



EINLADUNG

zum

VERA - SEMINAR

von

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**Laser Ablation Interface coupled to AMS
for online ^{14}C analysis of carbonates**

A novel method for direct and quasi-continuous ^{14}C analysis of carbonates was developed, where a laser ablation (LA) interface is coupled to the gas ion source of the MICADAS (MIniCARbonDAtingSystem) accelerator mass spectrometer (AMS) at the Laboratory of Ion Beam Physics, ETH Zurich. By focusing a pulsed laser beam (ArF excimer laser 193 nm, 200 – 250 Hz) on the sample's surface, CO and CO₂ are produced, which are directly and continuously introduced into the gas ion source of the AMS system and analyzed online for radiocarbon. Scanning along the growth axis of a naturally grown carbonate sample such as stalagmites, corals, shells etc. a quasi-continuous record is obtained. The high flexibility of this novel approach allows to choose the integration time and thereby measurement precision and spatial resolution during offline data reduction. Compared to standard ^{14}C sample preparation methods the LA-AMS setup has the advantages of high sample throughput, high spatial resolution, less material usage and minimal sample preparation.

Donnerstag, 30. November 2017, 16:30 Uhr

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