**Nuclear Data Section**

**International Atomic Energy Agency**

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**Memo CP-D/991**

**Date:** 4 March 2020

**To:** Distribution

**From:** N. Otsuka

**Subject: Partial elastic scattering? (REACTION SF3=EL and SF5=\*PAR\*)**

Suspicious combination of SF3=EL and SF5=PAR in a REACTION code was found in 53 subentries. I checked each case against the source article and summarized proposed corrections as appended to this memo.

In 10256.004-005 and 40934.046-072, neutron strength functions are coded not only with L but also with J, and this could be a reason why the quantity has been expressed with SF5=PAR.

The following new data heading is proposed for update of O2232.002.

**Dictionary 24 (Data headings)**

E-EXC-C-ER (Error in excitation energy of initial compound nucleus)

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**Combination of SF3=EL and SF5=PAR in REACTION codes (EXFOR Master Ver. 2020-03-02)**

(All items are registered in the EXFOR Feedback List.)

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| **EXFOR #** | **REACTION** | **Proposed corrections** | **Remark** |
| 10256.004 | (60-ND-145(N,EL),PAR,STF) | Delete SF5=PAR. SF1 must be 60-ND-143. | J dependent S0.  |
| 10256.005 | (60-ND-145(N,EL),PAR,STF) | Delete SF5=PAR. | J dependent S0.  |
| 12373.008 | ((92-U-235(N,EL)92-U-235,PAR,SIG)+(92-U-235(N,INL)92-U-235,PAR,SIG)) | SF3 must be SCT. |   |
| 12844.002 | (26-FE-54(N,EL)26-FE-54,PAR,POL/DA,,ANA) | Delete SF5=PAR and E-LVL=0.0 MeV. |   |
| 12844.003 | (29-CU-65(N,EL)29-CU-65,PAR,POL/DA,,ANA) | Delete SF5=PAR and E-LVL=0.0 MeV. |   |
| 22052.004.2 | (82-PB-207(N,EL),PAR,WID/STR) | SF3 must be G. |   |
| 22052.004.3 | (82-PB-207(N,EL),PAR,WID/STR) | SF3 must be G. |   |
| 22773.004 | (3-LI-6(N,EL)3-LI-6,PAR,DA) | SF3 must be INL. |   |
| 23030.009 | 6-C-12(N,EL)6-C-12,PAR,KER | SF3 must be INL. |   |
| 40934.046 | 52-TE-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.047 | 51-SB-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.048 | 48-CD-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.049 | 47-AG-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.050 | 46-PD-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.051 | 45-RH-103(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.052 | 44-RU-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.053 | 42-MO-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.054 | 40-ZR-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.055 | 34-SE-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.056 | 32-GE-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.057 | 30-ZN-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.058 | 28-NI-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.059 | 26-FE-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.060 | 22-TI-0(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.061 | 48-CD-106(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.062 | 48-CD-108(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.063 | 48-CD-110(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.064 | 48-CD-112(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.065 | 48-CD-116(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.066 | 50-SN-116(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.067 | 50-SN-117(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.068 | 50-SN-118(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.069 | 50-SN-119(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.070 | 50-SN-120(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.071 | 50-SN-122(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 40934.072 | 50-SN-124(N,EL),PAR,STF | Delete SF5=PAR. | J dependent S1.  |
| 41316.019 | (26-FE-56(N,G),PAR,WID)/(26-FE-56(N,EL),PAR,WID) | ? | Not in the source article? |
| A0945.003.1 | (7-N-14(P,EL),PAR,WID) | ? | Question sent to Sergey Artemov. |
| A1431.007 | 3-LI-6(D,EL)3-LI-6,PAR,DA | Delete SF5=PAR and E-LVL=0.0 MeV. |   |
| A1431.008 | 3-LI-7(D,EL)3-LI-7,PAR,DA | Delete SF5=PAR and E-LVL=0.0 MeV. |   |
| A1432.009 | 4-BE-9(D,EL)4-BE-9,PAR,DA,,REL | Delete SF5=PAR and E-LVL=0.0 MeV. |   |
| C0075.002 | 12-MG-24(P,EL)12-MG-24,PAR,DA | Delete SF5=PAR and E-EXC=0. MeV in 001. | Treated as (p,p0) data in IBANDL. |
| C0075.003 | 12-MG-24(P,EL)12-MG-24,PAR,POL/DA,,ANA | Delete SF5=PAR and E-EXC=0. MeV in 001. |   |
| C0179.004 | 7-N-14(P,EL)7-N-14,PAR,SIG | Delete SF5=PAR. |   |
| C2269.002.1 | 16-S-31(P,G),PAR,WID | Delete SF5=PAR and E-LVL values. Add resonance energy. |   |
| C2269.002.2 | 16-S-31(P,EL),PAR,WID | Delete SF5=PAR and E-LVL values. Add resonance energy. |   |
| C2269.002.3 | 16-S-31(P,EL),PAR,WID/STR | Delete SF5=PAR and E-LVL values. Add resonance energy. |   |
| D0279.007 | 32-GE-74(3-LI-6,EL)32-GE-74,PAR,DA | SF3 must be INL. |   |
| D0294.003 | 12-MG-24(P,EL)12-MG-24,PAR,DA | SF3 must be INL. |   |
| F0655.004 | 14-SI-28(A,EL)14-SI-28,PAR,DA | SF3 must be INL. Add E-RSL=1 MeV (or E-CM -> E-CM-MIN/MAX) |   |
| F0722.003 | 5-B-11(HE3,EL)5-B-11,PAR,DA | Elastic and inelastic data sets must be separated to two subentries. |   |
| F1095.003 | 5-B-11(P,EL)5-B-11,PAR,DA,,RSD | SF3 must be INL. |   |
| O0192.002 | 82-PB-208(P,EL)82-PB-208,PAR,POL/DA | Delete SF5=PAR and E-LVL=0.00 MeV. |   |
| O1768.006 | 28-NI-64(A,EL)28-NI-64,PAR,DA | SF3 must be INL. |   |
| O1768.007 | 30-ZN-66(A,EL)30-ZN-66,PAR,DA | SF3 must be INL. |   |
| O2232.002 | 1-H-1(8-O-15,EL),PAR,WID | Delete SF5=PAR. E-LVL -> E-EXC-CMP; E-LVL-ERR -> E-EXC-C-ER |  A new heading E-EXC-C-ER is proposed in this memo. |