

CIELO U-235

Date: 3 February 2014

Place: Phone conference

Time: 16:00 (Paris, GMT+1), 8:00 (Los Alamos, GMT-7)

Participants:

BNL: M.Herman, D.Brown

CEA: G.Noguère (DEN), P.Romain and E.Bauge (DAM)

LANL: M.Chadwick, A.Kahler

ORNL: L.Leal

IAEA: R.Capote Noy

NEA: E.Dupont

The objective of this phone conference is to share progress and plans on the ^{235}U evaluation for the CIELO pilot project. A short-term milestone is to have a starter file by May 2014.

M.Chadwick opened the discussion and proposed to hear progress in the resonance region and in the continuum region from L.Leal and P.Romain, respectively.

Resonance region

L.Leal reminded participants of the issues identified by WPEC Subgroup 29 in the keV energy region for the $^{235}\text{U}(n,g)$ cross section. The re-evaluation work in the resolved resonance region (RRR, up to 2.25 keV) was initiated to solve this problem. The new analysis includes recent data measured at RPI (capture and fission) and at LANL (capture) up to a few keV (but data at higher energy were also measured). The preliminary integral validation results are encouraging when the new resonance parameters are included in JENDL-4.0 (but the results are not as good when using ENDF/B-VII.1). This work was summarised in the presentation he gave at the NEMEA/CIELO workshop in November 2013¹. The new resolved resonance parameter set is now almost ready for released, but L.Leal suggested updating the unresolved resonance region (URR, up to 25 keV) before repeating the integral validation.

G.Noguère reported that the new URR evaluation that was presented at the NEMEA/CIELO workshop is available for testing.

It was agreed that L.Leal and G.Noguère will finalise a complete MF2 file (RRR+URR) and will perform a few integral tests before releasing the new parameters for additional validation.

Continuum region

P.Romain reported on preliminary results he obtained when trying to better reproduce the standard $^{235}\text{U}(n,f)$ cross section (see Appendix). The objective of this work is to keep the overall consistency of the evaluation when replacing the calculated values by the standard ones. Of course, the change in the fission cross section affects the other channels and there is still work to be done, e.g. to get closer to the JENDL-4.0 capture cross section below 100 keV. E.Bauge inquired about the necessity to adopt standards data in the evaluated files.

R.Capote and M.Chadwick answered that it is certainly a good strategy to try to reproduce the standard values as closely as possible.

¹ www.oecd-nea.org/science/wpec/nemea7/presentations.html

