

Japan Charged-Particle Nuclear Reaction Data Group

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Memo CP-E/016

Date: December 3, 2002
To: Distribution
From: OTUKA Naohiko and KATO Kiyoshi
Subject: Double differential cross section integrated over angular range

We are compiling an experiment which studies gamma spectra from $^{10,12}\text{Be}+p$ (H.Iwasaki et al., Phys. Lett. **B481** (2000) 7. De-excitation gamma-rays were detected by an array of 55 NaI (TI) scintillators which cover angular range from 67 to 148 degrees with respect to the beam axis. To compile these measurements, we propose to add the following quantity code to dictionary 36.

Dictionary 36 (Quantities)

, DA/DE, G, IPA DE Differential cross section with respect to outgoing gamma energy and angle integrated over partial angular range

We have attached a sample coded entry.

As this reference, recently we compile many reactions with the secondary beam in which fragments produced by the primary beam are separated and used as an unstable nucleus beam. To compile this type of the primary beam, we propose a new incident source code.

Dictionary 19 (Incident Source Codes)

PRJFS Secondary beam from projectile fragment separator

Distribution:

J.H. Chang, KAERI	M. Chiba, JCPRG	F.E. Chukreev, CAJaD	S. Dunaeva, VNIEF
O. Gritzay, KINR	A. Hasegawa, JAERI	K. Kato, JCPRG	M. Kellett, NEADB
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Sample of coded entry with proposed new code (E1721.002):

H. Iwasaki et al., Phys. Lett. **B481** (2000) 7 Fig.1 (top)

```
SUBENT      E1721002   20021128      E172100200001
BIB         4         7      E172100200002
REACTION    (1-H-1(4-BE-10,G+P)4-BE-10,,DA/DE,G,IPA/REL) E172100200003
            DATA: counts/20keV      E172100200004
PART-DET    (G)      E172100200005
            (4-BE-10)      E172100200006
EN-SEC      (E,G)      E172100200007
            ANG is polar angle between beam and gamma      E172100200008
STATUS      (CURVE)Data scanned from Fig.1(top), p9 in reference E172100200009
ENDBIB      7         0      E172100200010
COMMON      3         3      E172100200011
EN          ANG-MIN   ANG-MAX      E172100200012
MEV/A       ADEG      ADEG      E172100200013
  59.2      67.0      148.0      E172100200014
ENDCOMMON   3         0      E172100200015
DATA        4         89      E172100200016
E           DATA     +DATA-ERR  -DATA-ERR      E172100200017
MEV         ARB-UNITS  ARB-UNITS  ARB-UNITS      E172100200018
  2.136E+00  1.397E+02  2.615E+01  2.769E+01      E172100200019
  2.158E+00  1.566E+02  2.615E+01  2.153E+01      E172100200020
  2.177E+00  1.073E+02  1.999E+01  2.615E+01      E172100200021
  2.195E+00  1.304E+02  2.307E+01  2.922E+01      E172100200022
  2.217E+00  1.703E+02  2.615E+01  2.615E+01      E172100200023
...
  3.607E+00  3.799E+01  1.692E+01  1.999E+01      E172100200092
  3.630E+00  7.178E+01  1.846E+01  1.846E+01      E172100200093
  3.651E+00  7.020E+01  1.846E+01  1.692E+01      E172100200094
  3.664E+00 -1.598E+01  1.692E+01  1.384E+01      E172100200095
  3.687E+00  2.242E+01  1.538E+01  1.692E+01      E172100200096
  3.703E+00  2.390E+00  1.692E+01  1.692E+01      E172100200097
  3.724E+00  1.003E+01  1.384E+01  1.538E+01      E172100200098
  3.746E+00  3.614E+01  1.384E+01  1.230E+01      E172100200099
  3.766E+00  3.786E+00  1.538E+01  1.538E+01      E172100200100
  3.791E+00  8.345E+00  1.384E+01  1.230E+01      E172100200101
  3.808E+00 -7.076E+00  1.846E+01  1.538E+01      E172100200102
  3.829E+00 -7.123E+00  1.846E+01  1.538E+01      E172100200103
  3.850E+00  5.135E+00  1.384E+01  1.384E+01      E172100200104
  3.867E+00  8.174E+00  1.692E+01  1.230E+01      E172100200105
  3.892E+00  3.502E+00  1.538E+01  1.230E+01      E172100200106
ENDDATA     91         0      E172100200107
ENDSUBENT   106        0      E172100299999
```