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Isotopenforschung und **Kernphysik**

E I N L A D U N G

zum

V E R A - S E M I N A R

von

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Ar-39 Detection at the Part-per-quadrillion Level with Atom Trap Trace Analysis

Atom Trap Trace Analysis (ATTA), a laser-based atom counting method, has been used to analyze atmospheric ^{39}Ar (half-life = 269 yr), a cosmogenic isotope with an isotopic abundance of 0.8 parts-per-quadrillion (8×10^{-16}). In addition to the superior selectivity demonstrated in this work, both the counting rate and counting efficiency of ATTA have been improved by two orders of magnitude over prior results. Along with the previously demonstrated detection of ^{81}Kr (229,000 yr) and ^{85}Kr (10.8 yr) at the 10^{-12} level, ATTA can now be used to analyze all three long-lived noble gas radioisotopes covering a wide range of ages and applications.

Dienstag, 25. Januar 2011, 16:30 Uhr

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

R. Golser W. Kutschera E.M. Wild