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Memo CP-E/040

Date: April 26, 2004
To: Distribution
From: OTSUKA Naohiko and KATO Kiyoshi
Subject: Thick target product yields (E1756, E1759, E1788)
Reference: CP-C/334, CP-D/391

Along the recent discussion of thick target yields, we made some corrections to E1756 and E1759, and compiled a new entry E1788. In these entries, we compiled quantities measured for SF1 (SF2, X) 0-NN-1 as follows:

Quantity	Unit	Subentries
, PY/DA/DE, , TT	P/IN/MEVSR	E1756.002-015 E1759.002-013 E1788.002-013
, PY/DA, , TT	PRD/INC/SR (new)	E1756.016-029
, PY/DA, , TT/ IPA (new)	PRD/INC	E1756.030-043 E1759.014-017

In terms of EXFOR, a neutron in the final state of an inclusive reaction (i.e. SF3=X) is not an *outgoing particle* (SF3) but a *reaction product* (SF4). Therefore we did two corrections:

- Parameter code is PY rather than MLT.
- Unit code is PRD rather than PRT.
- "P" in "P/IN/MEV/SR" is kept, but read as "product".

Namely, we stick "SF3 vs. SF4 rule" even for the light particle emission in an inclusive measurement. We propose one unit code and one quantity code:

Dictionary 25 (Units)

PRD/INC/SR 1/A products/inc. projectile/ steradian

Dictionary 36 (Quantities)

, PY/DA, , TT/ IPA YLD Diff. product d/DA for thick target integrated over angular range

Summary for codes for thick target product yields and thick target yield multiplicity:

Outgoing particle (SF3)		Reaction product (SF4)		Dimension
,MLT,,TT	PRT/INC	,PY,,TT	PRD/INC	YLD
,MLT/DA,,TT	PRT/INC/SR	,PY/DA,,TT	(PRD/INC/SR)	1/A
,MLT/DE,,TT	PRT/IN/MEV	(not used yet)	(not used yet)	1/E(*)
,MLT/DA/DE,,TT	P/IN/MEVSR	,PY/DA/DE,,TT	P/IN/MEV/SR	1/AE
,TTY/MLT	PART/MUAHR	,TTY/PY	PRD/MUAHR PRD/MUCOUL	PYT(†)
(,TTY/MLT/DA)	(PRT/MUC/SR)	(,TTY/PY/DA)	(PRD/MUC/SR)	PYTA
,TTY/MLT/DA/DE	P/MEVMUCSR	(,TTY/PY/DA/DE)	P/MEVMUCSR	YAE(‡)

Note: Codes with brackets are not in present dictionary but proposed in recent memos.

- ,TTY/MLT/DA (PYTA) CP-D/389 (with PAR in SF5)
- PRT/MUC/SR (PYTA) CP-D/389

- ,PRD/INC/SR (1/A) CP-E/040
- ,TTY/PY/DA (PYTA) CP-D/391 (with PAR in SF5)
- PRD/MUC/SR (PYTA) CP-D/391
- ,TTY/PY/DA/DE (YAE) CP-C/340

Corrections of the dictionary are needed for the following

*) YLD is assigned for ,MLT/DE,,TT in the dictionary, must be 1/E.

c.f. F0341.002,004,006,008,010,012,014

†) TTY is assigned for PART/MUAHR and PRD/MUAHR in the dictionary, must be PYT.

c.f. B0173.002, C0006.003

‡) TD2 is assigned for ,TTY/MLT/DA/DE and P/MEVMUCSR in the dictionary, must be YAE.

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