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| Uni-LOGO | Fakultät für Physik**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

#### **Aya Sakaguchi**

Graduate School of Science, Hiroshima University, Japan

**Depth distributions of 236U and 137Cs in the Japan Sea: the potential of 236U as a new oceanographic tracer**

We present the feasibility of using 236U as a tracer for oceanic circulation. Depth profiles of 236U in seawater from seven sites in the Japan Sea allowed assessing the potential of this predominantly artificial uranium isotope. The isotope ratio 236U/238U decreased from ca. 1.3×10–9 in the surface water to ca. 0.2×10–9 close above the sea floor, corresponding to 236U concentrations of ca. 1.0×107 and ca. 1.5×106 atoms/kg, respectively. 236U depth profiles are nearly proportional to those of 137Cs measured in the same water samples. They reveal a generally smooth depth trend with a slightly higher concentration of 236U and 137Cs in the northern area at depths below 2500 m. The cumulative inventory of dissolved 236U in the water column is estimated to be ca. 1.6×1013 atoms/m2, which is similar to the level of global fallout in Japan, 1.8×1013 atoms/m2. Our results indicate that 236U behaves conservatively in seawater, with potential advantages over other tracers for seawater circulation.

### Donnerstag, 22.11.2012, 16:30 Uhr

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

R. Golser W. Kutschera E.M. Wild