

# Japan Charged-Particle Nuclear Reaction Data Group

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## Memo CP-E/017

**Date:** February 3, 2003  
**To:** Distribution  
**From:** OTUKA Naohiko and KATŌ Kiyoshi  
**Subject:** Reply to CP-C/313, 314, 315 and  
NNDC's comments on PRELIM.E021, CP-E/013, 016

thank you very much for Vicki's carefully checking and giving useful comments and suggestions to help our compilations of PRELIM.E021. The following is reply for them:

### 1. Longitudinal momentum LP (CP-C/313)

We are satisfied with Vicki's proposals CP-C/313 1)-3).

### 2. Elementary particle production cross sections (PRELIM.E021.E1706, E1711, CP-C/314)

The preliminary E021 includes elementary particle production cross sections for anti-proton (in E1706) and positive kaon (in E1717). CP-C/314 proposes the following compilation for them:

REACTION	(6-C-0(D,X)1-AP-1, ,DA/DP)	E170600600003
REACTION	(6-C-0(KN,X)0-KP-0, ,DA/DP)	E171700200003

The expression for anti-proton looks good, while we prefer to use 1-KP-0, where we suggest  $Z$  would be the absolute value of electric charge. We also propose that  $A$  denotes absolute value of baryon number (this with the example of CP-C/314). We hope to have more discussion for  $K^+$ . We withdraw E1717 from final TRANS.E021 and wait a conclusion of High Energy Working Group).

### 3. Angular range codes: ANG1-MIN, ANG1-MAX. . . (PRELIM.E021.E1711, CP-E/013)

Vicki proposed to treat these angular ranges as additional information on 16 December. In the present paper (W.Q.Shen et al., Phys.Rev.C56(1997)1996, compiled as E1711 in PRELIM.E021),

- 1) Two polar angular ranges for two protons,  $10 \text{ deg} < \theta < 160 \text{ deg}$ , would rise from the limitation of measurement technique, which cannot cover most forward and backward direction;
- 2) The authors would not expect that this theta range affects current experimental azimuthal angular correlations.

So we conclude that these polar angular ranges can be treated as additional information. We also withdraw CP-E/013 which proposed new codes ANG1-MIN, ANG1-MAX, ANG2-MIN and ANG2-MAX.

#### **4. Beam from projectile fragment separator: PRJFS (PRELIM.E021.E1721, CP-E/016)**

In CP-E/016, we proposed new codes PRJFS (Secondary beam from projectile fragment separator) which is used in E1721 of PRELIM.E021. Vicki's counterproposal is PRJFS2. The last 2 probably expresses "secondary". It seems to be good. But now the length of code in Dict.18 (Facility) is limited to be less than 5. So now I propose to use PRJFS again if there is no other proposal.

#### **5. Reaction field particle considered (PRELIM.E021.E1748)**

We support Vicki's proposal for the expression of correlated particles in SF7. The following is a coding example for PRELIM.E021.E1748.020 using the proposal:

(DA/DA/DE, A/T/A-T or DA/DA/DE, T/A/T-A ?)

```
SUBENT      E1748020    20021202                E174802000001
BIB          7          23                    E174802000002
REACTION    (30-ZN-64(3-LI-7,T+A)30-ZN-64,,DA/DA/DE,A/T/A-T) E174802000003
DATA: triple differential cross section with respect E174802000004
      to kinetic energy and angle for relative motion E174802000005
      between alpha and triton, and angle for motion E174802000006
      of the center of mass of the 7Li(=alpha+triton) E174802000007
      system E174802000008
PART-DET    (A) E174802000009
            (T) E174802000010
...
EN-SEC      (E,T/A)kinetic energy for relative motion between E174802000017
            alpha and triton, positive (negative) energies E174802000018
            correspond to the branch where velocity of E174802000019
            alpha is larger (smaller) than that of triton E174802000020
ANG1 is polar angle between beam and alpha E174802000021
ANG2 is polar angle between beam and triton E174802000022
```

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