

Japan Charged-Particle Nuclear Reaction Data Group

Division of Physics, Graduate School of Science
Hokkaido University
060-0810 Sapporo, JAPAN

E-mail: nrdf@jcprg.org
Internet: <http://www.jcprg.org/>

Telephone +81(JPN)-11-706-2684
Facsimile +81(JPN)-11-706-4850

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To: Distribution
From: OTSUKA Naohiko and KATO Kiyoshi
Subject: Dictionary 25 (Units) updates – differential with momentum

Longitudinal momentum distribution ($d\sigma/dp$) in breakup of radioactive ion beams is useful to study radii of unstable nuclei. This quantity has dimension DP and we have one unit code “MB/MEV/C” for this. Two entries (C0820 and E1780) include this unit code. Now the expansion of “MB/MEV/C” is “millibarns/MeV/c”, but this is not correct. We propose an improved expansion, “millibarns/(MeV/c)”.

JCPRG also proposes a new quantity code “LP, DP” for the revisions of E1779 and E1780.

The similar problem of expansion is found in the unit of 4 momentum transfer squared distribution ($d\sigma/dt$, “”, DT”) . We have one unit code “MB/GEV2/C2” for this quantity. In EXFOR four entries (A0493, C0128, C0642 and C0808) include this code. Now the expansion of “MB/GEV2/C2” is “millibarns per (GeV*c)**2”, for which we propose an improved expansion “millibarns per (GeV/c)**2”.

Note that the A/B/C expression means $A/(B/C)$ for above unit codes.

Dictionary 25 (Units) - corrections of expansions

MB/MEV/C DP millibarns/(MeV/c)
MB/GEV2/C2 D4 millibarns per (GeV/c)**2

Dictionary 36 (Quantities) - new code

LP, DP DP Diff. cross section with respect to longitudinal secondary momentum

References for this proposal:

C0820: B. Davids *et al.*, Phys. Rev. C**63**(2001)065806.
E1780: T. Suzuki *et al.*, Phys. Rev. Lett. **89**(2002)012501. Unit printed in Fig.2 is incorrect!
A0493: S.R. Neumaier *et al.*, Nucl. Phys. **A712**(2002)247.
C0128: J. Fong *et al.*, Phys. Lett. **B78**(1978)205.
C0642: F. Irom *et al.*, Phys. Rev. C**28**(1983)2380.
C0808: F. Irom *et al.*, Phys. Rev. C**25**(1982)373.

Distribution:

S. Babykina, CAJaD	J.H. Chang, KAERI	M. Chiba, JCPRG	F.E. Chukreev, CAJaD
S. Dunaeva, NDS	Z.G. Ge, CNDC	O. Gritzay, KINR	A. Hasegawa, JAERI
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M. Lammer, NDS	S. Maev, CJD	V.N. Manokhin, CJD	V. McLane, NNDC
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H.W. Yu, CNDC	V. Zerkin, NDS	Y.X. Zhuang, CNDC	EXFOR, NEA-DB