Nuclear Data Validation and Integral Experiments
Beyond ICSBEP

Vladimir Sobes
ICSBEP for Nuclear Data Validation

![Graph showing cumulative chi-squared deviation for benchmarks ENDF/B-VII.1 and ENDF/B-VIII.0 with CIELO-1.](image)

- ENDF/B-VII.1
- ENDF/B-VIII.0 (with CIELO-1)

![Graph showing relative change in cross-section (%).](image)

- Jemimas
- UMF005-1
- Thor
- HMF15
- ZEUS

![Graph showing relative change in cross-section (%).](image)

- Benchmark Number

![Graph showing energy in eV.](image)

- Relative Change in Cross-Section (%)
Other Integral and Semi-Integral Experiments

Self-Shielding “Benchmark”
(Transmission through a thick sample)
- Test URR treatment
- ENDF is performing poorly
Future Nuclear Data Validation Needs

1. Single material, semi-integral experiments
   a. Isolated reactions
   b. Sensitivity to angular distribution
2. Integral experiments in application flux spectra
3. Systematic approach to incorporating integral measurements to improve nuclear data
4. Community Ideas: Cross-cutting validation?