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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}Be+p (H.Iwasaki et al., Phys. Lett. **B481** (2000) 7. De-excitation gamma-rays were detected by an array of 55 NaI (Tl) 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
M. Lammer, NDS	S. Maev, CJD	V.N. Manokhin, CJD	V. McLane, NNDC
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M. Vlasov, KINR	M. Wirtz, NDS	V. Zerkin, NDS	Y.X. Zhuang, CNDC

Sample of coded entry with proposed new code (E1721.002):

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

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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
```