



EINLADUNG

zum

VERA - SEMINAR

von

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Anthropogenic Actinides in the Environment

The use of nuclear energy and the testing of nuclear weapons have led to significant releases of anthropogenic isotopes, in particular a number of actinide isotopes generally not abundant in nature. Most prominent amongst these are ^{239}Pu , ^{240}Pu , and ^{236}U . The study of these actinides in nature has been an active field of study ever since. Measurements of actinides are applied to nuclear safeguards, investigating the sources of contamination, and as a tracer for a number of erosion and hydrology studies.

Accelerator Mass Spectrometry (AMS) is ideally suited for these studies and generally offers higher sensitivities than competing techniques, like ICP-MS or decay counting. Recent advances in AMS allow the study of "minor" plutonium isotopes (^{241}Pu , ^{242}Pu , and ^{244}Pu). Furthermore, ^{236}U can now be measured at the levels expected from the global stratospheric fall-out of the atmospheric nuclear weapon tests in the 1950s and 1960s. Even the pre-anthropogenic isotope ratios could be within reach. However, the distribution and abundance levels of these isotopes are not well known yet.

I will present an overview of the field, and in detail two recent studies on minor plutonium isotopes and ^{236}U , respectively.

Donnerstag, 3. März 2011, 16:30 Uhr

**1090 Wien, Währinger Str. 17, "Kavalierstrakt",
1. Stock, Victor-Franz-Hess Hörsaal**