

APS Workshop #1: Ultrafast X-ray Techniques for Monitoring Dynamic Structural and Electronic Responses at Nanoscale

Monday, May 3, Morning

- 9:15 – 9:30 Burak Guzelturk (Advanced Photon Source, Argonne National Laboratory)
Introduction and Welcome
- 9:30 – 10:00 Xiaoyi Zhang (Advanced Photon Source, Argonne National Laboratory)
Time-resolved Research Group Capabilities
- 10:00 – 10:30 Aaron Lindenberg (Stanford University, SLAC)
Ultrafast Structural Deformations in the Hybrid Perovskites
- 10:30 – 10:45 Break
- 10:45 – 11:15 Ian Robinson (Brookhaven National Laboratory)
Time-resolved Powder Diffraction Study of the Melting of Palladium
- 11:15 – 11:45 Martin Holt (Center for Nanoscale Materials, Argonne National Laboratory)
Nanoscale Imaging of Structure and Dynamics through Time-resolved Hard X-ray Diffraction Microscopy
- 11:45 – 12:00 Youngjun Ahn (University of Michigan)
Nanoscale Ultrafast Imaging of Photoinduced Structural Phase Transition in FeRh by X-ray Diffraction Microscopy
- 12:00 Dismissal

Tuesday, May 4, Morning

- 9:15 – 9:45 Andrej Singer (Cornell University)
Control of Phonon Dynamics near a Magnetic Order Critical Point
- 9:45 – 10:15 Naomi Ginsberg (University of California, Berkeley)
Optical Transient Microscopy to Track Energy Carriers
- 10:15 – 10:30 Alexandra Brumberg (Northwestern University)
Anisotropic Transient Disorder of Colloidal, Two-dimensional Semiconductor Nanoplatelets
- 10:30 – 10:45 Break
- 10:45 – 11:15 Jenny Lockard (Rutgers University)
Time-resolved X-ray Spectroscopy Studies of Long-lived Photoinduced Charge Separation in Redox-active Metal Organic Frameworks

- 11:15 – 11:30 Thomas Rossi (University of Illinois at Urbana-Champaign)
Electronic Effects at the Zn K-edge of Epitaxial ZnO Nanorods Investigated by Time-resolved X-ray Absorption Spectroscopy
- 11:30 – 12:00 All-attendee Discussion Session: Ideas toward Future Time-resolved Capabilities
- 12:00 Workshop Concludes