Status of WPEC SG32 Assessment of the Unresolved Resonance Treatment for Cross Section and Covariance Representation

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November 4, 2009

SG32: Assessment of the Unresolved Resonance Treatment for Cross Section and Covariance

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Timeframe: 2008—2011

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SG32: Assessment of the Unresolved Resonance Treatment for Cross Section and Covariance

Objective: Assess the unresolved resonance treatment for cross section and covariance representation

I. To assess existing methodology based on the Single-Level Breit-Wigner Formalism;
   - Generate URR parameters for ^{235}U and ^{238}U
   - Process ^{235}U and ^{238}U (AMPX and NJOY) and generate self-shielding factors for several temperatures
   - Compare results with calculations using resolved resonance formalisms

II. To evaluate other existing formalisms for treating the unresolved resonance region;

III. To implement new formalism and test
   - Make recommendation for ENDF format using more rigorous treatment for URR

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- **SLBW formalism in the URR**

  Is it good enough? Yes (✓) No ( )

- **Self-shielding is important in the URR**

^{235}U	**Yes ( )**	**No ( )**
^{238}U	**Yes ( )**	**No ( )**
^{239}Pu	**Yes ( )**	**No ( )**

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- **URR data representation**

  LSSF=0

  LSSF=1

  Which one is the better representation?

- **Sublet publication: Processing codes indicates ambiguity in the ENDF interpretation of the URR data**

- **Ribon CALENDF code incorporates SLBW, MLBW and RM formalism in the URR**