CSWEG Covariances Committee (CovCom) Website

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CSEWG CovCom Meeting

BNL, 4-6 November 2008

Introduction

- A new website devoted to the Covariance Committee (CovCom) has been created within the CSEWG framework:

  http://www.nndc.bnl.gov/csewg/covariances.html

- <u>Content</u>: Charter, membership list, projects, references, documents

CSEWG Home Page

http://www.nndc.bnl.gov/csewg/
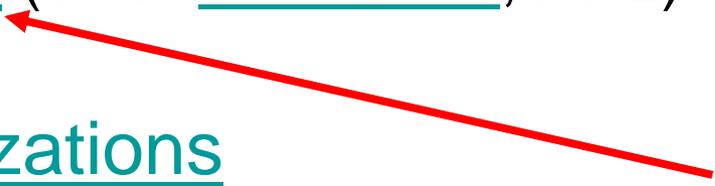
CSEWG Organization

CSEWG Chair (Pavel Oblozinsky, NNDC, BNL)
Executive Committee
Standing Committees:
– Evaluation (chair Mark Chadwick, LANL)
– Data Validation (chair Dick McKnight, ANL)
– Formats and Processing (chair Mike Dunn, ORNL)
– Measurements (chair Yaron Danon, RPI)
– **Covariances** (chair Don Smith, ANL)
Members
Member Organizations

Click here!

CovCom Main Page

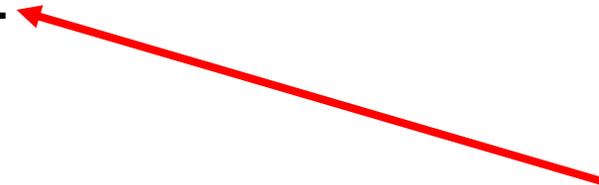**CSEWG Covariance Committee**

Overview

The Covariance Committee (CovCom) has the responsibility for addressing the topic of covariances relevant to evaluations that are to be included in the U.S. ENDF/B Library. While the actual generation of covariances is the responsibility of individual evaluators who produce these evaluations for ENDF/B, this committee maintains oversight and provides technical assistance and advice in the following areas:

- Encourage the development of methodologies for generating reasonable and reliable covariance information.
- Establish quality criteria for the covariances included in the ENDF/B library.
- Review covariance files submitted for inclusion in the ENDF/B library.
- Advise other committees of CSEWG on matters related to covariances.
- Maintain contact with the nuclear applications community regarding their requirements for nuclear data uncertainties.
- Provide sources of information concerning covariances.

For further details concerning the mission and methods of operation of this committee please refer to the CovCom Charter.

Other Links

- Covariance Committee Members
- Covariance Committee Projects
- Covariance References
- Covariance Documents

Click Here!

CovCom Charter

http://www.nndc.bnl.gov/csewg/covcharter.html

Charter

Background

The Covariance Committee (CovCom) of CSEWG was formally established by the Executive Committee of CSEWG during its annual meeting on 5 November 2007. It had been recognized for some time that CSEWG needed to devote more attention to this aspect of nuclear data evaluation in response to the growing demand for nuclear data uncertainty information from the nuclear applications community. Furthermore, it was felt by the CSEWG leadership that this could be accomplished best by maintaining a standing committee devoted specifically to this activity. This committee would operate on a par with, and in close collaboration with, the previously existing standing committees: Evaluation Committee, Formats and Processing Committee, Measurements Committee, and Data Testing Committee.

Mission

It is well recognized that covariances are an integral part of an evaluation, and their generation cannot be appropriately decoupled from the evaluation process. Therefore, it is not the objective of CovCom to unilaterally produce covariances for ENDF/B evaluations. Instead, the mission of this committee will be:

- Encourage work within the U.S. nuclear science community devoted to the development of efficient and mathematically sound approaches to the production of reliable covariance information in the context of nuclear data evaluation for the ENDF/B Library.
- Encourage evaluators who contribute to the ENDF/B Library to generate covariance files to accompany their evaluations. This will be carried out in close collaboration with the Evaluation Committee.
- Work with the CSEWG Formats and Processing Committee to insure that adequate and appropriate formats exist within the ENDF system to represent covariance information.

… Etcetera …

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Click Here!

CovCom Members

Covariance Committee Members

Name	Organization	E-mail
Arcilla, Ramon	NNDC-BNL	arcilla@bnl.gov
Brown, David	LLNL	brown170@llnl.gov
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Smith, Donald (Chair)	ANL	Donald.L.Smith@anl.gov
Summers, Neil	LLNL	summers21@llnl.gov
Talou, Patrick	LANL	talou@lanl.gov
White, Morgan	LANL	morgan@lanl.gov
Williams, Mark	ORNL	williamsml@ornl.gov

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CovCom Projects

Covariance Committee Projects

No information is available yet.

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CovCom References

http://www.nndc.bnl.gov/csewg/covrefs.html

- **Selected Covariance References**
- Covariance Workshop Talks, Workshop on Neutron Cross Section Covariances, June 24-27, 2008, Port Jefferson, New York.
- Donald L. Smith, "A Unified Monte Carlo Approach to Fast Neutron Cross Section Data Evaluation", Report ANL/NDM-166, Argonne National Laboratory (2008) … To be posted pending clearance by ANL.
  http://www.ne.anl.gov/capabilities/nd/reports/ANLNDM161.html
- Donald L. Smith, " Covariance Matrices for Nuclear Cross-Sections Derived from Nuclear Model Calculations", Report ANL/NDM-159, Argonne National Laboratory (2005)
  http://www.ne.anl.gov/capabilities/nd/reports/ANLNDM141.html
- Donald L. Smith, Dimitri G. Naberejnev, and Laura A. Van Wormer, "An Approach for Dealing with Large Errors", Report ANL/NDM-154, Argonne National Laboratory (2001).
  http://www.ne.anl.gov/capabilities/nd/reports/ANLNDM141.html
- Donald L. Smith, "A Least-Squares Computational 'Tool Kit' ", Report ANL/NDM-128, Argonne National Laboratory (1973).
  http://www.ne.anl.gov/capabilities/nd/reports/ANLNDM121.html
- Satoshi Chiba and Donald L. Smith, "A Suggested procedure for Resolving an Anomaly in Least-Squares Data Analysis Known as 'Peelle's Pertinent Puzzle' and the General Implications for Nuclear Data Evaluation", Report ANL/NDM-121, Argonne National Laboratory (1991).

… Etcetera …

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CovCom Documents

Covariance Committee Documents

No information is available yet.

The Future

- Additions to the Reference List are desired (contact Don Smith with your suggestions)

- During the coming year various documents will be solicited and added to the "Documents" section (PowerPoint presentations, etc.)

- Hopefully, one or two covariance-related projects along the lines of WPEC Subgroups will be started under the auspices of CovCom

- New members to CovCom are most welcome!