

2nd workshop on Exotic Radionuclides from Accelerator Waste for Science and Technology (ERAWAST II)



Monday, August 29, 2011 - Friday, September 2, 2011

Paul Scherrer Institut

Scientific Program

The second ERAWAST workshop will be divided into the following partitions:

Production and chemical separation of exotic radionuclides

An overview on the possibilities of radionuclide production in the frame of the ERAWAST initiative will be given.

Reports on achievements and results

Several high-sophisticated experiments had been performed and will be reported here. Moreover, ongoing projects and status reports on running experiments are presented.

Realistic experiments to be planned in the near future

Projects, which could be realized in an acceptable time frame (up to 5 years), will be introduced here.

“Dreams and Illusions”

Future plans far away from a present chance of realization are an essential component in scientific thinking and development. Every new idea is welcome.

Download Program

Monday, 29. August

20:00

Apero - Schloss Böttstein

Tuesday, 30. August

09:00 – 09:30

Registration

09:30 – 09:45

Welcome Address

J. Mesot, Director of Paul Scherrer Institute, Switzerland

Nuclide production and separation

09:45 – 10:30

Chairperson: G. Schertler, Paul Scherrer Institute, Switzerland

D. Schumann, Paul Scherrer Institute, Switzerland Download Presentation Slides
ERAWAST – Nuclear chemistry for nuclear sciences

10:30 - 11:00

Coffee break

11:00 - 11:45

Chairperson: D. Schumann, Paul Scherrer Institute, Switzerland

M. Ayranov et al., Paul Scherrer Institute, Switzerland Exotic radionuclides extraction from proton irradiated copper beam dump and SINQ cooling water

11:45 - 12:30

M. Bunka et al., Paul Scherrer Institute, Switzerland Separation of ^{44}Ti , ^{26}Al and ^{53}Mn from irradiated stainless steel

12:30 - 14:00

Lunch

Facilities

14:00 - 14:45

Chairperson: F. Käppeler, KIT, Karlsruhe, Germany

G. Korschinek, TU Munich, Germany Accelerator Waste, Accelerator Mass Spectrometry and more

14:45 - 15:30

M. Paul, Hebrew University of Jerusalem, Israel

A high-intensity source of stellar-energy neutrons for rare-nuclide activations

15:30 - 16:15

A. Wallner et al., University of Vienna, Austria

New exotic and non-standard radionuclides in AMS

16:15 - 16:45

Coffee break

16:45 - 17:30

Chairperson: R. Dressler, Paul Scherrer Institute, Switzerland

E. Chiaveri, CERN, Switzerland Measurement possibilities with radioactive samples at CERN n_TOF facility

17:30 - 18:15

T. Stora, CERN ISOLDE, Switzerland

Radioactive ion beams at ISOLDE, CERN: New developments and needs

18:15 - 19:00

S. Söllradl et al., TU Munich, Germany Download Presentation Slides

Plan to measure the neutron capture cross section of ^{60}Fe with cold neutrons at the PGAA facility in Munich

Wednesday, 31. August

09:00 - 09:45

Future Plans

Chairperson: J. Eikenberg, Paul Scherrer Institute, Switzerland

D. Bemmerer et al., HZDR Dresden, Germany Download Presentation Slides

Is it possible to study the $^{44}\text{Ti}(\alpha, p)$ 47V reaction with a radioactive target?

09:45 - 10:30

S. Schmidt et al., University of Frankfurt, Germany Download Presentation Slides

(n, γ) reactions at the Frankfurt neutron source "FRANZ"

10:30 - 11:00

Coffee break

11:00 - 11:45

Chairperson: G. Korschinek TU Munich, Germany

J. Fallis et al., TRIUMF Vancouver, Canada Download Presentation Slides

Using beams of reclaimed ^{44}Ti to explore the mechanism of core collapse in supernovae

11:45 - 12:30

R. Dressler, Paul Scherrer Institute, Switzerland Download Presentation Slides
Plan to measure the half-life and neutron capture cross section of ^{53}Mn

12:30 - 14:00

Lunch

14:00 - 14:45

Chairperson: D. Bemmerer, HZDZ, Dresden, Germany

A. Di Pietro, INFN LNS Catania, Italy

Reactions induced by radioactive Be beams

14:45 - 15:30

K. Zuber et al., TU Dresden, Germany (talk given by D. Bemmerer) Download Presentation Slides

Search for Muonic analog of neutrinoless double beta decay in Titanium

15:30 - 16:15

P. J. Woods et al., University of Edinburgh, United Kingdom

Destruction of the Cosmic Gamma-ray Emitter ^{26}Al by neutron induced Reactions

16:15 - 16:45

Coffee break

16:45 - 17:30

Chairperson: A. Türler, Paul Scherrer Institute, Switzerland

G. Tagliente, INFN Bari, Italy

Measurement of the ^{93}Zr capture cross-section at n_TOF facility at CERN

Dreams and Illusions

17:30 - 18:15

I. Dillmann, GSI Darmstadt, Germany

The stellar half-life of ^{44}Ti – Solution of the Cassiopeia A problem?

18:15 - 19:00

W. Kutschera et al., University of Vienna, Austria

The Search for Superheavy Elements in Nature

Thursday, 01. September

09:00 - 09:45

Results I

Chairperson: W. Kutschera, University of Vienna, Austria

G. Rugel, HZDR Dresden/TU Munich, Germany Download Presentation Slides
Determination of the ^{60}Fe half-life - a successful Collaboration in ERAWAST

09:45 - 10:30

Niko Kivel et al., Paul Scherrer Institute, Switzerland

Half-life determination by means of Multicollector Inductively Coupled Plasma Mass Spectrometry (MC-ICP-MS)

10:30 - 11:00

Coffee break

11:00 - 11:45

Chairperson: R. Reifarth, University of Frankfurt, Germany

W. Kutschera et al., University of Vienna, Austria

The half-life of ^{60}Fe revisited

11:45 - 12:30

R. Dressler et al., Paul Scherrer Institute, Switzerland Download Presentation Slides

Repetition of the re-measurement of the ^{60}Fe half life

12:30 - 14:00

Lunch

14:00 - 14:45

Chairperson: A. Murphy, University of Edinburgh, United Kingdom

L. Gialanella, INFN-Naples, Italy

Measurement of the $7\text{Be}+p$ cross section using the recoil mass separator ERNA

14:45 - 15:30

C. Lederer et al., University of Vienna, Austria [Download Presentation Slides](#)

Measurement of the neutron capture cross section of the s-process branching ^{63}Ni at n_TOF/Cern

15:30 - 16:15

K. Sonnabend, University of Frankfurt, Germany

ATHENA – A networking activity within ENSAR

16:15 - 16:45

Coffee break

16:45 - 17:30

Chairperson: T. Stora, CERN, Switzerland

P. H. Santschi et al., Texas A&M University at Galveston, USA [Download Presentation Slides](#)

Biopolymers as carriers of natural (Th, Pa, Pb, Po, Be) radionuclides in aquatic systems

17:30 - 18:15

M. Paul, Hebrew University, Jerusalem, Israel

A proposal for re-determination of ^{146}Sm half-life

19:30

Workshop Dinner – Schloss Böttstein

Friday, 02. September

09:00 - 09:45

Results II

Chairperson: M. Ayrarov, Paul Scherrer Institute, Switzerland

M. Gai et al., University of Connecticut, USA Download Presentation Slides
Measurement of the cross section of the $^7\text{Be}(n,\alpha)\alpha$ Reaction and the Problem of Primordial ^7Li

09:45 - 10:30

K. Schmidt et al., HZDR Dresden, Germany
The $^{40}\text{Ca}(\alpha, \gamma)^{44}\text{Tl}$ reaction studied by activation

10:30 - 11:00

Coffee break

11:00 – 11:45

Chairperson: I. Günther-Leopold, Paul Scherrer Institute, Switzerland

T. Heftrich et al., University of Frankfurt, Germany Download Presentation Slides
Stellar production and destruction rates of ^{60}Fe

11:45 – 12:30

R. Reifarh et al., University of Frankfurt, Germany Download Presentation Slides
The Stellar neutron capture of ^{60}Fe

12:30 - 14:00

Lunch