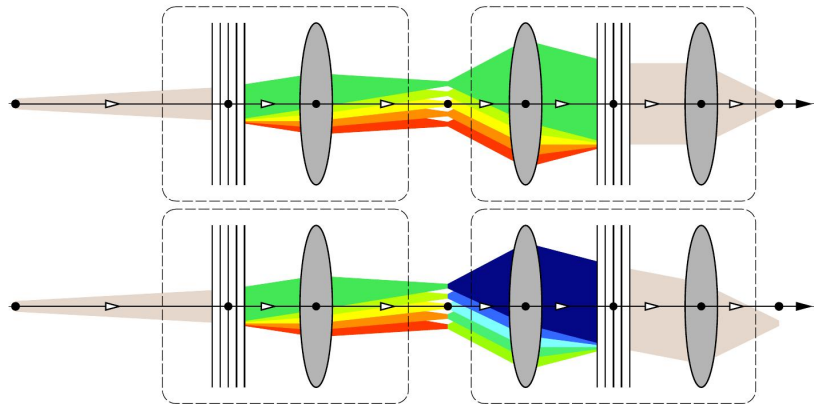


Workshop:

X-Ray Echo Spectroscopy - Opportunities and Feasibility

September 8-10, 2016

Advanced Photon Source (APS), Argonne National Laboratory (ANL)



Program

September 8th, 2016 (Thursday) APS, 5th floor gallery

18:00-20:00 Registration, welcome reception, and poster session

Sept. 9th, 2016 (Friday), APS, E1100-E1200 auditorium

8:00-8:50 Registration

8:50-9:00 **Stephen Streiffer** (Argonne National Laboratory)
"APS Welcome"

Session Chair: Yuri Shvyd'ko (ANL)

9:00-9:35 **Massimo Altarelli** (European XFEL)
"Inelastic x-ray scattering at synchrotron and FEL sources"

9:35-10:10 **Di-Jing Huang** (National Synchrotron Radiation Research Center)
"High-resolution soft X-ray RIXS using the
exfnergy compensation principle of dispersion"

10:10-10:30 coffee break

Session Chair: Yong Cai (BNL)

10:30-11:05 **Yuri Shvyd'ko** (Argonne National Laboratory)
"X-ray echo spectroscopy"

11:05-11:40 **Alfred Q.R. Baron** (SPring-8)
"Considerations and applications for an effective high-flux IXS setup"

11:40-12:15 **Ayman Said** (Argonne National Laboratory)
"Status of the HERIX instruments at the APS and future plans"

12:15-13:45 lunch

Session Chair: Massimo Altarelli (European XFEL)

13:45-14:20 **Yong Cai** (Brookhaven National Laboratory)
"The ultrahigh resolution IXS beamline at NSLS-II:
Current status and performance"

14:20-14:55 **Stephan Rosenkranz** (Argonne National Laboratory)
"Importance of electron-phonon coupling on charge density wave formation
in strongly correlated electron systems"

14:55-15:30 **Dmitry Reznik** (University of Colorado)
"Investigations of phonons in correlated electron systems enabled by 2 orders
of magnitude increase of the throughput of a new IXS instrument"

15:30-16:00 coffee break

16:00-16:35 **Clement Burns** (Western Michigan University)
"Studies of superconductivity using x-ray echo spectroscopy"

16:35-17:10 **Olivier Delaire** (Duke University)
Anharmonic phonons in thermoelectrics and ferroelectrics studied with
inelastic neutron and x-ray scattering

18:00-20:00 dinner

Sept. 10th, 2016 (Saturday), APS, E1100-E1200 auditorium

Session Chair: Stephan Rosenkranz (ANL)

- 9:00-9:35 **Arun Bansil** (Northeastern University)
"Science opportunities with sub-meV inelastic x-ray scattering spectroscopy"
- 9:35-10:10 **Svetoslav Stankov** (Karlsruhe Institute of Technology)
"Lattice dynamics and spin-phonon coupling in thin films and nanostructures"
- 10:10-10:30 coffee break
- 10:30-11:05 **Jung-Fu "Afu" Lin** (The University of Texas at Austin)
"Understanding the physics and chemistry of earth materials in extreme environments by inelastic X-ray scattering"
- 11:05-11:40 **Giulio Monaco** (University of Trento)
"High-frequency dynamics in liquids and glasses at the mesoscopic scale"
- 11:40-12:15 **Alessandro Cunsolo** (Brookhaven National Laboratory)
"High resolution inelastic X Ray measurements on soft matter systems: current results and future perspectives"
- 12:15-13:45 lunch

Session Chair: Di-Jing Huang (NSRRC)

- 13:45-14:20 **Wojciech Dmowski** (University of Tennessee)
"Resolving local atomic dynamics using inelastic neutron and x-ray scattering"
- 14:20-14:55 **Mikhail Zhernenkov** (Brookhaven National Laboratory)
"Application of inelastic scattering to study biomembranes: latest results and challenges"
- 14:55-15:25 coffee break
- 15:25-17:00 Discussion session:
"Path for R&D and realization of the X-ray Echo Spectroscopy"
Discussion leaders: **Arun Bansil and Clement Burns**
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