Los Alamos NATIONAL LABORATORY

Updates from the Covariance Session Committee

D. Neudecker

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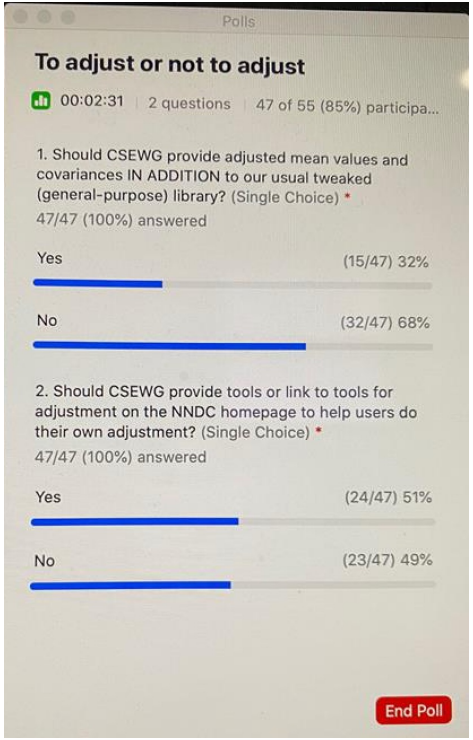
The CSEWG covariance session template paper was submitted on June 8, 2021 to journal:

Templates Observable	Lead
Total cross sections	A. Lewis
Capture cross sections	A. Lewis
N-induced charged-particle cross sections & angular distributions	D. Neudecker
Prompt fission neutron spectra	D. Neudecker
(n,xn) cross sections & angular distributions	J. Vanhoy & R.C. Haight
Average prompt fission neutron multiplicity	D. Neudecker
Fission yields	E.F. Matthews

Adjustment: CSEWG will not publish adjusted VIII.1, BUT there is interest in adjustment results from the community.



VIII.1: one general-purpose library with mean values tuned by hand to reproduce selected integral responses, covariance remain unchanged. It is up to the users to do their own adjustment.

<u>Into the future:</u>

- Discuss adjustment in cov. session to give recommendation how adjustment could be done by users & warn users of caveats, learn where nuclear data could be improved,
- Might document some VIII.1 tweaks & integral data used,
- Work with validation session to agree on what benchmarks/ integral responses we use for tweaking, e.g., version of Jezebel, but also vet what integral responses are adequate for tweaking.

Other focus points for the release for VIII.1:

- Stringent testing of covariances before their release:
  - We will have continued discussions on progress on releasing new covariances,
  - It would be great if covariances could be fully processed before their release,
  - We should consider aiming for testing covariances (for mathematical consistency, see if uncertainties are reasonable) before release.

- Missing covariances: please let me know if there are any covariances missing to satisfy covariance needs of your institution. We will collect those needs.

Outline of covariance session reflects that:

- Talks on adjustment and needed sensitivities,
- New covariances coming in for VIII.1,
- New developments in:
  - Testing & processing,
  - Neutron-Gamma correlations,
  - Uncertainty quantification,
  - Methods development.