



EINLADUNG

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VERA - SEMINAR

von

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**RFQ Reaction Cells for Isobar Separation in AMS:
Evolution and Current Status**

In the mass spectrometry of cations, such as Inductively Coupled Plasma-, Atmospheric Pressure Chemical Ionization-, or Electro-spray-Mass Spectrometry, ion-gas reactions have provided a powerful tool for the elimination of isobars and other unwanted species. The energies usually used in Accelerator Mass Spectrometry (AMS), even at the injection stage, and the fragility of the anions themselves have presented considerable challenges to using this technique for AMS. Nevertheless, work on a demonstration radiofrequency quadrupole (RFQ) system at the IsoTrace Laboratory in which the anions are decelerated to energies of several eV before entering the reaction cell has shown isobar suppression factors ranging between 10^{-4} and 10^{-7} , while, in most cases, retaining reasonable transmission of the analyte anion.

This seminar will begin with a review of the influences and ideas leading to the design and building of this prototype and a description of its functionality. A summary of the results obtained using this system, including recent ones which open up new applications for AMS, will follow, along with an outline of the design considerations for a pre-commercial system which is being installed on a second injection line at the Lalonde Laboratory.

Donnerstag, 27. November 2014, 16:30 Uhr

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1. Stock, Victor-Franz-Hess-Hörsaal**