

**1. Mean weighted deviation or H factor (similar to chi-square)**

[N.V. Kurenkov et al., ARI **50** (1999) 541]

$$H = \left( \frac{1}{N} \sum_{i=1}^N \left( \frac{\sigma_i^{\text{exp}} - \sigma_i^{\text{calc}}}{\Delta \sigma_i^{\text{exp}}} \right)^2 \right)^{1/2}$$

**2. Relative variance of theoretical and experimental data**

[N.V. Kurenkov et al., ARI **50** (1999) 541]

$$D = \frac{1}{N} \sum_{i=1}^N \left| \frac{\sigma_i^{\text{exp}} - \sigma_i^{\text{calc}}}{\sigma_i^{\text{exp}}} \right|$$

**3. Ratio of calculated to experimental values**

[C.H.M. Broeders et al., J. Nucl. Radiochem. Sci., **7** (2006) N1]

$$R = \frac{1}{N} \sum_{i=1}^N \frac{\sigma_i^{\text{calc}}}{\sigma_i^{\text{exp}}}$$

**4. Mean square deviation factor**

[Yu.E. Titarenko et al., PRC **78** (2008) 034615; R. Michel et al., NIMB **129** (1997) 53]

$$F = 10 \left( \frac{1}{N} \sum_{i=1}^N \left[ \log(\sigma_i^{\text{exp}}) - \log(\sigma_i^{\text{calc}}) \right]^2 \right)^{1/2}$$

**5. Leeb factor** [H. Leeb et al., ND 2004, pp. 161]

$$L = \left[ \frac{\sum_{i=1}^N \left( \frac{\sigma_i^{calc}}{\Delta\sigma_i^{exp}} \right)^2 \left( \frac{\sigma_i^{calc} - \sigma_i^{exp}}{\sigma_i^{calc}} \right)^2}{\sum_{i=1}^N \left( \frac{\sigma_i^{calc}}{\Delta\sigma_i^{exp}} \right)^2} \right]^{1/2}$$

**6. Additional values** [Yu. E. Titarenko, ISTC 839B-99, 2001; A. Yu. Konobeyev et al., Kerntechnik 73 (2008) 1-2 ]

$$P_x = \frac{N_x}{N}$$

$N_x$  is the number of points with the ratio:

$$1/x < \sigma_i^{calc} / \sigma_i^{exp} < x$$

Where:

$\sigma_i^{exp}$  is the measured cross section,  $\Delta\sigma_i^{exp}$  is the uncertainty of the measured value,  $\sigma_i^{calc}$  is the calculated cross section, and  $N$  is the number of experimental points.

Specifically;

$$P_{1.3} = N_{1.3}/N, \quad N_{1.3} : 0.77 < \sigma_i^{calc} / \sigma_i^{exp} < 1.33$$

$$P_{2.0} = N_{2.0}/N, \quad N_{2.0} : 0.50 < \sigma_i^{calc} / \sigma_i^{exp} < 2.0$$

$$P_{10.0} = N_{10.0}/N, \quad N_{10.0} : 0.1 < \sigma_i^{calc} / \sigma_i^{exp} < 10.0$$