Covariance Workshop Report

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CSEWG CovCom Meeting

BNL, 4-6 November 2008

A Workshop on Neutron Cross Section Covariances was held on June 24-June 27, 2008 (Tuesday morning - Friday noon) in Port Jefferson, New York. The Workshop was organized by the National Nuclear Data Center which is part of Brookhaven National Laboratory.

Workshop Officials

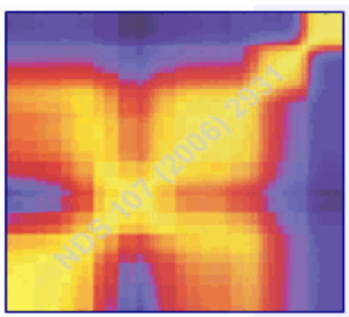
Organizers: Pavel Oblozinsky, Mike Herman, Alejandro Sonzongi, and the NNDC staff

Program Committee: Mark Chadwick, Yaron Danon, Michael Dunn, Anatoly Ignatyuk, Makoto Ishikawa, Toshihiko Kawano, Arjan Koning, Dennis McNabb, Giuseppe Palmiotti, Massimo Salvatores, Don Smith

Workshop Talks

- A links to the Workshop Agenda as well as to all the talks and the posters can be found at:

http://www.nndc.bnl.gov/cw2008/program.jsp



Some Workshop Statistics

- Registered participants: 53
  - ►United States: 37
  - ►Foreign Visitors: 16 from 10 countries

    Austria, Belarus, France, Germany, Israel, Japan, Netherlands, Slovenia, South Korea, United Kingdom
- Contributions: 39
  - ►Oral Talks: 32
  - ►Posters: 7

Contributions by Topic

- Introduction & Summary: 2
- User's Perspective: 4
- Methodology: 12
- Evaluations: 12
- Applications: 7
- Data Retrieval & Visualization: 2

Major part of the conference

Some Workshop Highlights (1)

- Methods (some new) for generating covariances in both light and heavy nuclei by both deterministic and Monte Carlo techniques were described
- The importance of attempting to assess the uncertainties associated with the use of nuclear models in producing evaluations and their covariances was addressed

Some Workshop Highlights (2)

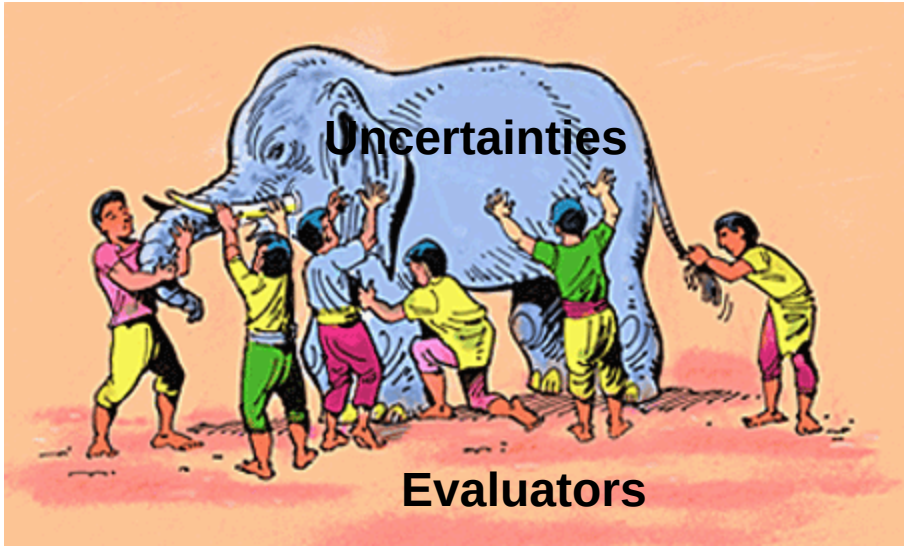
- Progress in implementing procedures to produce covariance in the major nuclear data evaluation codes was reported
- The possibility of progressing from nuclear model parameter and experimental data values and uncertainties directly to reactor system response analysis and uncertainty assessment was suggested and illustrated

Some Workshop Highlights (3)

- Technical details associated with processing covariance data and utilizing it in various system response uncertainty analyses were described
- The various roles for incorporating integral data in evaluations as well as in producing adjusted libraries for specific applications were discussed

Some Workshop Highlights (4)

- Progress achieved in evaluation projects for specific nuclei was presented
- The “low” fidelity covariance collaboration of BNL, LANL, ORNL, and ANL was described
- Various applications for covariances in fast reactor design, criticality safety, and reactor dosimetry were discussed
- …And much, much more!



Taming the beast!

Everyone agreed that the Workshop was a **SUCCESS** and that good progress has been made recently in understanding covariances and how to use them

… And miles to go before we sleep …

As all good Workshops should, this one introduced more problems than it solved. But … it achieved its goal of offering some valuable guidelines as to where future effort should be focused