

Heading for Averaged Resonance Parameter Energy Range

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We found an inconsistency in the coding rule of energy ranges of averaged (*i.e.*, unresolved) resonance parameters:

1. The LEXFOR entry “Average resonance parameters” explains that “For average resonance parameters, the energy range over which the data were averaged must be specified under the data headings **EN-MIN** and **EN-MAX**.”.
2. Quantity codes for both resolved and unresolved resonance parameters (*e.g.*, `,WID` for resonance width; `,STF` for strength function) are defined with the resonance flag (`.`) in the dictionary 236 and therefore it requires resonance energies (**EN-RES-MIN**, **EN-RES-MAX**) as independent variables.

Single (*i.e.*, resolved) resonance level energies (**EN-RES**) are not adjustable, while boundaries of unresolved resonance regions can be chosen by experimentalists. This could be the reason why the current LEXFOR entry proposes **EN-MIN/MAX** rather than **EN-RES-MIN/MAX**. To implement this idea in the dictionary level, however, we need to add many new quantity codes for averaged resonance parameters to Dictionary 236 without the resonance flag so that checking programs accept the incident energy (**EN**) instead of the resonance energy (**EN-RES**) as an independent variable.

On the other hand, the use of **EN-RES-MIN/MAX** requires change of the few lines of the LEXFOR entry only. In this case, compilers also do not need to remember the difference in the rules between “resolved” and “unresolved”. Therefore we propose to use the heading **EN-RES-MIN/MAX** for averaged resonance parameter.

The numbers of relevant resonance parameter (**RP**) data sets are tabulated below. We would believe that there is no trouble due to this mixing in daily EXFOR use, and propose not to enforce centres to retransmit their entries due to this clarification of the rule.

Heading	# of data sets
EN-RES-MIN	430
EN-RES-MAX	496
EN-MIN	1318
EN-MAX	1419