Toward ENDF/B-IX evaluations

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KEY EVALUATION PRINCIPLES:

- ❑ Do not harm
- ❑ Be aware of historical and previous evaluation decisions
- ❑ Ensure proposed changes are demonstrably better
- ❑ Anticipate potential problems and conduct validation testing

Additionally:

1. We expect good agreement with BOTH integral and differential data
2. High-quality evaluations require consistency of mean values and covariances (uncertainties plus correlations).

1. Covariances are ideally required for XS, DA, DE
2. Cross-reaction covariances (correlations) very desirable

Last two points are critical for optimization studies and adjustment

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(Plenty of) issues to be addressed in (neutron) induced reactions

- Issues in standard/reference reactions – ^{6}Li, ^{239}Pu, ^{235,238}U, ^{10}B, C
- Major actinides: issues identified in ^{239}Pu and ^{235}U; new PFNS for U8
- Fissiles: ^{241}Pu and ^{233}U
- Minor actinides: ^{232}Th, ^{240,242}Pu, ^{237}Np, ^{241,243}Am, …
- Issues in coolants/moderators: ^{16}O, ^{19}F, Cl, K
- Issues in structural materials: W, Ni, Fe, Cr, Ta, Cu, …
- Thermal capture and inelastic gammas to be included
- TSL
- RTC

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