



Contribution ID: 121

Type: **Poster**

Research Alliance for Validation of PGAA Actinide Nuclear Data

Wednesday, 19 September 2012 18:00 (1h 50m)

A Memorandum of Understanding for close collaboration in the field of prompt gamma neutron activation analysis (PGAA) has been formulated and signed by several institutions. This research alliance includes at the moment FZJ and FRM II from Germany, BNC from Hungary, and LBNL, and will be extended to LLNL and NIST from USA as well as JAERI from Japan. Besides development of PGAA and their application in various fields the generation and validation of nuclear data for actinides is in focus to update neutron capture cross sections, energies, and intensities for prompt and delayed gamma ray data. These data are important input e.g. for simulation of GENIV reactor neutronics, nuclear waste management, safeguards applications and clearance and decommissioning of nuclear installations.

5 to 10 mg actinide-oxide powder was encapsulated in aluminum or quartz and exposed to a directed cold neutron beam at the research reactor in Budapest and at FRM II, Garching. Optimization of the sample preparation as well as irradiation conditions led to an improvement in overall uncertainty and accuracy. Experimental data were corrected for neutron self-absorption and gamma attenuation in the sample and container. Revised nuclear data will be incorporated in existing nuclear data tables and compilations.

Progress of experimental work will be reported and discussed.

Primary author: Dr ROSSBACH, Matthias (Institute for Energy and Climate Research, IEK-6: Nuclear Waste Management and Reactor Safety, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany)

Co-authors: Mr GENREITH, Christoph (Institute for Energy and Climate Research, IEK-6: Nuclear Waste Management and Reactor Safety, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany); Dr MAUERHOFER, Eric (Institute for Energy and Climate Research, IEK-6: Nuclear Waste Management and Reactor Safety, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany); Dr FIRESTONE, Richard B. (Lawrence Berkeley National Laboratory); BELGYA, Tamás (Institute of Isotopes, HAS); REVAY, Zsolt (Technical University Munich)

Presenter: Mr GENREITH, Christoph (Institute for Energy and Climate Research, IEK-6: Nuclear Waste Management and Reactor Safety, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany)

Session Classification: Poster Session

Track Classification: Radioanalytical Chemistry and Nuclear Analytical Techniques