Representation of Future Continuous Energy Yields with Correlations

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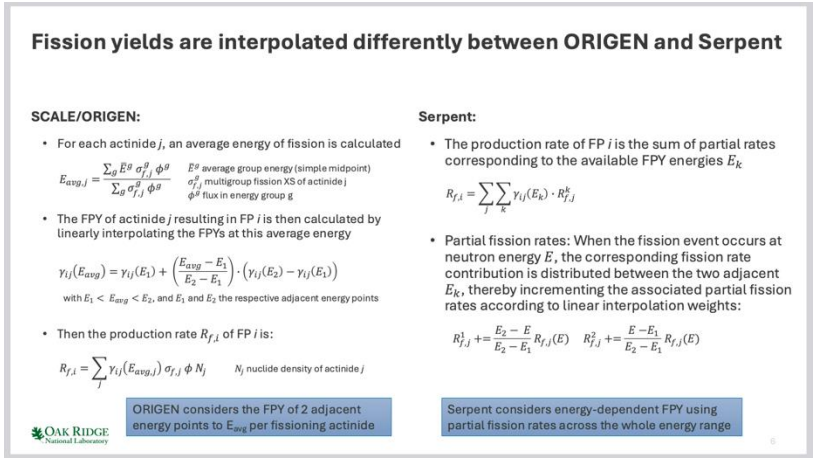
Continuous energy yields will require a new understanding of the interpolation procedures

Outreach

- Some application codes interpolate previous FPY evaluations



Slide from F. Bostelmann, Nuclear Data Week 2025

- Need to determine, document, and advertise best practices for spectrum-averaged and continuous energy FPY evaluations

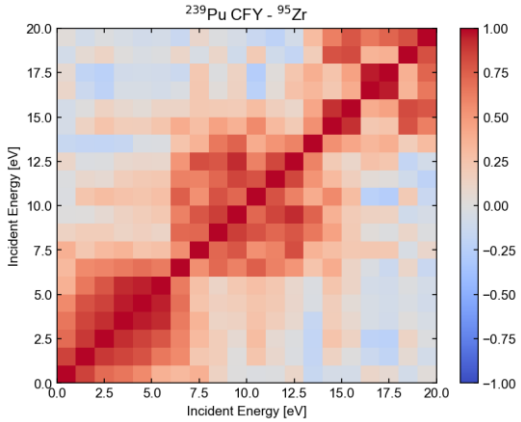
Code Updates

- Application codes may need to be updated to follow the best practices
  - Decay heat calculations
  - Inventory calculations
  - R-value calculations
- Community meetings and discussions
- Verification and validation
  - Identification of continuous energy evaluations
  - Inter-comparison exercises

Cross-product and cross-energy FPY correlations will be included in the new LANL FPY evaluation

Formats

- The ENDF-6 format needs an update for FPY covariances
  - New format will require testing
- Looking into the trade-off between detail and file size
  - Is 3 energy groups enough?



Code Updates

- Application codes will need to be updated to make use of the new covariances available
  - Decay heat, inventory calculations
  - R-value calculations
  - Anti-neutrino spectrum calculations
- Need to determine best practices for UQ with FPY covariances
  - Non-linear calculations
  - Gaussian uncertainties > 30% or non-Gaussian uncertainties