IAEA-NDS and the CIELO Project

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The CIELO Project

Quote: “A new paradigm to facilitate evaluated nuclear reaction data advances” (ND2013)

Past references of the IAEA:

- RIPL CRPs
- Nuclear reaction Standards
- Evaluations for Th-U fuel cycle
- Etc.

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Proposal: CIELO Network

- Set up a Nuclear Data Evaluation Network CIELO after the pilot project
- The IAEA-NDS is likely to get additional financial support for such activity
  - Organise regular meetings to coordinate activities
  - Host the dissemination and exchange of data files and documentation

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http://www-nds.iaea.org/CIELO/

Purpose:

- Facilitate quick and easy exchange of information and working data files
- Report on the status of the activities performed at the IAEA-NDS and elsewhere

Activities:

- U-238 starter file (current version “u238ib44”)
- U-235 thermal PFNS, cross sections (“u235ib02”)
- Fe-56 (with BNL) – data testing
- Correlations and cancellation of errors

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Participants
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Send e-mail
Mail to all
Mail to members

Links
Nuclear Data Services
Nuclear Data Section
NRDC Network
IAEA

CIELO Project (WPEC-SG40)

IAEA Data Development Project within the International Pilot Project of the OECD/NEA

IAEA DDP Coordinators: R.Capote and A. Trkov

Overall Objective

The overall objective of the CIELO Pilot Project (OECD/NEA WPEC SG-40) is to test the scheme of broad international collaboration to improve evaluated nuclear data files of the major nuclides: H-1, O-16, Fe-56, U-235, U-238 and Pu-239.

The collaboration scheme is similar to that employed in the IAEA CRP on Evaluated Nuclear Data for the Th-U Fuel Cycle, which resulted in a very successful new evaluation of Th-232 and improvements to the evaluations for other relevant nuclides.

Subjects/issues to address

1. Review of the status of experimental data
2. Identification of high priority measurement requests
3. Review of the capabilities and limitations of theoretical models
4. Identification of relevant benchmark experiments for data validation
5. Analysis and verification of the consistency of covariance information
6. Possibilities and limitations of data adjustment

Available Materials

Pu-239 | U-238 | U-235 | **Fe-56** | O-16 | H-1

Web Page Content

- Tabs for each of the nuclides
- Provide files/reports that are not available elsewhere, or provide links to those files.

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Pu-239

- Hosting the LANL evaluation provided by A.C.Kahler

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U-238

- CIELO Starter File version “u238ib44”
- Small improvements w.r.t. “u238ib36” mainly in threshold reactions
- Publications and internal documents describing the evaluation and its performance

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U-235

- PFNS evaluation for incident thermal neutrons (version “u235g6”) based on GANDR fit
- New evaluation by P. Romain from BRC with resonance data from ORNL
- New IAEA evaluation with resonance data from ORNL and “g6” PFNS
- Benchmarking of the two evaluations (report)

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Fe-56

- Root source of the data is the Gforge repository at BNL
- Investigation was done at the IAEA on the impact of the ORNL resonance parameters and angular distributions (report)

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O-16

- Preliminary analysis of the available new evaluations for O-16 (report)
- Hosting file based on ENDF/B-VII.1 with new resonance data by L. Leal from ORNL
- Hosting the LANL evaluation by G. Hale from LANL with missing data taken from ENDF/B-VII.1

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H-1

- Links to the data and documentation on the new scattering law data from ILL (France)
- Links to the data and documentation on the new scattering law data from CAB (Argentina)

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