# The IAEA CRP on IRDFF Validation and EXFOR

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In order to improve the EXFOR completeness for the ongoing IAEA CRP "Testing and Improving the International Reactor Dosimetry and Fusion File (IRDFF), 2013 – 2017" (https://www-nds.iaea.org/IRDFFtest/), we checked the completeness of EXFOR for $^{252}$Cf spontaneous and $^{235}$U thermal-neutron induced fission neutron spectrum averaged cross sections against the experimental works cited in the following tables:

| **Publication** | **pages** | **Table No.** | **Neutron source** |
|---|---|---|---|
| Technical Report Series 452 (International Reactor Dosimetry File 2002 (IRDF-2002, 2006). | 9-10 | 2.1, 2.2 | $^{252}$Cf(sf). $^{235}$U($n_{th}$,f) |
| INDC(NDS)-435 (Report of TM on "International Reactor Dosimetry File: IRDF-2002, 2002). | 43-44 | 1, 2 | $^{252}$Cf(sf), $^{235}$U($n_{th}$,f) |
| Technical Report Series 273 (Handbook on Nuclear Activation Data, 1987). | 415 | I | $^{252}$Cf(sf) |
| IAEA-TECDOC-208 (Neutron cross sections for Reactor Dosimetry, 1978). Vol. 1. | 239 | I | $^{252}$Cf(sf) |
| Technical Report Series No.156 (Handbook on Nuclear Activation Cross-Sections, 1974). | 282 | II to V | $^{235}$U($n_{th}$,f) |
| Proc. 5th ASTM-EURATOM Symposium on Reactor Dosimetry, Geesthacht, 24-28 Sept 1984 (84GEESTH). Vol.2. | 801, 813 | 3, 4 | $^{252}$Cf(sf). $^{235}$U($n_{th}$,f) |
| Report NBSIR 85-3151 (1986). | 66, 68 | X-16, X-18 | $^{235}$U($n_{th}$,f) |

We identified the following 10 articles for EXFOR compilation:

| **Article** | **Lab.** | **Centre** | **Action** |
|---|---|---|---|
| H. Farrar, W.N. McElroy et al., Nuclear Technology 25(1974)305 | 1USAAIF (EBR-II) 1USAINL (CFRMF) | NNDC | Compile! |
| R. Fleming et al., Proc. of the 2nd ASTM-EURATOM Symp. on Reactor Dosimetry, Palo Alto, CA (1977), vol.2 p.953 (=NUREG/CP-0004) | 1USANBS | NNDC | Compile! |
| V. Spiegel et al., Proc. of the 2nd ASTM-EURATOM Symp. on Reactor Dosimetry, Palo Alto, CA (1977), vol. 2 p.959 (=NUREG/CP-0004) | 1USANBS 1USAGEV | NNDC | Compile! |
| W.G. Alberts et al., Proc. of the 4th ASTM-EURATOM Symp. on Reactor Dosimetry, Gaithersburg, MD (1982), vol. 1 p.433 (=NUREG/CP-0029) | 2GERPTB | NNDC | Compile! |
| W. Mannhart et al., Proc. of the 4th ASTM-EURATOM Symp. on Reactor Dosimetry, Gaithersburg, MD (1982), vol. 2 p.637 (=NUREG/CP-0029) | 2GERPTB | NEA | EXFOR 21817 (rev.) in PRELIM.2238 |
| P. De Regge et al., Radiochimica Acta **9** (1968) 57 | 2BLGMOL | NEA | EXFOR 23224 in PRELIM.2238 |
| B. M. Oliver et al., Proc. of 4th ASTM-EURATOM Symp. on Reactor Dosimetry, Gaithersburg, MD (1982), vol. 2 p.889 (=NUREG/CP-0029) | 2BLGMOL | NEA | EXFOR 23226 in PRELIM.2238 |
| O. Horibe et al., Proc. of Int. Conf. on Nucl. Data and Technol., Jülich (1991), p. 68. | 2JPNKTO | NEA | EXFOR 23223 in PRELIM.2238 |
| M. Buczko et al., Proc. of Int. Symp. on Californium 252 Utilizations, Paris (1976), p.IV-19. (=CONF-760436 Vol. II) | 3HUNKOS | NDS | EXFOR 31731 in PRELIM.3162 |
| Yu.S. Zamyatnin et al., Proc. Int. Symp. On Californium 252 Utilizations, Paris (1976) p.IV-1. (=CONF-760436 Vol.II) | 4RUSNIR | CJD | Check if $^{252}$Cf(sf) PFNS must be compiled. |

The 15th International Symposium on Reactor Dosimetry will be on 18-23 May 2014 in Aix en Provence (France). We plan to scan the proceedings of the rest symposiums.

| | Year | Location | Publication* |
|---|---|---|---|
| 1 | 1975 | Petten, The Netherlands | EUR-5667 |
| 2 | 1977 | Palo Alto, California, USA | NUREG/CP-0004 |
| 3 | 1979 | Ispra, Italy | EUR-6813 |
| 4 | 1982 | Gaithersburg, Maryland, USA | 82GAITHERS<br>82WASH<br>NUREG/CP-0029 |
| 5 | 1984 | Geestacht, Germany | 84GEESTH<br>EUR-9869 |
| 6 | 1987 | Jackson Hole, Wyoming, USA | ASTM-STP-1001 |
| 7 | 1990 | Strasbourg, France | EUR-14356 |
| 8 | 1993 | Vail, Colorado, USA | |
| 9 | 1996 | Prague, Czech Republic | |
| 10 | 1999 | Osaka, Japan | ASTM-STP-1398 |
| 11 | 2002 | Brussels, Belgium | |
| 12 | 2005 | Gatlinburg, Tennesee, USA | |
| 13 | 2008 | Akersloot, The Netherlands | |
| 14 | 2011 | Bretton Woods, New Hampshire, USA | |

*Manual CINDA records exist for underlined codes