



EINLADUNG

zum

VERA - SEMINAR

von

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**Development of a Neptunium Standard Material  
for Mass Spectrometry**

Recently the techniques of highly sensitive mass spectrometry underwent rapid development. Especially, for long-lived actinide nuclides, the techniques are becoming more and more important as a promising alternative of radioactivity measurements. A tracer nuclide to determine the chemical recovery, which does not exist in nature and which is not contained in target samples, is absolutely necessary for that purpose. An isotopic tracer for environmental neptunium-237, however, has not yet been developed. We are looking for an efficient method for the production of  $^{236}\text{Np}$  as a candidate. This tracer could be produced via various nuclear reactions, but might be contaminated by  $^{237}\text{Np}$ , disturbing the measurement of  $^{237}\text{Np}$  in environmental samples. Up to date, the appropriate production conditions of  $^{236}\text{Np}$  are not known. We are now on the way to determine the cross sections of  $^{236}\text{Np}$  and the isotopic ratios of  $^{236}\text{Np}/^{237}\text{Np}$  produced in the reactions of  $^{238}\text{U} + \text{p}$  and  $^{232}\text{Th} + {}^7\text{Li}$ .

**Donnerstag, 24. Mai 2018, 16:30 Uhr**

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