**Nuclear Data Section**

**International Atomic Energy Agency**

**P.O.Box 100, A-1400 Vienna, Austria**

**Memo CP-D/1127**

**Date:** 28 February 2025

**To:** Distribution

**From:** N. Otsuka

**Subject: Correction of datasets having zero values for area 3, D, G and V entries**

**Reference:** Memo 4C-4/0242, CP-D/1126

Following the recommendation to NDS from the Vienna EXFOR workshop 2024 “*Register some items in Tables 2 to Table 5 of WS2024-02 to the EXFOR Feedback List.*”, I went through Tables 4 and 5 of the working paper (=Memo 4C-4/0242) **for area 3, D and G entries**, and registered selected items in the Feedback List as summarized at the end of this memo. Other centres are invited to do the same for the entries listed in Tables 4 and 5 maintained by the centres.

General remarks:

* “EXFOR Updates and Archives” of the NDS EXFOR web retrieval system displays comparison with old versions of each EXFOR entry, and it was very useful for this analysis.
* Deletion of zero errors from digitization is systematically suggested in this memo.
* For some of the cases not registered in the Feedback List, the originating centre may want to look into the data files received from the author. (It is indicated by **ATOMKI** and **CNDC** in the tables.)
* I found that two cases (30395.005 and 30470.002) are due to automatic cancellation of the vector common and one case (30204.002) is also due to automatic processing.
* When error = 0 is due to too strong rounding, we should think to add more digits. See an example below for EXFOR D6311.004. (Fortunately, the EXCEL file received from the author has been kept at NDS for this case).



**Table 4 (ERR-T)**

|  |  |  |
| --- | --- | --- |
| **Dataset #** | **Registered correction proposal(*or remark if not registered*)** | **Centre** |
| 30470.002 | Restore the dataset in TRANS.3033. |  |
| 30532.039 | Delete data lines with DATA=0 (c.f. Table II) |  |
| *30985.006* | (*0.0 in Table 2*) |  |
| *31461.002* | (*0.00 in Table I*) |  |
| *31605.004* | (*0.0 in data file from Xichao Ruan*) | CNDC |
| *32001.019* | (*Data compiled at TU Dresden*) |  |
| 32625.004 | ERR-T: Delete 0.00000. (digitization) |  |
| *32682.003* | (*Data received from author*) | CNDC |
| *32742.002* | (*Data received from R. Han*) | CNDC |
| *32774.002* | (*Data received from Yaling Zhang*) | CNDC |
| *D0754.006* | (*0.000 in the R33 file compiled by the first author.*) |  |
| *D0796.002* | (*0.000 in the R33 file compiled by the first author.*) |  |
| D4046.003.2 | 0.04+/-0.00 mb -> 0.042+/-0.005 mb at 2.95 MeV (c.f. Table 3). |  |
| D4055.004.2 | ERR-T: 0. mb -> 0.5 mb at 26.4 MeV (c.f. Table 3) |  |
| D4141.008 | ERR-T: 0.0 mb -> 0.1 mb at 5.1 MeV (c.f. Table 3) |  |
| *D4167.005.1* | (*Data received from F. Tarkanyi*) | ATOMKI |
| *D4173.004.1* | (*0.0+/-0.0 mb in Table 2*) | ATOMKI |
| D4189.002.1 | ERR-T: 0.00 mb -> 0.004 mb at 14.91 MeV; 0.00 mb -> 0.005 mb at 17.81 MeV (c.f. Table 3) |  |
| *D4209.006* | (*0.0+/-0.0 mb in Table 2*) | ATOMKI |
| *D4228.009* | (*0.04+/-0.00 mb in Table 2*) | ATOMKI |
| D4231.003 | ERR-T: 0.0 mb -> 0.04 mb at 9.7 MeV (c.f. Table 2a). Should we swap the DATA sections of 002 and 003 according to the article table?? |  |
| D4333.011 | ERR-T: 0.0 mb -> 0.04 mb at 43.1 MeV; 0.0 mb -> 0.05 mb at 44.8 MeV (c.f. Table 3) |  |
| D4368.007 | 0.3+/-0.0 mb -> 0.33+/-0.04 mb at 28.7 MeV (c.f. Table 4) |  |
| *D4369.017* | (*0.00+/-0.00 mb in Table 3*) | ATOMKI |
| D4376.010 | 0.02+/0.00 mb -> 0.017+/-0.004 mb at 10.88 MeV (c.f. Table 5) |  |
| *D4397.014* | (*0.1+/-0.0 mb in Table 4*) | ATOMKI |
| *D4401.015* | (*0.00+/0.00 mb in Table 4*) | ATOMKI |
| *D4407.008* | (*0.2+/-0.0 mb and 0.3+/-0.0 mb in Table 2*) | ATOMKI |
| *D4409.002* | (*1.2+/-0 mb in Table 2*) | ATOMKI |
| *D4409.005* | (*3.5+/-0 mb, 1.1+/-0 mb etc. in Table 3*) | ATOMKI |
| *D4411.009* | (*100.3+/-0.0 mb in Table 4*) | ATOMKI |
| D7038.006 | ERR-T: 0 mb -> 0.04 mb at 11.68 MeV (comment by M. Shahid, 28 Feb. 2025) |  |
| *D8096.002* | (*Data compiled by the first author*) | KAZMON |
| *G0038.003* | (*0.0000+/0.000 mb in the data file from the first author*) |  |

**Table 5 (DATA-ERR)**

|  |  |  |
| --- | --- | --- |
| **Dataset #** | **Registered correction proposal(*or remark if not registered*)** | **Centre** |
| 30204.002 | Restore the dataset in TRANS.3008. |  |
| 30358.002.3 | DATA-ERR: 0.00 eV -> 0.003 eV at 2.010 keV (c.f. Table 3). |  |
| 30395.005 | Restore the dataset in TRANS.3046. |  |
| 30508.002 | Delete DATA-ERR=0.00 at MASS=111 (c.f. Table I).  |  |
| 30508.003 | Delete DATA-ERR=0.00 at MASS=126 (c.f. Table II).  |  |
| 30508.004 | Delete DATA-ERR=0.00 at MASS=111 (c.f. Table I).  |  |
| 30508.005 | Delete DATA-ERR=0.00 at MASS=126 (c.f. Table II).  |  |
| *30623.003* | (*Negative signs in Table 1*) |  |
| 30828.003 | Delete DATA-ERR=0.000E+00 at 13.34 eV (digitization) |  |
| *30908.002* | (*0.12+/-0.00 in Table 1*) |  |
| 30908.003 | Delete DATA=ERR=0.000 at 1488.9 and 2655.0 keV (c.f. Table 2) |  |
| *31729.002* | (*0.0000 in the data file from the corresponding author*) |  |
| *31729.003* | (*0.0000 in the data file from the corresponding author*) |  |
| *31729.004* | (*0.0000 in the data file from the corresponding author*) |  |
| *31729.005* | (*0.0000 in the data file from the corresponding author*) |  |
| *31729.006* | (*0.0000 in the data file from the corresponding author*) |  |
| 31816.121 | Delete the data point at 81.91 keV. (c.f. table in p.242) |  |
| 31816.146 | Delete the data point at 67.8 keV. (c.f. table in p.272) |  |
| 31816.147 | Move data point at 1211.0 keV under DATA-MAX (c.f. table in p.277) |  |
| 31816.158 | Move data point at 144.0 keV under DATA-APRX (c.f. table in p.296) |  |
| *32868.004* | (*Negative uncertainties in the data file from Hu Ji-Feng*) | CNDC |
| 33026.004 | DATA-ERR: 0.000 -> 0.020 for 58-CE-146 (c.f. Table 1) |  |
| *33167.002* | (*0 in the data file from the first author*) |  |
| D0076.010 | Delete the data point at 11.73 MeV. (Digitization of the same point twice) |  |
| *D0171.003* | (*0.00 in the data file from an author*) |  |
| *D0207.004* | (*0 in the data file from Deon Steyn*) |  |
| *D0207.007* | (*0 in the data file from Deon Steyn*) |  |
| D0493.024 | DATA-ERR: 0 mb -> 30 mb at 84.3 MeV (c.f. Table V) |  |
| *D0579.003* | (*Question sent to J.-C. David who submitted the data file to the IAEA spallation model benchmark.*) |  |
| *D0620.009* | (*0.0 in Table 4.8*) |  |
| *D0620.010* | (*0.0 in Table 4.9*) |  |
| *D0659.004* | (*Negative signs in Table II*) |  |
| D0813.003 | DATA-ERR: 0.0 -> 0.016 at 106.49 MeV (c.f. Table II) |  |
| *D0839.002* | (*Problematic DATA-ERR value not seen*) |  |
| *D0878.002* | (*.000E+0 +/- 0.00E+0 in p.23 of the report*) |  |
| *D0905.002* | (*0.0000000 in the data file from V.Zagatto*) |  |
| *D0940.002* | (*0.0 in Table 16*) |  |
| *D0940.003* | (*0.0 in Table 16*) |  |
| *D0975.002* | (*0.00E+00 in the data file from Acharya*) |  |
| *D0975.003* | (*0.00E+00 in the data file from Acharya*) |  |
| D0991.004 | DATA-ERR: Delete 0.00E+00 (digitization) |  |
| D0991.005 | DATA-ERR: Delete 0.00E+00 (digitization) |  |
| *D0992.003* | (*0.000 in the data file from A.Lepine-Szily*) |  |
| *D4242.006* | (*0.01+/-0.00 mb in Table 2*) | ATOMKI |
| *D4260.012* | (*The cross section uncertainty is missing in Table 4!*) | ATOMKI |
| *D4260.014* | (*0.0 in Table 4*) | ATOMKI |
| *D4325.021* | (*0.0+/-0.0 mb in Table 4*) | ATOMKI |
| *D5196.002* | (*1.2+/-0.00 in Table 2*) |  |
| D6021.019 | DATA-ERR: Delete 0.000E+00 at 22.54 MeV (digitization) |  |
| D6021.034 | DATA-ERR: Delete 0.000E+00 at 43.88 deg (digitization) |  |
| D6058.003 | DATA-ERR: -0.04 -> 0.04 at 4th data point (c.f. Table 1) |  |
| D6065.006 | DATA-ERR: Delete 0 for 53-I-131,132,133,134 (c.f. Table 2) |  |
| *D6112.002* | (*Data received from Dhruba Gupta but file not available*) |  |
| *D6112.003* | (*Data received from Dhruba Gupta but file not available*) |  |
| *D6112.004* | (*Data received from Dhruba Gupta but file not available*) |  |
| *D6112.005* | (*Data received from Dhruba Gupta but file not available*) |  |
| D6158.002 | DATA-ERR: Delete 0.00E+00 (digitization) |  |
| D6166.003 | DATA: Delete 0.0000E+00 (digitization) |  |
| *D6222.002* | (*Data received from an author*) |  |
| *D6224.005* | (*Data received from first author?*) |  |
| *D6224.009* | (*Data received from first author?*) |  |
| *D6224.012* | (*Data received from first author?*) |  |
| *D6224.013* | (*Data received from first author?*) |  |
| *D6224.018* | (*Data received from first author?*) |  |
| *D6224.019* | (*Data received from first author?*) |  |
| *D6229.002* | (*Data received from author*) |  |
| *D6229.003* | (*Data received from author*) |  |
| *D6235.016* | (*Data received from author*) |  |
| *D6235.017* | (*Data received from author*) |  |
| *D6235.019* | (*Data received from author*) |  |
| *D6243.004* | (*Data received from author*) |  |
| *D6243.005* | (*Data received from author*) |  |
| *D6245.002* | (*Data received from author*) |  |
| *D6245.003* | (*Data received from author*) |  |
| D6311.004 | DATA and DATA-ERR: Add more digits in the EXCEL file from the author to avoid DATA-ERR=0.0. |  |
| *D8047.006* | (*Data received from Salvatore Calabrese*) |  |
| *G0003.006* | (*Corrected in TRANS.G05*3) |  |
| *G0003.007* | (*Corrected in TRANS.G053*) |  |
| *V0002.003-008, 011-015,017-023* | (*Lapenas’s book is not available. These zeros are seen in TRANS.V001.*) |  |

**Distribution:**

nrdc.memo-distribution@iaea.org