

**LEXFOR “Data Type” (Data Derived with Extrapolation)**

(N. Otsuka, O. Schwerer, 2015-02-12, Memo CP-D/866)

Sometimes authors do downward extrapolation of an energy spectrum beyond the detection threshold energy to obtain energy-integrated cross sections. High-energy (96 MeV) neutron induced charged-particle production cross sections measured at Uppsala and published from analyses of the same raw data by two independent groups [1,2] show such examples:

Outgoing particle	Tippwan (2009) [1]		Bergenwall (2005) [2]	
	measured (mb)	extrapolated (mb)	measured (mb)	extrapolated (mb)
p	149.0±15.0	170.0±17.0	203.6±2.4	227.6±18.6
d	56.0±3.0	70.0±4.0	87.9±1.7	104.1±8.2
t	20.0±1.0	32.0±2.0	29.6±1.4	46.2±4.46
<sup>3</sup> He	7.4±0.6	16.0±2.0	4.8±0.8	22.3±3.7
α	134±8	207.0±12.0	163.5±2.6	301.5±29.7

We believe that `DERIV` must be coded in `REACTION SF9` when the extrapolation contributes a significant correction, and propose addition of the following item to the derived data entered with `DERIV` in LEXFOR “Data Type”.

“Data obtained with an extrapolation which contributes a significant correction.”

We also would like to ask compilers to explain the derivation under the keyword `ANALYSIS` when `DERIV` is applied.

**References**

[1] U. Tippwan et al., Phys.Rev.C79(2009)064611 (EXFOR 14236).

[2] B.E. Bergenwall et al., Nucl.Phys.A747(2005)152 (EXFOR 22888).