

Japan Charged-Particle Nuclear Reaction Data Group

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Memo CP-E/013

Date: December 3, 2002
To: Distribution
From: OTUKA Naohiko and KATO Kiyoshi
Subject: Azimuthal correlation of emitted particles in coincidence with heavy fragments

We are compiling an experiment which measures azimuthal correlations between emitted light charged particles in coincidence with heavy fragments in $^{84}\text{Kr}+^{27}\text{Al}$ collisions at 10.6 MeV/nucleon. (W.Q. Shen et al., Phys. Rev. **C56** (1997) 1996). The polar angle range of two light charged particles (ANG1-MIN, ANG1-MAX, ANG2-MIN and ANG2-MAX) and the polar angle for one heavy fragment (ANG-3) are fixed, and the azimuthal angle between the two light charged particles (ANG-4) is used as an independent variable. We propose to add the following new data heading and quantity codes to Dictionary 24 and 36:

Dictionary 24 (Data headings)

ANG1-MIN	Lower Limit of 1st Angle, definition given in BIB
ANG1-MAX	Upper Limit of 1st Angle, definition given in BIB
ANG2-MIN	Lower Limit of 2nd Angle, definition given in BIB
ANG2-MAX	Upper Limit of 2nd Angle, definition given in BIB

Dictionary 36 (Quantities)

, DA/CRL, P/P/FF	NO	Angular correlation protons/protons/fission products
, DA/CRL, P/A/FF	NO	Angular correlation protons/alphas/fission products
, DA/CRL, A/A/FF	NO	Angular correlation alphas/alphas/fission products

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Sample of coded entry with proposed new code (E1711.006):

W.Q. Shen et al., Phys. Rev. C56 (1997) 1996

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SUBENT      E1711006   20021004                               E171100600001
BIB          5         11                                       E171100600002
REACTION    (36-KR-84(13-AL-27,2P+F)MASS,,DA/CRL,P/P/FF)    E171100600003
PART-DET    fission fragment                                       E171100600004
              (P)                                                  E171100600005
EN-SEC      ANG1 is polar angle between beam and proton 1      E171100600006
              ANG2 is polar angle between beam and proton 2      E171100600007
              ANG3 is polar angle between beam and fission fragment E171100600008
              ANG4 is azimuthal angle between two protons         E171100600009
COMMENT     MASS-MIN: minimum mass number of coincident fragment E171100600010
              MASS-MAX: maximum mass number of coincident fragment E171100600011
STATUS      (CURVE)Data scanned from Fig.2(left), p1998 in      E171100600012
              reference                                           E171100600013
ENDBIB      11         0                                       E171100600014
COMMON      5         3                                       E171100600015
ANG1-MIN    ANG1-MAX   ANG2-MIN   ANG2-MAX   ANG3                E171100600016
ADEG        ADEG      ADEG        ADEG        ADEG                E171100600017
  10.0      160.0     10.0        160.0     10.0                E171100600018
ENDCOMMON   3         0                                       E171100600019
DATA        4         8                                       E171100600020
MASS-MIN    MASS-MAX   ANG4        DATA                E171100600021
NO-DIM      NO-DIM    ADEG        ARB-UNITS           E171100600022
  20.0      40.0      2.955E+01  1.916E+02        E171100600023
  20.0      40.0      4.928E+01  1.794E+02        E171100600024
  20.0      40.0      7.324E+01  1.823E+02        E171100600025
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