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Memo CP-C/290

DATE: July 24, 2001
TO: Distribution
FROM: V. McLane
SUBJECT: Momentum distribution data (revised)

I have received some data from a study of the longitudinal momentum distribution using 8B beams on Pb and Ag, and propose we add a new code DP to Dictionary 32 for such data. Appropriate units will also be needed.

Proposed dictionary additions follow.

Dictionary 25 (UNITS)

MB/MEV/C	Millibarns/MeV/c	DP
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Dictionary 32 (Parameters)

DP	Differential with respect to linear momentum of outgoing particles
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Dictionary 36 (Quantities)

LON, DA/DP, , IPA	Diff. with respect to longitudinal sec.mom.,int. over ang.range
LON, DA/DP, P, IPA	Diff. with respect to longitudinal p mom.,int. over p ang.range

I have attached a sample coded entry.

Distribution:

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TRANS 20010723
 ENTRY C0820 20010723
 SUBENT C0820001 20010723
 BIB 9 17
 INSTITUTE (1USAMSU,1USAANL,2UK SUR)
 REFERENCE (J,PR/C,63,065806,2001)
 AUTHOR (B.Davids,S.M.Austin,D.Bazin,H.Esbensen,B.M.Sherrill,
 I.J.Thompson,J.A.Tostevin)
 TITLE Electromagnetic dissociation of 8B and the rate of the
 7Be(p,gamma)8B reaction in the Sun
 FACILITY (CYCLO,1USAMSU) K1200 cyclotron.
 INC-SOURCE 8B beam produced using 100 and 125 MeV/nucleon beams
 of 12C. Beam magnetically analyzed using A1200
 fragment separator.
 Beam contaminants included 7Be (5-8 times
 more intense than 8B component), 6Li, and 9C.
 ERR-ANALYS (ERR-S) Statistical uncertainty given.
 In addition, there are 9% systematic uncertainties
 due to target thickness and beam intensity.
 STATUS Data received by email from B.Davids, 26 June 2001.
 HISTORY (20010723C) VM
 ENDBIB 17 0
 NOCOMMON 0 0
 ENDSUBENT 20 0
 SUBENT C0820002 20010723
 BIB 5 14
 REACTION (47-AG-0(5-B-8,X)4-BE-7,LON,DA/DP,,IPA)
 SAMPLE 27 mg/cm2 Ag target.
 DETECTOR (MAGSP) S800 spectrometer used to detect 7Be fragments
 Spectrometer comprised of:
 . 2 position-sensitive cathode readout drift chambers
 to measure position and angles of 7Be fragments,
 . a 16 segment ionization chamber to record energy
 losses,
 . 3 plastic scintillators, the first of which measured
 total energies of particles reaching focal plane.
 METHOD (TOF) 8B particles in beam identified by time-of-
 flight.
 CORRECTION Corrected for overall efficiency of drift chambers,
 and angular acceptance of S800 spectrometer.
 ENDBIB 14 0
 COMMON 1 3
 EN
 MEV
 352.
 ENDCOMMON 3 0
 DATA 4 42

ANG-MAX	MOM-SEC	DATA	ERR-S
ADEG	MEV/C	MB/MEV/C	MB/MEV/C
1.5	1979.65	0.0806159	0.0161105
1.5	1989.0	0.296264	0.0320699
1.5	1998.35	0.497803	0.0313007
1.5	2007.7	0.642912	0.0354975
1.5	2017.05	0.693297	0.0368623
...			
2.5	2101.19	0.0665081	0.0267443

 ENDDATA 44 0
 ENDSUBENT 67 0
 ENENTRY 6 0
 ENDTRANS 1 0