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Memo CP-D/485

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To: Distribution

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Subject: Additions to dictionaries 34 (Modifier) and 236 (Quantities)

Reference: Memo CP-E/109

In LEXFOR (p.S.11) for resonance strength is used following formula:

$$\omega\Gamma = (2J+1) / ((2J_i+1)(2J_j+1)) \Gamma_i \Gamma_j / \Gamma_{tot},$$

where $(2J+1) / ((2J_i+1)(2J_j+1))$ is statistical factor.

But in a lot of publications for resonance strength authors use another formula:

$$\omega\Gamma = (2J+1) \Gamma_i \Gamma_j / \Gamma_{tot},$$

for example in publications:

1. PR/C,15,579,1977
2. P.Endt NP/A,521,1,1990, etc..

The difference is in coefficient: $1 / ((2J_i+1)(2J_j+1))$.

It is useful to add modifier for common reaction code:

Addition to dictionary 34 (reaction field SF8):

RG -times: $(2J_i+1)(2J_j+1)$.

Additions to Dictionary 236:

WID/STR,,RG RP E - resonance strength: $(2J+1) * \Gamma(i) \Gamma(j) / \Gamma(\text{tot})$,
PAR,WID/STR,,RG RP E - partial resonance strength with factor RG

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