⑫ 7000200200013  
 7000200200014  
 7000200200015  
 7000200200016  
 7000200200017  
 7000200299999  
 7000200300001  
 7000200300002  
 7000200300003  
 7000200300004  
 7000200300005

ENDBIB 3 7000200300006  
NOCOMMON 7000200300007  
DATA 3 6 7000200300008

EN DATA DATA=ERR 7000200300009  
MEV ~~(11) MKK/MKA-HR MKK/MKA-HR~~ 7000200300010  
8,3 28, 3,9 7000200300011  
11,4 174, 26,2 7000200300012  
13,5 311, 46,8 7000200300013  
17,0 438, 65,8 7000200300014  
19,2 470, 71, 7000200300015  
22,1 (2) 502, 37,8 7000200300016  
ENDDATA 8 7000200300017  
ENDSUBENT 16 7000200399999  
SUBENT 70002004 750711 7000200400001  
BIB 2 3 7000200400002  
REACTION (55-05=133(D,2N)56-BA=133M,TTY) 7000200400003  
PART=DET (56-BA=133M,DG) HALF=LIFE 38,9 HR 7000200400004  
276 KEV PHOTONS,0,17 PER DECAY 7000200400005  
ENDBIB 3 7000200400006  
NOCOMMON 7000200400007  
DATA 3 6 7000200400008

EN DATA DATA=ERR 7000200400009  
MEV ~~(11) MKK/MKA-HR MKK/MKA-HR~~ 7000200400010  
9,1 105, 13,9 7000200400011  
12,4 495, 70, 7000200400012  
14,1 860, 130, 7000200400013  
16,6 1345, 202, 7000200400014  
19,8 2060, 310, 7000200400015  
22,4 2370, 358, 7000200400016  
ENDDATA 8 7000200400017  
ENDSUBENT 16 7000200499999  
SUBENT 70002005 750711 7000200500001  
BIB 2 3 7000200500002  
REACTION (55-05=133(D,2N)56-BA=133,TTY) 7000200500003  
PART=DET (56-BA=133,DG) HALF=LIFE 7,2 YR 7000200500004  
356+382 KEV PHOTONS,0,77 PER DECAY 7000200500005  
ENDBIB 3 7000200500006  
NOCOMMON 7000200500007  
DATA 3 6 7000200500008

EN DATA DATA=ERR 7000200500009  
MEV ~~(11) MKK/MKA-HR MKK/MKA-HR~~ 7000200500010  
9,1 0,11 0,015 7000200500011  
12,4 0,48 0,075 7000200500012  
14,1 0,87 0,13 7000200500013  
16,6 1,16 0,18 7000200500014  
19,8 1,81 0,27 7000200500015  
22,4 2,2 0,33 7000200500016  
ENDDATA 8 7000200500017  
ENDSUBENT 16 7000200599999  
ENDENTRY 5 7000299999999



Comments on Entry 70001

(10.6.76)

- (1) Your center identification is A instead of 7.
- (2) Many codes and statements are not given in the publication (yellow underlined). It should be stated if they are obtained by private communication from the author, from additional publications or if they are comments by the compiler. Sources with important additional information which are not cited in the publication should be given under the keyword 'Reference' (for instance private communications).
- (3) According to the EXFOR-Rules a keyword, e.g. COMMENT, can be used in a subentry only one times.
- (4) Why do you include empty lines?
- (5) Coding has been altered.
- (6) Why do you use under METHOD the code SITA in subentry 3,6,8,9 and STTA in subentry 2,4,5,7,10,11,12,13 ?
- (7) Here the number of photons per decay should be given and not the number of transitions per decay.
- (8) Should be omitted because NAICR is a scintillation counter.
- (9) Warning! In free text only very obvious abbreviations should be used. In general codes are not suitable for this reason.



ENTRY 70001 750623  
 SUBENT 70001001 750623  
 BIB 11 19  
 TITLE EXCITATION FUNCTIONS FOR (P,N)- AND (P,2N)-REACTIONS ON CADMIUM ISOTOPES  
 AUTHOR (E. J. SKAKUN, A. P. KLYUCHAREV, YU. N. RAKIVNENKO, I. A. ROMANY)  
 INSTITUTE (CCPPEFT)  
 REFERENCE (IZV. 39, 24, 75) IZV. AKAD. NAUK SSSR, SER. FIZ., 39, P. 24, 1975.  
 FACILITY (MILAE, CCPPEFT)  
 COMMENT (3) OF COMPILER, WE USED (MILAC), BECAUSE DICTIONARY 18 HAVE NOT WORD FOR PROTON ACCELERATOR.

DETECTOR (GEM, NAICR)  
 ERR-ANALYS (2) UNCERTAINTIES INCLUDE RANDOM ERROR OF PHOTOPeAK-AREA AND DECAY CURVE ANALYSIS AS WELL AS SYSTEMATIC ERRORS ASSOCIATED WITH COUNTER EFFICIENCIES AND SPREAD IN BEAM ENERGY. ERRORS IN DECAY SCHEME ARE NOT INCLUDED.  
 ANALYSIS (GEM) should be deleted. Include keyword HISTORY  
 STATUS (COMP)  
 ELEMENT OF COMPILER, ACCELERATORS, EMAX 9 AND 21 MEV  
 ENDBIB 19  
 ENDSUBENT 22  
 SUBENT 70001002 750623  
 BIB 4 7

REACTION (5) (48=CD=110(P,N)49-IN=110+49-IN=110M,CRO)  
 SAMPLE 91.5 PER CENT 110=CD  
 PART-DET (5) (49-IN=110,DG) HALF-LIFE 69 MIN  
 657 KEV PHOTONS, 1.0 PER DECAY → 0.979  
 (49-IN=110M,DG) HALF-LIFE 4.9 HR  
 1885 KEV PHOTONS, 0.95 PER DECAY  
 METHOD (6) (SITA, INTR, BCINT) Why do you give one value only from 5 of the publications  
 ENDBIB 7  
 NOCOMMON  
 DATA 3 12  

EN MEV	DATA MB	DATA=ERR MB
5.5	108.	32.4
5.3	168.	51.
8.	250.	75.
8.5	312.	93.5
9.0	340.	102.
11.8	597.	179.
13.7	944.	163.
15.2	262.	79.
17.	146.	43.8
18.3	102.	30.3
19.7	73.	21.9
20.9	64.	19.2

ENDDATA 14  
 ENDSUBENT 26  
 SUBENT 70001003 750623

BIB 4 7  
 REACTION (5) (48=CD=110(P,2N)49-IN=109+49-IN=109M,CRO)  
 METHOD (6) (SITA, INTR, BCINT)  
 SAMPLE 91.5 PER CENT 110=CD  
 PART-DET (5) (49-IN=109M,DG) HALF-LIFE 1.3 MIN  
 658 KEV PHOTONS, 1.0 PER DECAY  
 (49-IN=109,DG) HALF-LIFE 4.3 HR  
 203 KEV PHOTONS, 0.775 PER DECAY  
 ENDBIB 7

EV	MB	MB
11.8	17.	5.1
13.7	332.	100.
15.2	628.	188.
17.	711.	314.
18.3	790.	237.
19.7	917.	274.
20.9	718.	216.
ENDDATA	9	
INCSUBENT	21	

②

7000100500014  
 7000100500015  
 7000100500016  
 7000100500017  
 7000100500018  
 7000100500019  
 7000100500020  
 7000100500021  
 7000100500022  
 7000100599999

SUBENT	70001006	750623
BIB	4	7
REACTION	(48-CD-112(P,N)49-IN-112+49-IN-112M,CRO)	
METHOD	(SITA,INTB,BCINT)	
SAMPLE	94.9 PER CENT 112-CD	
PART-DET	(49-IN-112M,CG) HALF-LIFE 21 MIN	
	157 KEV PHOTONS, 1.0 PER DECAY	
	(49-IN-112,OG) HALF-LIFE 14.4 MIN	
	617 KEV PHOTONS, 0.0595 PER DECAY	

⑦

ENDBIB	7	
NCCOMMON		
DATA	3 17	
EN	DATA	DATA-ERR
MEV	MB	MB

4.7	17.	5.1
5.2	53.	15.9
5.9	96.	28.3
6.4	163.	48.9
6.8	220.	66.
7.3	321.	95.2
7.8	375.	112.5
8.2	483.	145.
8.7	544.	163.
9.	600.	180.
12.5	680.	204.
14.	426.	128.
15.6	295.	88.5
17.	190.	57.
18.3	135.	40.4
19.7	110.	33.
20.9	96.	28.8

②

7000100600015  
 7000100600016  
 7000100600017  
 7000100600018  
 7000100600019  
 7000100600020  
 7000100600021  
 7000100600022  
 7000100600023  
 7000100600024  
 7000100600025  
 7000100600026  
 7000100600027  
 7000100600028  
 7000100600029  
 7000100600030  
 7000100600031  
 7000100600032  
 7000100699999

ENDDATA	19	
ENDSUBENT	31	
SUBENT	70001007	750623
BIB	4	6
REACTION	(48-CD-112(P,2N)49-IN-111,CRO)	
METHOD	(SITA,INTB,BCINT)	
SAMPLE	94.9 PER CENT 112-CD	
PART-DET	(49-IN-111,DG) HALF-LIFE 12.82 D	
	172 KEV PHOTONS, 1.0 PER DECAY	
	247 KEV PHOTONS, 1.0 PER DECAY	

2.81

⑦  
 ⑦

ENDBIB	6	
NCCOMMON		
DATA	3 7	
EN	DATA	DATA-ERR
MEV	MB	MB
<del>11.8</del>	<del>17.</del>	<del>2.54</del>
<del>13.7</del>	<del>332.</del>	<del>49.6</del>
<del>15.2</del>	<del>628.</del>	<del>94.</del>
<del>17.</del>	<del>711.</del>	<del>107.</del>
<del>18.3</del>	<del>790.</del>	<del>118.</del>
<del>19.7</del>	<del>917.</del>	<del>138.</del>
<del>20.9</del>	<del>718.</del>	<del>107.</del>
ENDDATA	9	

values for Cd-111(p,2n)  
 see subentry 5

7000100700001  
 7000100700002  
 7000100700003  
 7000100700004  
 7000100700005  
 7000100700006  
 7000100700007  
 7000100700008  
 7000100700009  
 7000100700010  
 7000100700011  
 7000100700012  
 7000100700013  
 7000100700014  
 7000100700015  
 7000100700016  
 7000100700017  
 7000100700018  
 7000100700019  
 7000100700020  
 7000100700021

ENDSUBENT

20

700010079996

SUBENT

70001008

750623

BIB

4

5

700010080000

REACTION

(48-CD-113(P,N)49-IN-113M,CRO)

700010080001

METHOD

(SITA,INTB,BCINT)

700010080002

SAMPLE

90.2 PER CENT 113-CD

(2)

700010080003

PART-DET

(49-IN-113M,DG) HALF-LIFE 99.4 MIN  
393 KEV PHOTONS, 1.0 PER DECAY

(7)

700010080004

ENDSUB

5

700010080005

NOCOMMON

DATA

3

15

700010080006

EN

DATA

DATA-ERR

MEV

MB

MB

4.7

4.6

0.69

5.

11.3

1.7

5.9

29.

4.35

6.5

59.

8.83

7.3

85.

13.3

7.8

109.

16.3

8.5

127.

19.

(2)

9.

140.

21.

9.9

140.

21.

1.5

56.

8.4

15.2

26.

3.9

16.7

16.

2.4

18.3

14.

2.1

19.5

13.

1.93

20.9

14.

2.1

ENDDATA

17

700010080007

700010080008

700010080009

700010080010

700010080011

700010080012

700010080013

700010080014

700010080015

700010080016

700010080017

700010080018

700010080019

700010080020

700010080021

700010080022

700010080023

700010080024

700010080025

700010080026

700010080027

700010080028

ENDSUBENT

27

SUBENT

70001009

750623

BIB

4

700010099999

REACTION

(48-CD-113(P,2N)49-IN-112+49-IN-112M,CRO)

700010090000

METHOD

(SITA,INTB,BCINT)

700010090001

SAMPLE

90.2 PER CENT 113-CD

700010090002

PART-DET

(49-IN-112M,DG) HALF-LIFE 21 MIN

700010090003

157 KEV PHOTONS, 1.0 PER DECAY

700010090004

(49-IN-112,DG) HALF-LIFE 14.4 MIN

700010090005

617 KEV PHOTONS, 0.0595 PER DECAY

700010090006

7

700010090007

ENDSUB

NOCOMMON

DATA

3

7

700010090008

EN

DATA

DATA-ERR

MEV

MB

MB

12.5

423.

127.

14.

755.

216.

15.6

910.

272.

17.

1105.

332.

(2)

18.3

1056.

318.

19.7

984.

296.

20.9

917.

274.

ENDDATA

9

700010090009

700010090010

700010090011

700010090012

700010090013

700010090014

700010090015

700010090016

700010090017

700010090018

700010090019

700010090020

700010090021

700010090022

ENDSUBENT

21

SUBENT

70001010

750623

BIB

5

700010099999

REACTION

(48-CD-114(P,N)49-IN-114M,CRO)

700010100000

METHOD

(SITA,INTB,BCINT)

700010100001

SAMPLE

97.3 PER CENT 114-CD

700010100002

PART-DET

(49-IN-114M,DG) HALF-LIFE 50 D

700010100003

192 KEV PHOTONS, 0.965 PER DECAY

700010100004

(1.) UPPER LIMIT

700010100005

700010100006

700010100007

700010100008

LAG

ADDIR

(7)

COMMON

DATA  
EN  
KEV  
3,8  
5,9  
7,7  
9,  
11,8

DATA  
MB  
0,1  
29,  
150,  
270,  
226,  
41,  
41,  
9  
20  
70001011

DATA=ERR  
MB  
0,1  
4,35  
22,5  
40,5  
33,9  
6,5  
6,5

FLAG  
NO-DIM  
1.

ENDDATA  
ENDSUBENT  
SUBENT  
318  
REACTION  
METHOD  
SAMPLE  
PART-DET

9  
20  
70001011 750623  
4 5  
(48-CD-114(P,2N)49-IN-113M,CRO)  
(SITA,INTB,BCINT)  
97,3 PER CENT 114-CD  
(49-IN-113M,DG) HALF-LIFE 99,4 MIN  
393 KEV PHOTONS, 1,0 PER DECAY

ENDBIB  
COMMON  
DATA

5  
3 11

EN  
KEV  
9,8  
10,9  
11,8  
13,7  
14,5  
16,2  
16,7  
18,3  
19,  
20,3  
20,9  
ENDDATA

DATA  
MB  
18,  
74,  
88,  
201,  
183,  
204,  
179,  
190,  
162,  
190,  
145,  
13

DATA=ERR  
MB  
2,7  
11,1  
13,2  
30,  
27,2  
30,6  
26,8  
28,5  
24,4  
28,5  
21,8

ENDSUBENT  
SUBENT  
318  
REA ION  
METHOD  
SAMPLE  
PART-DET

23  
70001012 750623  
4 6  
(48-CD-116(P,N)49-IN-116M,CRO)  
(SITA,INTB,BCINT)  
90,5 PER CENT 116-CD  
(49-IN-116M,DG) HALF-LIFE 54 MIN  
1293 KEV PHOTONS, 0,85 PER DECAY  
2112 KEV PHOTONS, 0,15 PER DECAY

ENDBIB  
COMMON  
DATA

6  
3 15

EN  
KEV  
4,5  
5,2  
5,9  
6,7  
7,3  
8,  
8,5  
9,  
11,5  
13,5  
15,2  
16,7

DATA  
MB  
1,5  
6,7  
20,  
37,  
61,  
85,  
123,  
147,  
90,  
37,  
24,  
18

DATA=ERR  
MB  
2,25  
1,  
3,  
5,55  
9,13  
12,7  
18,4  
22,  
13,5  
5,55  
3,6

7000101000001  
7000101000001  
7000101000001  
7000101000001  
7000101000001  
7000101000001  
7000101000001  
7000101000001  
7000101000001

7000101000001  
7000101000002  
7000101000002  
7000101099999  
7000101100001  
7000101100002  
7000101100003  
7000101100004  
7000101100005  
7000101100006  
7000101100007  
7000101100008  
7000101100009  
7000101100010

7000101100011  
7000101100012  
7000101100013  
7000101100014  
7000101100015  
7000101100016  
7000101100017  
7000101100018  
7000101100019  
7000101100020  
7000101100021  
7000101100022  
7000101100023  
7000101100024

7000101199999  
7000101200001  
7000101200002  
7000101200003  
7000101200004  
7000101200005  
7000101200006  
7000101200007  
7000101200008  
7000101200009  
7000101200010  
7000101200011  
7000101200012  
7000101200013

7000101200014  
7000101200015  
7000101200016  
7000101200017  
7000101200018  
7000101200019  
7000101200020  
7000101200021  
7000101200022  
7000101200023  
7000101200024

