

Quantities proposed by JCPRG

Relevant memos: CP-D/337, CP-E/004, CP-E/003 (all attached).

Memo CP-D/337

24 April 2002

From: O. Schwerer

To: Distribution

Subject: Differential data for linear momentum and spin-flip / non-spin-flip

Reference: Memos CP-E/003 and CP-E/004

The new codes for dictionaries proposed in the above mentioned memos will be included in the upcoming dictionary transmission except for the following cases which should be decided at the upcoming NRDC meeting.

CP-E/003:

Dictionary 25 (Units):

UB/SR/GEVC microbarn per steradian per (GeV per Velocity of Light)

What about using instead

MUB/SRGEVC to conserve MUB for microbarns?

Dictionary 29 (Product Particles)

AP antiproton

An alternate code would be P-

What is our preference?

Notes:

- *AP already used by CAJAD*
- *If it also needed in SF4: compare old Action A37 on negative particles as products in SF4.*

CP-E/004:

Dictionary 36 (Quantities):

, DA, , SF	Spin-flip diff. c/s d/dA
, DA, , NSF	Non-spin-flip diff. c/s d/dA
, DA/DE, , SF	Spin-flip double-diff. c/s d ² /dA/dE
, DA/DE, , NSF	Non-spin-flip double-diff. c/s d ² /dA/dE
, DA/DE, 4-BE-7/2-HE-6, SF	Spin-flip double-diff. c/s d ² /dA(7Be)/dE(6He)
, DA/DE, 4-BE-7/2-HE-6, NSF	Non-spin-flip double-diff. c/s d ² /dA(7Be)/dE(6He)

- 1) So far, all differential spin-flip data in dictionary 36 are coded with POL/DA in SF6. Should therefore POL be added to these codes?
- 2) So far we do not allow nuclide codes in SF7 but only particle codes. I believe for the work to be compiled, 4-BE-7 can be replaced by RSD (residual nucleus) and 2-HE-6 by the existing particle code HE6. Therefore, the last 2 of the above codes would be

POL/DA/DE, RSD/HE6, SF and

POL/DA/DE, RSD/HE6, NSF

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Memo CP-E/004

Date: December 10, 2001
To: Distribution
From: KATO Kiyoshi
Subject: Spin-flip and non-spin-flip data

Our group compiled some data for spin-flip and non-spin-flip excitation energy spectra of ${}^6\text{He}({}^7\text{Li}, {}^7\text{Be}){}^6\text{He}$ (S.Nakayama *et al.*, Phys.Rev.Lett. **85** (2000) 262) and of ${}^6\text{Li}({}^7\text{Li}, {}^7\text{Be}){}^6\text{He}$ and ${}^7\text{Li}({}^7\text{Li}, {}^7\text{Be}){}^7\text{He}$ (S.Nakayama *et al.*, Phys.Rev.Lett. **87** (2001) 122502). We propose to add a new modifier for non-spin-flip reactions and some quantity codes. The spectra in the first paper are plotted as functions of the excitation energy of ${}^6\text{He}$ for a fixed angle of ${}^7\text{Be}$. Therefore, the quantity codes, which specify two nuclei, are also needed.

Our proposal is as follows:

Dictionary 34 (Modifiers)

NSF

Non-spin-flip

Dictionary 36 (Quantities)

, DA, , SF

Spin-flip diff. c/s d/dA

, DA, , NSF

Non-spin-flip diff. c/s d/dA

, DA/DE, , SF

Spin-flip double-diff. c/s d²/dA/dE

, DA/DE, , NSF

Non-spin-flip double-diff. c/s d²/dA/dE

, DA/DE, 4-BE-7/2-HE-6, SF

Spin-flip double-diff. c/s d²/dA(7Be)/dE(6He)

, DA/DE, 4-BE-7/2-HE-6, NSF

Non-spin-flip double-diff. c/s
d²/dA(7Be)/dE(6He)

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Memo CP-E/003

Date: December 10, 2001
To: Distribution
From: KATO Kiyoshi
Subject: Differential cross section for solid angle and linear momentum

Our group compiled some data for the antiproton production double differential cross section for solid angle and momentum (Y.Sugaya *et al.*, Nucl. Phys. **A634** (1998) 115).

We propose to add a new particle code for antiproton and quantity code for the double differential cross section. New unit code is also accompanied for cross section and incident energy per nucleon, GeV/A.

Our proposal is as follows:

Dictionary 25 (Data Units)

UB/SR/GEVC microbarn per steradian per (GeV per Velocity of Light)
GEV/A GeV per mass number

Dictionary 29 (Product Particles)

AP antiproton

Dictionary 36 (Quantities)

, DA/DP double differential c/s $d^2/dA/dp$