



NES Colloquium

Tuesday, 13 Dec. 2016, 11:00 - 12:00, OSGA/EG06

Characterization and analysis of radioactive materials with mass spectrometry

Dr. N. Kivel, PSI, NES-AHL

Mass spectrometry is a very powerful analytical tool. Especially the inductively coupled plasma - mass spectrometer (ICP-MS) offers unprecedented sensitivity in the field of inorganic chemistry. Furthermore the deployment of multiple collector ICP-MS (MC-ICP-MS) systems for the determination of isotope ratios provides the opportunity to characterize radioactive materials with high precision and accuracy.

During the colloquium the basic principles of mass spectrometry will be addressed. Certain key applications of MC-ICP-MS determination of half-lives as well as neutron capture cross-sections in collaboration with n_TOF @ CERN will be presented.

In an outlook the new MC-ICP-MS system — which will be installed end of 2017 — will be presented. Additionally a brief overview of the planned modifications to the commercially available device will be given.