

Mon 08:45 - 12:30

8:45 Welcome

1) High Pressure / Nano Science

09:00 Leonid Dubrovinsky (invited, 10 min. discussion)

09:40 Ilya Sergueev (invited)

Phonons at high pressures in Fe-based superconductors

10:10 Coffee break

10:40 Wenli Bi (invited)

**Development of Nuclear Resonant Inelastic X-ray
Scattering at High Pressure and Low Temperature**

11:10 Ksenofontov (invited, 10 min. discussion)

**Pressure studies of Fe-based superconductors using
⁵⁷Fe Synchrotron Mössbauer Source**

12:00 Discussion

12:30 lunch

Mon 14:00 - 18:00

2) Nano-Structures / Ultra High Vacuum

14:00 Svetoslav Stankov (invited, 10 min. discussion)

**NIS on nano structures- Lattice Dynamics of Ultrathin
Metal-Oxide Interfaces**

14:50 Kai Schlage

**New Routes for Magnetic Nanostructure Fabrication and
Characterization**

15:20 Denise Erb

**Nuclear Resonant GISAXS: Disentangling heterogeneous
magnetic behavior in a nanopatterned Fe thin film**

15:40 Discussion

15:50 Coffee break

16:30 Dimitrios Bessas (invited)

**Exploring new isotopes using Nuclear Resonance
Scattering**

17:10 Discussion

17:30 Poster session refreshments, finger food

Tue 09:00 - 12:30

3) Data Evaluation

09:00 Wolfgang Sturhahn (invited)

Synchrotron Based NRS Techniques and Evaluation

10:00 Vit Prochazka

NFS Experimental Data Transformation from Time to Energy Domain

10:20 Discussion

10:30 Coffee break

10:50 Aleksandr Chumakov (invited)

Possible problems in the determination of the mean sound velocity from the density of vibrational states

11:30 Michael Hu (invited)

NRIXS data analysis

12:00 Discussion

12:30 lunch

Tue 14:30 - 18:00

4) Chemistry/Biology

14:30 Lars Lauterbach (invited, 10 min. discussion)

Development of ^{61}Ni SR Mössbauer spectroscopy for studying nickel containing enzymes

15:10 Vlastimil Vrba

Analysis Procedure of a Series of Nuclear Forward Scattering Experiments

15:40 Discussion

16:00 Coffee break

5) X-ray Quantum Optics

16:30 Johann Haber

Quantum Optics with Mössbauer Resonances in Multilayers

17:00 Jonas Gunst

**Control of polarization-encoded x-rays at
single-photon nuclear interfaces**

17:30 Discussion

19:00 Workshop dinner (buffet cantine)

Wed 09:00 - 12:30

6) Detectors and Fast Detection Schemes

09:00 S. Kishimoto (invited, 10 min. discussion)

A Si-APD linear-array pixel detector for Nuclear Resonant Scattering measurements

09:40 Olaf Leupold

Improving Timing Performance in NRS Experiments by Utilizing a Fast 4 Channel TDC

10:00 Cornelius Strohm

Fast digitizers for fully time resolved nuclear resonant scattering applications

10:20 Discussion

10:30 Coffee break

7) Status and trends (beamlines)

11:00 Yoshitaka Yoda SPRING 8

11:20 Ercan Alp APS

11:40 Rudolf Rüffer ESRF

12:00 HC Wille PETRA III

12:20 Discussion

12:40 Lunch

Wed 14:00 - 18:15

8) X-ray (ultra) optics

14:00 Raphael Hermann

Sapphire Ultra Optics for Synchrotron Radiation

14:20 Victor Asadchikov (invited)

Ways of obtaining low-dislocation sapphire crystals

14:40 Pavel Alexeev

Sapphire backscattering monochromator at the Dynamics Beamline P01

15:00 Boris Roshchin

Relationship Between Atomic Structure and the Roughness of Supersmooth Crystal Surface

15:20 Arsen E. Muslinov

Creation and application of sapphire nanostructured substrates

15:40 Coffee break

16:00 Hendrik Bernhardt

High Precision X-ray Polarimetry - a powerful tool for nuclear resonant X-ray scattering

16:20 Ilya Kuppenko

Synchrotron Mössbauer Source at ESRF: status report and applications

16:40 Ryo Masuda (invited)

⁶¹Ni Synchrotron Radiation Based Mössbauer Spectroscopy

17:00 Ko Mibu (invited)

**Setups for Synchrotron-Radiation Mössbauer
Spectroscopy Using a Nuclear Bragg Monochromater
at SPring-8 and Their Applications to Spintronics-
Related Thin Films**

17:30 Discussion, summary and future strategies

18:15 End of workshop
