<u>Memo CP-D/177</u>

16 June 1988

To: Distribution

From: O. Schwerer

Subject: TRANS C007, C008, C009

Please find attached our comments on TRANS tapes C007, C008 and C009.

General comments:

- Sequence of outgoing particles in REACTION SF3:
  particles have to be coded sorted by <u>ascending</u> Z, A (or in the order of dictionary 29), unless SF5 contains 'SEQ' (Manual 8.REACTION.3). That means that (P,P+N) must be coded (P,N+P), etc. This rule is violated consistently in all 3 TRANS tapes, but in our opinion it is important to keep to it for the sake of retrievals. (We realize that also the EXFOR-P series still contains such errors which also should be corrected.)

- STATUS keyword is missing in most entries.

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TRANS C007

Entry	Subent	Line(s)	Comment
C0237*)			EN specified both in subentry 1 and all other subentries. Delete from subentry 2-29.
C0242	4*), 7*)		For same angles DATA and DATA-APRX are both given which is probably a mistake.
C0243*)) C0244*))			EN-MIN and EN-MAX in subentry 1 is in conflict with giving EN in the following subentries. For which EN is the MONIT-1-value given? Perhaps EN-NRM should be used.
C0244	2,4-10		Many EN values repeated with different DATA values. E.g. subentry 9, EN=2.6 GeV: The cross section at this energy is 81 or 75 or 72 mb. How should the user choose between these values? (Or, add flag "more than one measurement at this energy" as in C0255.)
C0250*)			Delete EN from subentry 2-16.
C0252	1	3	code obsolete, use 1USACAR
C0257	2		MONITOR and MONIT-REF should have pointer 1 because REACTION 2 already contains the monitor in the denominator. (Reaction 2)=(Reaction 1)/(Monitor of Reaction 1), i.e. MONITOR belongs to REACTION 1.
C0262	2		MONITOR, MONIT-REF: change pointer to 1.
C0264	2	16	DATA not given.
C0278*)	2-10		Many EN values repeated. Sometimes a whole data line is duplicated, e.g. subentry 2, line 10 = line 11.
C0282	3	3	SF4 missing.
C0283	2		DATA section: columns ISOMER and MASS should be exchanged.
	3		Delete EN (already given in subentry 1)

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*) Retransmission requested

Entry	Subent	Line(s)	Comment
C0295*)	1		Delete COMMON section because EN is given in the following subentries. Also EN-ERR does not apply to subentries 3-6 because there EN-RES is used.
C0299	4	4	add '/RAT' to SF6.

TRANS C008

Entry	Subent	Line(s)	Comment
C0280	1	11)	Delete (MONIT) because this heading is never
C0333	1	15)	used in this entry.
C0342	2-12		FLAG should be replaced by heading THICKNESS which may be used as an independent variable (before the DATA column); units G/CM-SQ are available for this.
C0346	1	3	INSTITUTE code obsolete.
C0352	2-6	3	1) Add 'REL' to SF8 (cross sections given in ARB-UNITS). 2) Add ELEM/MASS to SF4.
C0353	2	41	45-RH-107 has no metastable state.
C0354	2	32,33	34-SE-85,87 have no metastable state.
C0361	5	10	Units for ELEM and MASS must be NO-DIM
C0362	6,7	3	Delete '/SUM' in SF6.
C0364	3	3)	" "
	4	5-7)	
C0398	2	19 82,92, 106,114, 124,126	Units for ISOMER should be NO-DIM, not MEV. 55-CS-130 and -132 have no isomer. Therefore ISOMER should be blank (not 0).
C0399	2	18	EN should have heading MEV (not MB), DECAY-FLAG should have heading NO-DIM (not MEV).

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TRANS C009

Entry	Subent	Line(s)	Comment
C0010	1	10	Delete comma for omitted page subfield.
	4		Delete EN-ERR (already given in subentry 1).
C0247			The coding MONITOR ((MONIT1)Reaction) should, according to the Manual, be used when two or more monitors are given for one reaction. To code the heading MONIT (as opposed to MONIT1, MONIT2) in the BIB section could be confusing rather than helpful.
C0275	1	3	Lab code 1USALBL is obsolete. Should the obsolete-flag in dictionary 3 be changed to the extinct-flag X to allow its use for old data? (The expansions of LBL and BRK are very similar, however.) (Also entries C0374, C0376)
C0297	1	4	Delete extra parenthesis.
C0339*)	1		COMMON section: heading MONIT repeated. Giving monitor values at 2 energies in the COMMON section in this way would be very convenient but is illegal. (The column sequence in a COMMON section has no meaning, therefore there is no link between the monitor values and the corresponding EN-NRM values.) A possible solution could be to link EN-NRM and MONIT with pointers, repeating the same monitor reaction in the BIB section.
C0365	2	15,17, 19	DECAY DATA: the energies are given in keV, therefore divide by 1000.
C0366	2		EN-NRM should not be given if it is = EN.
C0370	4	11	DATA not given.
C0371	1	11	Delete pointer
C0373*)	2		DATA table: probably many mistakes in the ISOMER column: - for all occurrences of 48-(CD)-115, there are multiple lines with ISOMER=1. or =blank for the same energy. Probably some values should be =0. (ground state). Lines 35-39 give 5 values for CD-115 at 75 MeV! (Should at most be 3 for metastable, ground and total with ISOMER = 1., 0., or blank)

Entry	Subent	Line(s)	Comment
C0373*)	2 (cont.)		– Several other "multiple lines" where probably the distinguishing ISOMER values is missing, e.g. lines 21/22, 23/24, and others.
	3		DATA table: similar problems as in subentry 2.
	3	9	Units for EN should be MEV.
	3	18	ELEMENT should probably be =4<u>7</u> (not 4<u>1</u>).
	4		DATA table: in 8 cases some combination of EN+ELEMENT+MASS with different data. Are these "step functions" read from a figure, or is an ISOMER column missing?
C0374	3		DATA table: column ISOMER (class J) is an independent variable and must be placed <u>before</u> DATA (best between MASS and DECAY-FLAG).
	3	34	DATA not given.
C0377	3*)	55	66-DY-146 does not exist. ELEMENT should be =62 or =63.
C0401*)	)		Delete EN in subentry 1, it is in contradiction
C0402*)	)		to the varying values in the other subentries.
C0403	3		DATA table: ISOMER must be placed before DATA.

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