Technical Meeting on Neutron Data Standards

Report of Contributions

Contribution ID: **1**   Type: **not specified**

Neutron flux measurement of CSNS Back-n facility based on the neutron data standards

Thursday 30 January 2025 10:00 (1 hour)

Primary author: CHEN, Yonghao (Institute of High Energy Physics, Chinese Academy of Sciences)

Presenter: CHEN, Yonghao (Institute of High Energy Physics, Chinese Academy of Sciences)

Session Classification: Discussion

Contribution ID: **6**   Type: **not specified**

Status of the TNC data base

Monday 27 January 2025 11:00 (1h 30m)

Presenter: NOGUERE, Gilles (CEA Cadarache)

Session Classification: Welcome and Overview

Contribution ID: **9**   Type: **not specified**

New AMS activities in neutron-induced reactions

Monday 27 January 2025 14:00 (2 hours)

Presenter: WALLNER, Anton

Session Classification: Measurements

Contribution ID: **10**   Type: **not specified**

Fission induced by high energy neutrons on 235U at n_TOF: final results, impact and future perspectives

Wednesday 29 January 2025 15:30 (45 minutes)

Presenter: MANNA, Alice (University of Bologna)

Session Classification: Covariance

Contribution ID: **12** | Type: **not specified**

On the verification and interpretation of the evaluated data covariances

Wednesday 29 January 2025 14:45 (45 minutes)

Presenter: BADIKOV, Sergej

Session Classification: Covariance

Contribution ID: **13**　　　　　　　　　　　　　　　　Type: **not specified**

Comparison of Evaluated Covariance Matrices with USU Contribution

Thursday 30 January 2025 14:00 (45 minutes)

Presenter:　PRONYAEV, Vladimir

Session Classification:　Discussion

Contribution ID: **14** Type: **not specified**

An overview of the neutron-induced reactions integral references

Wednesday 29 January 2025 11:00 (1 hour)

Presenter: DURAN, Ignacio

Session Classification: Evaluation Methods

Contribution ID: **16**   Type: **not specified**

3He(n,p) The Forgotten Standard

Monday 27 January 2025 10:15 (45 minutes)

Presenter: CARLSON, Allan

Session Classification: Welcome and Overview

Contribution ID: **17**　　　　　　　　　　　　　　　　　　　Type: **not specified**

Status of and Plans for Light-Element Standards Evaluations at LANL

Tuesday 28 January 2025 16:00 (2 hours)

Presenter: HALE, Gerald (Gerry) (Los Alamos National Laboratory)

Session Classification: Evaluations

Contribution ID: **18**   Type: **not specified**

Towards a new 252 Cf(sf) PFNS evaluation: A multi-chapter story

Tuesday 28 January 2025 14:00 (2 hours)

The AIACHNE project presented on its method to pin-point physics root causes of systematic discrepancies between data sets, and new 252Cf PFNS evaluation, and a new 252Cf PFNS measurement. The new method to find physics root causes of systematic discrepancies between different experimental data sets uses a Bayes model to find biases tied to measurement features. It induces sparsity of systematic bias and features via a horseshoe prior. This method successfully identified known and previously unknown issues in data that prompted further analysis and improved the evaluation. We currently have a preliminary evaluation using a code that was able to reproduce Mannhart's evaluation within uncertainties (given that we don't know every detail of Mannhart's evaluation). This new evaluation shows less impact of the Li-6 peak seen in the detector response in some experiment and extends the energy range of the evaluation to lower and higher energies. Spectrum averaged cross sections (SACS) of IRDFF experiments calculated with our new evaluation are close to those calculated with Mannhart's spectrum except for the highest E-50% value if we use log-log interpolation. If we use lin-lin interpolation for the AIACHNE evaluation, we see a trend for too high calculated SACS compared to experimental SACS values stored in IRDFF. We are currently working on providing the data on a denser grid. At the same time, a new measurement of the 252Cf PFNS was undertaken using the CoGNAC array and several neutron-producing reactions to obtain a detector response. This new experiment will be included in the evaluation once the analysis is finalized and might help us to better understand the Li-6 response function of past measurements.
LA-UR-25-20638

Presenter: NEUDECKER, Denise (LANL)

Session Classification: Evaluations

Contribution ID: **20**   Type: **not specified**

TBD: Remarks on standard project, open issues and required work

Monday 27 January 2025 09:45 (30 minutes)

Presenter: CAPOTE NOY, Roberto Mario (IAEA NAPC-NDS)

Session Classification: Welcome and Overview

Contribution ID: **21**   Type: **not specified**

Help needed towards a new 252 Cf(sf) nubar evaluation

Wednesday 29 January 2025 14:00 (45 minutes)

This talk motivates why we need a new 252Cf(sf) nu-bar (uncertainty) evaluation and what help is needed to do so. The previous standard evaluation gave an uncertainty value of 0.13% while the current one gives a values of 0.42%. This increase of this standard uncertainty leads to increased major and minor actinide nu-bar uncertainties as most data are measured relative to the 252Cf(sf) nu-bar. Therefore, this increase in the standard impacts uncertainty bounds on applications downstream distinctly. After the release of the newest standards, new work has shown that neither the 0.13% nor the 0.42% are likely realistic. We need a new uncertainty estimate with a completely new evaluation. Given the importance of this particular evaluation, I am asking here for help from the standards committee in reviewing the data to counter-check my uncertainty estimate, as we'd better be sure of the uncertainties we want to publish next.
LA-UR-25-20617

Presenter: NEUDECKER, Denise (LANL)

Session Classification: Covariance

Contribution ID: **22**   Type: **not specified**

Comparative Analysis of Determination and Account of Unrecognized Source Uncertainty (USU) Covariances in the Data Evaluation Process

Wednesday 29 January 2025 10:00 (1 hour)

Presenter: PRONYAEV, Vladimir (privat)

Session Classification: Evaluation Methods

Contribution ID: **23**   Type: **not specified**

Shape Covariance Degeneracy

Tuesday 28 January 2025 10:00 (2 hours)

Presenter: SCHNABEL, Georg (IAEA)

Session Classification: Integral References

Contribution ID: **24**   Type: **not specified**

Evaluation Evolution since Standards 2017

Monday 27 January 2025 16:00 (2 hours)

Presenter: SCHNABEL, Georg (IAEA)

Session Classification: Measurements

Contribution ID: **25**   Type: **not specified**

Welcome address

Monday 27 January 2025 09:30 (15 minutes)

Presenter: KONING, Arjan (IAEA)

Session Classification: Welcome and Overview

Contribution ID: **26** Type: **not specified**

TBD

Thursday 30 January 2025 11:00 (1 hour)

Presenter: WALLNER, Anton (HZDR)

Session Classification: Discussion

Contribution ID: **27** Type: **not specified**

TBD

Thursday 30 January 2025 14:45 (45 minutes)

Presenter: SCHNABEL, Georg (IAEA)

Session Classification: Discussion