

Japan Charged-Particle Nuclear Reaction Data Group

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Memo CP-E/091 (Revised)

Date: March 24, 2006
To: Distribution
From: OTSUKA Naohiko
Subject: Dictionary 236 (Quantities) update

We compiled experimental data from T. Hashimoto *et al.*, Nucl. Phys. **A746** (2004) 330), which gives differential cross section with respect to excitation energy of residual nuclei ^{11}B (E_{exc}) integrated over incident center-of-mass energy range [$E_{\text{min}}^{\text{cm}}$, $E_{\text{max}}^{\text{cm}}$]:

$$\sigma = \int_{E_{\text{min}}^{\text{cm}}}^{E_{\text{max}}^{\text{cm}}} dE^{\text{cm}} \frac{d\sigma}{dE_{\text{exc}}}$$

in $^4\text{He}(^8\text{Li}, n)^{11}\text{B}$ reaction. We propose the following addition:

Dictionary 36 (Quantities)

, INT/DE, **RSD**

B Integral over incident energy of energy spectrum **of residual nucleus**

Quantity	Type	Dimension	Reference	Subentry
, INT/DE, RSD	IDE?	B	T.Hashimoto <i>et al.</i> , Nucl. Phys. A746 (2004)330	E1933.003

Distribution:

S. Babykina, CAJaD	J.H. Chang, KAERI	M. Chiba, JCPRG	F.E. Chukreev, CAJaD
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H.W. Yu, CNDC	V. Zerkov, IAEA-NDS	Y.X. Zhuang, CNDC	EXFOR, NEA-DB

Sample of coded entry (E1933.003)

T. Hashimoto *et al.*, Nucl. Phys., **A746** (2004) 330 Fig.4.

SUBENT	E1933003	20060309		E193300300001
BIB	4	5		E193300300002
REACTION	(2-HE-4(3-LI-8,N)5-B-11,,INT/DE,	RSD)		E193300300003
EN-SEC	(E-EXC,5-B-11)	Excitation energy of 11B		E193300300004
ERR-ANALYS	(ERR-S)	Statistical uncertainty		E193300300005
STATUS	(TABLE)	Data (Fig.4, p333c in reference) received from		E193300300006
		T.Hashimoto by e-mail (2005.05.10)		E193300300007
ENDBIB	5	0		E193300300008
COMMON	3	3		E193300300009
EN-CM-MIN	EN-CM-MAX	E-EXC-ERR		E193300300010
MEV	MEV	MEV		E193300300011
0.75	2.55	0.2		E193300300012
ENDCOMMON	3	0		E193300300013
DATA	3	40		E193300300014
E-EXC	DATA	ERR-S		E193300300015
MEV	MB	MB		E193300300016
-5.8	0.0	0.0		E193300300017
...				
9.8	0.0	0.0		E193300300056
ENDDATA	42	0		E193300300057
ENDSUBENT	56	0		E193300399999

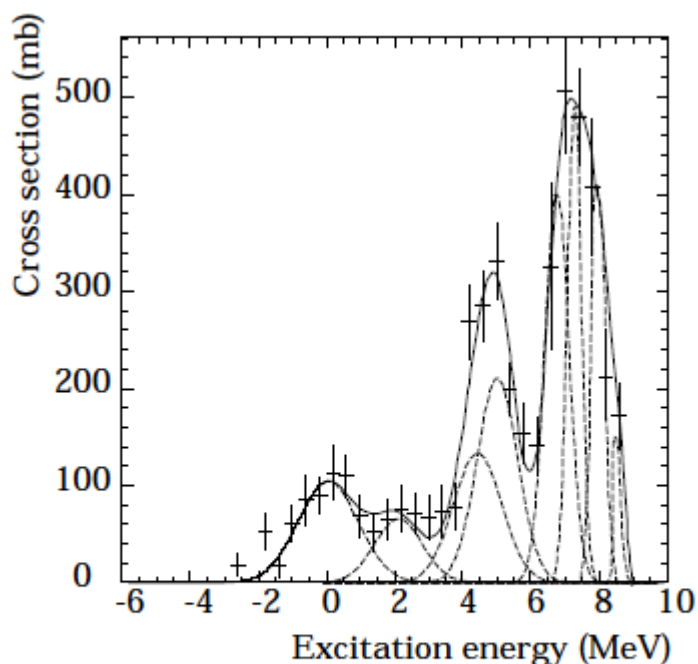


Figure 4.32: The population spectrum of excited levels in ^{11}B . The horizontal axis is the excitation energy in MeV and the vertical axis is cross section summed over E_{cm} from 0.75 to 2.55 MeV. The solid curve is the result of a fit and the dashed curves show the individual components for levels of ^{11}B .

(Reproduced from the doctor thesis of T.Hashimoto, Tokyo Univ. of Science, 2004)