

# 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  $^{11}\text{B}$  ( $E_{\text{exc}}$ ) integrated over incident center-of-mass energy range [ $E_{\text{min}}^{\text{cm}}$ ,  $E_{\text{max}}^{\text{cm}}$ ]:

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

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. <b>A746</b> (2004)330	E1933.003

### **Distribution:**

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**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 T.Hashimoto by e-mail (2005.05.10)			E193300300006
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

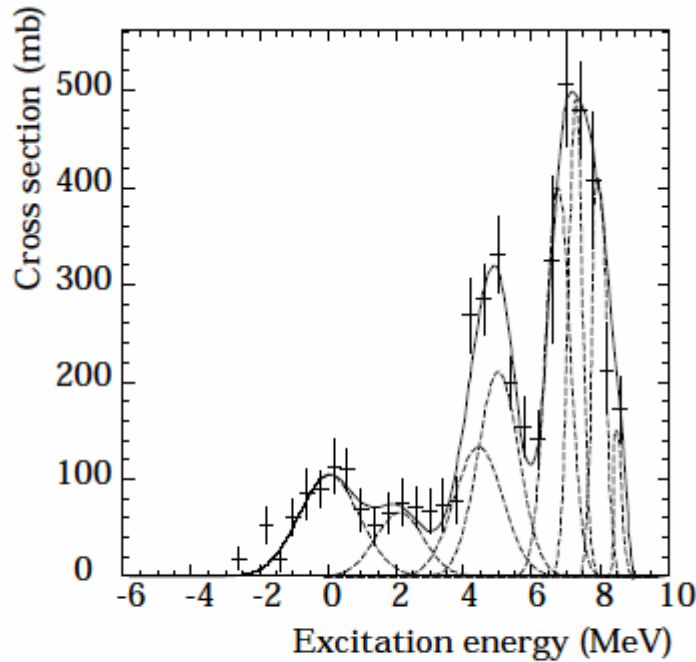


Figure 4.32: The population spectrum of excited levels in <sup>11</sup>B. The horizontal axis is the excitation energy in MeV and the vertical axis is cross section summed over  $E_{cm}$  from 0.75 to 2.55 MeV. The solid curve is the result of a fit and the dashed curves show the individual components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

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