



Contribution ID: 994

Type: **Invited**

Nuclear fission products from the SINQ gas-jet facility

Tuesday, 17 May 2022 11:30 (30 minutes)

Neutron-induced fission of ^{235}U leads to a variety of radionuclides. With such targets being hosted in the inner shielding shell of the Swiss Spallation Neutron Source SINQ at the Paul Scherrer Institute, the produced radionuclides can be readily transported to the radiochemical laboratory by the SINQ gas-jet installation. The transport of the resulting fission products occurs either in pure (volatile fraction of fission products) or aerosol-particle loaded (non-volatile fraction of fission products; e.g., carbon or KCl) carrier gases. Subsequently, the entire radionuclide mixture can be used for radiochemical experiments in the liquid or in the gas phase. In this way, the upgraded SINQ gas-jet facility has been successfully used to demonstrate the applicability of a whey-based filter material for the treatment of low- to medium-level radioactive wastewater. Further, experiments are currently in preparation.

Here, we present the results of the re-commissioning experiments at the SINQ gas-jet facility, revealing its versatility towards radiochemical applications.

Primary authors: Mr TIEBEL, Georg (ETH Zurich / Paul Scherrer Institute); Mr DUTHEIL, Paul (ETH Zurich / Paul Scherrer Institute)

Co-authors: Dr DRESSLER, Rugard (Paul Scherrer Institute); Dr EICHLER, Robert (Paul Scherrer Institute); Prof. STEINEGGER, Patrick (ETH Zurich / Paul Scherrer Institute)

Presenter: Mr TIEBEL, Georg (ETH Zurich / Paul Scherrer Institute)

Session Classification: Radionuclides Production & Application

Track Classification: Production and Application of Radionuclides