



Contribution ID: 386

Type: Talk

【336】 Relative Formation Probabilities for Fluoride and Oxyfluoride Anions Containing U, Np, Pu and Am in Accelerator Mass Spectrometry Measurements at VERA

Wednesday, September 1, 2021 6:15 PM (15 minutes)

The relative formation probabilities for a range of (oxy-)fluoride molecular anions containing uranium, neptunium, plutonium, and americium during the sputtering process in a Middleton type AMS ion source from an iron oxide matrix mixed with PbF_2 have been investigated at VERA. Identifying this distribution is important for the separation of U and Np isobars via element selective photodetachment and reactive gases in the ILLAMS ion-cooler. A suitable choice of extracted molecules can suppress U in the beam by an order of magnitude compared to Np. Finally, the distribution can help identify isobaric contaminations in irradiated material produced during the development of an isotopic spike for ^{237}Np .

Author: WIEDERIN, Andreas (University of Vienna, Faculty of Physics - Isotope Physics)

Co-authors: GOLSER, Robin (University of Vienna, Faculty of Physics - Isotope Physics); HAIN, Karin (University of Vienna, Faculty of Physics - Isotope Physics); KERN, Michael (University of Vienna, Faculty of Physics - Isotope Physics); SAKAGUCHI, Aya (University of Tsukuba, Faculty of Pure and Applied Sciences); STEIER, Peter (University of Vienna, Faculty of Physics - Isotope Physics)

Presenter: WIEDERIN, Andreas (University of Vienna, Faculty of Physics - Isotope Physics)

Session Classification: Nuclear, Particle- & Astrophysics

Track Classification: Nuclear, Particle- and Astrophysics (FAKT - TASK)