

# TABLE OF CONTENTS

## Editorial

### **The TANDEM AMS facility**

Operation of the 6 MV TANDEM accelerator

Energy-loss straggling in gases

### **The TANDY AMS facility**

Activities on the 0.6 MV TANDY in 2013

Improving the TANDY Pelletron charging system

Upgrade of a MICADAS type accelerator to 300 kV

A Monte Carlo gas stripper simulation

129I towards its lower limit

U-236 at low energies

The new beam line at the CEDAD facility

The upgrade of the PKU AMS – The next step

### **The MICADAS AMS facilities**

Radiocarbon measurements on MICADAS in 2013

Upgrade of the myCADAS facility

Phase space measurements at myCADAS

First sample measurements with myCADAS

Rapid 14C analysis by Laser Ablation AMS

Oxidize or not oxidize

Graphitization of dissolved inorganic carbon

Ionplus – A new LIP spin-off

## **Radiocarbon applications**

14C samples in 2013

The 774/775 AD event in the southern hemisphere

Radiocarbon dating to a single year

High resolution 14C records from stalagmites

Ion Beam Physics, ETH Zurich Annual report 2013

14C mapping of marine surface sediment

Tracing of organic carbon with carbon isotopes

Organic carbon transported by the Yellow River

On the stratigraphic integrity of leaf waxes

"True" ages of peat layers on the Isola delta

Middle Würm radiocarbon chronologies

## **Meteoric cosmogenic nuclides**

The Sun, our variable star

The Laschamp event at Lake Van

Authigenic Be as a tool to date clastic sediments

Meteoric 10Be/9Be ratios in the Amazon

Determining erosion rates with meteoric 10Be

Erosion rates using meteoric 10Be and 239+240Pu

## **"In situ" cosmogenic nuclides**

Cosmogenic 10Be production rate

Redating moraines in the Kromer Valley (Austria)  
Deglaciation history of Oberhaslital  
The Lateglacial and Holocene in Val Tuo (CH)  
Deglaciation history of the Simplon Pass region  
LGM ice surface decay south of the Mt. Blanc  
Late Weichselian ice sheet history in NW-Svalbard  
Deglaciation of an East Antarctic outlet glacier  
Landscape evolution of the Sonnblick  
The age of the Castelpietra rock avalanche  
Prehistoric rock avalanches in the Obersee area  
Multi-method approach to date Tschirgant  
Dating Swiss Deckenschotter  
10Be depth profiles in the western Swiss lowlands  
Cosmogenic sediment fingerprinting  
The problem of sediment mixing  
The erosion rate pattern at Niesen  
Temporal steady-state incision (onshore Makran)  
Ion Beam Physics, ETH Zurich Annual report 2013  
Erosion distribution in the Eastern Himalaya  
Contrasting erosion in disturbed ecosystems

### **Anthropogenic radionuclides**

AMS of americium and curium  
Ultra-sensitive detection of actinides  
Automated urine analysis method  
Sequential extraction of 137Cs, 90Sr and actinides  
236U and 129I in the Arctic Ocean  
Mediterranean GEOTRACES  
236U and Pu in corals from French Polynesia  
Determination of plutonium in Japanese samples  
Iodine-129 in aerosols from Germany  
129I in exhaust air of German nuclear facilities  
Long-lived halogen nuclides in absorber foils

### **Materials sciences**

In-air microbeams: Evaluation of beam quality  
Heavy ion STIM imaging  
The MeV SIMS project  
Al-Si separation by carbon backscattering  
Oxygen transport in noble metals  
Accurate RBS analysis of angular distributions  
Ion beam induced selective grain growth

### **Education**

Books and their ages  
Presentation awards for Ph.D. students

### **Publications**

**Talks and Posters**  
Ion Beam Physics, ETH Zurich Annual report 2013

**Seminars**

Spring semester

Fall semester

**Theses**

Internal

External

**Collaborations****Visitors**