

SUBGROUP 5 (E. Fort)

²³⁹Pu FISSION CROSS-SECTION (between 1 KeV and 100 KeV)

WESTON's experiment 1984 normalized on $I_f = \int_{100\text{ev}}^{1000\text{ev}} \sigma_{n,f}(E) dE$

He found $I_f = 8996 \text{ b.e.v}$; Error of 4% in normalization suspected

Measurements performed in the appropriate energy range to obtain a new value for I_f

at GEEL (WAGEMANS) NSE 115, 173-176 (1993)

at OAK-RIDGE (WESTON) NSE 115, 164-172 (1993)

Normalization possible with respect to either $\sigma_{n,f}^{th}$ or $^{10}B(n,\alpha)$

If normalization on $^{10}B(n,\alpha)$ (both experiments) $\Rightarrow I_f = 9275 \text{ b.e.v}$

$$\Rightarrow \text{N.F} = 1.031 \pm 0.009$$

" " $\sigma_{n,f}^{th}$ (WAGEMANS) $\Rightarrow I_f = 9275 \text{ b.e.v}$

$$\Rightarrow \text{N.F} = 1.035$$

JEF2 validation (with set of convergent information) requires

- 10% on $\sigma_{n,f}$ $E < 1 \text{ MeV}$ (perfect agreement with model calculation based on new total x-section $E < 500 \text{ KeV}$ (OAK-RIDGE))

+1.8% \pm 1.4% on $\sigma_{n,f}$ with respect to JEF2 \approx B6

$$10 \text{ KeV} < E < 1.3 \text{ MeV} \Rightarrow \text{N.F} = 1.05$$

New set of resonance parameters (H.DERRIEN + J. Nucl. Sci. Techno) for JEF3

represent well renormalized data and transmission data OAK-RIDGE

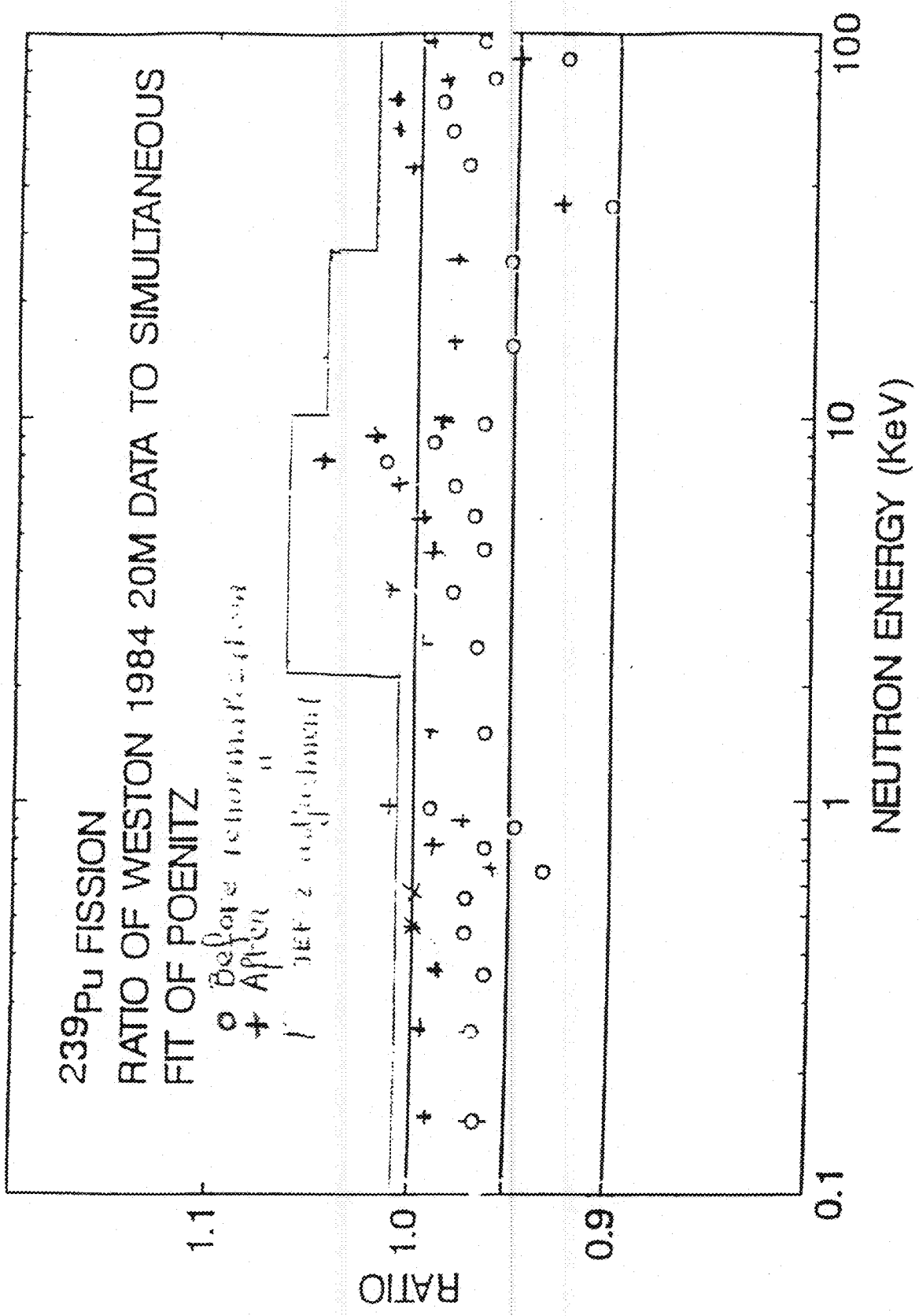


Fig. 1 - Ratio of WESTON's data (1984) to simultaneous fit of POENITZ