

WPEC/SG-39

“Methods and approaches to provide feedback from nuclear and covariance data adjustment for improvement of nuclear data files”

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SG39 Workshop – Paris (France), November 27-28, 2014

- **Summary Record (May 2014)**

https://www.oecd-neo.org/science/wpec/sg39/Meeting3_May2014/Summary.pdf

- **List of Actions**

A1. E. Ivanov et al.

Analysis and report on FLATTOP-Pu, FLATTOP-25, ZPR-9/34, and ZPR-6/10 MC sensitivities

A2. M. Salvatores and PSI

PROTEUS measurements and availability of models for sensitivity and analysis.

A3. Integral experiments availability/modelling/analysis (Letter to NSC to be prepared):

- SINBAD (neutron propagation): ASPIS, JANUS, IPPE spheres, NESDP, FNG, etc. (I. Kodeli)
- STEK (variable spectrum hardness): contact Petten (E. Dupont) - > **Dirceu F. da Cruz**
- SEG (tailored adjoint flux shapes) (M. Ishikawa, G. Rimpault to be contacted, M. Salvatores, E. Dupont)
- IPPE transmission (Fe, ²³⁸U) (E. Dupont, M. Salvatores to check)
- RPI semi-integral (Fe, ²³⁸U) (E. Dupont, G. Palmiotti to check)

If available, how to share work: volunteers to make contributions? To be verified before next meeting (All)

A4. M. Salvatores, G. Palmiotti

Check the possibility to perform new experiments, e.g. in connection with the new NSC Expert Group on “Improvement of Integral Experiments Data for Minor Actinide Management”.

A5. INL, JAEA, CEA/JEFF (and Others)

New adjustment results and trends by next meeting, using updated covariance data if available (To be done in connection with CIELO).

CIELO Progress

Mark B. Chadwick
Program Director, Science Campaigns, ADX
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Overview:
Progress for O, Fe, Actinides – including brief summary from WPEC last May
CIELO A, B

CIELO, like ENDF, JEFF, JENDL, ... will serve many purposes

- **Most accurate understanding of certain reactions, cross sections**
 - Standards (IAEA, NEA, ENDF)
 - Repository for our advancing knowledge
- **Usage in nuclear technologies, where predicting certain integral quantities accurately is essential**
 - Transport
 - Criticality
 - Energy deposition
 - Activation
 - ...

Thus I propose that as we progress we create :
CIELO/A files – unadjusted, with corresponding covariances
CIELO/B files – may involve tweaks, and other judicial choices, again with appropriate covariances
CIELO/C etc – could be adjusted files from SG39 from a formal process, building on CIELO/A?

A6. P. Archier (and JAEA, G. Palmiotti)

Validation of covariance data: proposal to be finalized.

A7. K. Yokoyama, G. Palmiotti

Finalise methodology studies to avoid compensations, to point out to systematic effects, etc.

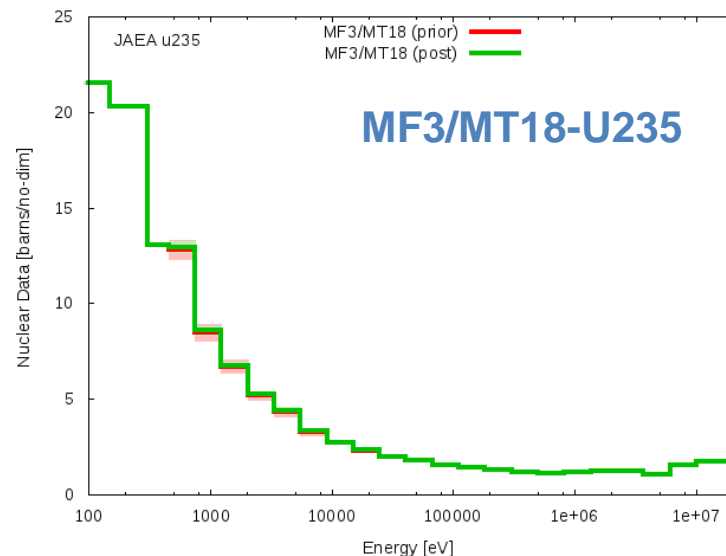
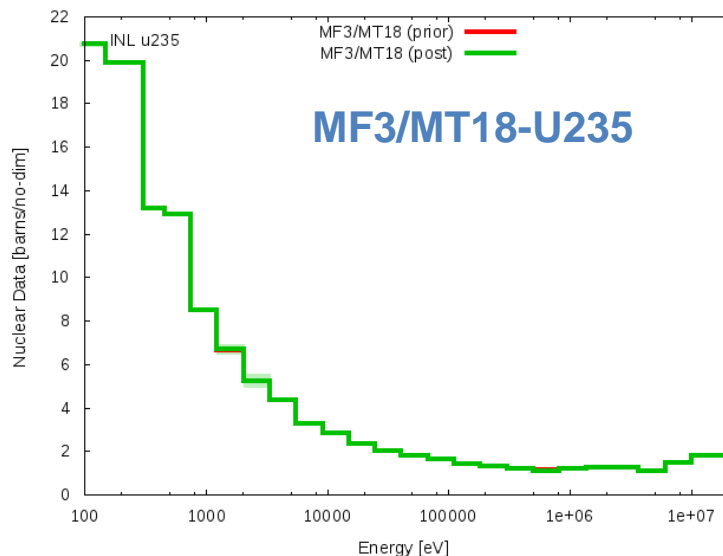
A8. E. Dupont

Update online plots' comparison.

<https://www.oecd-nea.org/science/wpec/sg39/adjustment/results>

<https://www.oecd-nea.org/science/wpec/sg39/adjustment/results/plots/html/>

(cf. bottom figures "Adjustment results relative to INL results" where the curve "JAEA_prior/INL_prior – 1" has been added).



Plots- Example, MF3/MT18-U235

