

Synchrotron and Free electron laser Radiation: generation and application (SFR-2020)

from **Monday, 13 July 2020 (14:00)** to **Friday, 17 July 2020 (22:00)**

Zoom (Zoom 860 5034 1820)

| 13 Jul 2020 | | 14 Jul 2020 | |
|-------------|--|-------------|--|
| 14:00 | SR and FEL sources and centers -Prof. Nicolay Vinokurov Dr Oleg Shevchenko (until 16:10) (Zoom 860 5034 1820) | 14:00 | THz radiation application -Prof. Boris Knyazev Dr Vitaly Kubarev (until 16:30) (Zoom 860 5034 1820) |
| 14:00 | Welcome speech from SSRC Director - Gennady Kulipanov (Director of SSTRC) (Zoom 860 5034 1820) | 14:00 | Recent experiments in Terahertz Photonics, Plasmonics, and Spectroscopy at the Novosibirsk Free Electron Laser Facility - Prof. Boris Knyazev (Zoom 860 5034 1820) |
| 14:10 | Synchrotron radiation application in the BINP - Konstantin Zolotarev (Budker Institute of Nuclear Physics) (Zoom 860 5034 1820) | 14:30 | Multichannel THz telecommunication based on mode division multiplexing (MDM) approach - Prof. Vladimir Pavelyev (Zoom 860 5034 1820) |
| 14:40 | High Energy Photon Source (HEPS) and its current status - Prof. Ye Tao (HEPS) (Zoom 860 5034 1820) | 15:00 | Terahertz Photonics of Dense medium: from gas to liquid - Prof. Alexander Shkurinov (Faculty of Physics & International Laser Center, Lomonosov Moscow State University) (Zoom 860 5034 1820) |
| 15:10 | THz Gyrotrons: novelty, achievements and applications - Mikhail Glyavin (IAP RAS) (Zoom 860 5034 1820) | 15:30 | THz nonlinear electronic response in GaAs/InGaAs semiconductor nanowires - Harald Schneider (Helmholtz-Zentrum Dresden-Rossendorf) (Zoom 860 5034 1820) |
| 15:40 | Scientific opportunities at the first 4th generation high energy synchrotron radiation source - Harald Reichert (European Synchrotron Radiation Facility) (Zoom 860 5034 1820) | 16:00 | Construction of a biosensor sensitive to terahertz radiation based on the glutamine synthase gene promoter - Sergey Peltek (Institute of Cytology and Genetics SB RAS (Novosibirsk, Russia)) (Zoom 860 5034 1820) |
| 16:10 | --- Coffee break --- | 16:00 | Complex Dynamic Study of ejection of the of Particles from Shock-Loaded Tin by SR methods, a PDV laser complex, and optical and piezoelectric sensors. - Konstantin Ten (LIH SB RAS) (Zoom 890 9721 5207) |
| 16:30 | SR and FEL sources and centers -Prof. Nicolay Vinokurov Dr Oleg Shevchenko (until 18:30) (Zoom 860 5034 1820) | 16:00 | Detectors for fast time-resolved studies at SSTRC, status and future - Lev Shekhtman (Zoom 890 9721 5207) |
| 16:30 | The Novosibirsk free electron laser facility - Dr Oleg Shevchenko (BINP) (Zoom 860 5034 1820) | 16:30 | --- Coffee break --- |
| 17:00 | Short-period undulators with electrostatic field - Prof. NIKOLAY VINOKUROV (Budker Institute of Nuclear Physics) (Zoom 860 5034 1820) | 16:40 | THz radiation application -Prof. Boris Knyazev Dr Vitaly Kubarev (until 19:20) (Zoom 860 5034 1820) |
| 17:30 | Radiation stability and hyperfine mode structure of the terahertz NovoFEL - Dr Vitaly Kubarev (BINP) (Zoom 860 5034 1820) | 16:40 | A Terahertz localized laser discharge as a source of bright VUV light - Dr Alexander Vodopyanov (Institute of Applied Physics RAS) (Zoom 860 5034 1820) |
| 17:50 | Electron outcoupling experiments at the NovoFEL facility - Dr Yaroslav Getmanov (Budker INP) (Zoom 860 5034 1820) | 17:00 | EPR spectroscopy station at the Novosibirsk Free Electron Laser: application of high-power THz radiation in the field of molecular magnetism - Dr Sergey Veber (International Tomography Center SB RAS) (Zoom 860 5034 1820) |
| 18:10 | Superconducting 3 Tesla 54-pole indirect cooling wigglers with a period of 48 mm for Kurchatov Synchrotron Radiation Source - Vitaliy Shkaruba (BINP) (Zoom 860 5034 1820) | 17:20 | MODELING OF TERAHERTZ SURFACE PLASMON FOURIER SPECTROMETER - Dr Vasily Gerasimov (Budker Institute of Nuclear Physics of the Siberian Branch of RAS, Novosibirsk) (Zoom 860 5034 1820) |
| 18:30 | Technological solutions for SR centers/beamlines - Konstantin Zolotarev (Budker Institute of Nuclear Physics) (until 19:30) (Zoom 860 5034 1820) | 17:40 | THz sensing based on subwavelength grating in attenuated total reflection configuration - Mr Oleg Kameshkov (BINP SB RAS) Dr Vasily Gerasimov (Budker Institute of nuclear physics SB RAS) (Zoom 860 5034 1820) |
| 18:30 | Optically coupled X-Ray imaging system, from microscopy to macroscopy - Xavier Rochet (Optique Peter) (Zoom 860 5034 1820) | 18:00 | Magnetic Field Effect on the Free Induction Decay of Hydroxyl Radical (OH) in the Terahertz Region - Evgeniy Chesnokov (Istitute of Chemical Kinetics) (Zoom 860 5034 1820) |
| 18:50 | X-ray diffractometers and spectrometers Bruker AXS for materials research - Mr Alexandr Shevchukov (Melytec LLC) (Zoom 860 5034 1820) | 18:20 | Silicon and Diamond Diffractive Lenses with Continuous Profile for Focusing High-Power Terahertz Radiation - Maxim Komlenok (Prokhorov General Physics Institute of the Russian Academy of Sciences) (Zoom 860 5034 1820) |
| 19:10 | Customized Testing Systems for Beamlines - Alexandr Dolgikh (Zoom 860 5034 1820) | 18:40 | Enhancing resolution of terahertz surface plasmon resonance microscopy by ghost imaging using FEL radiation - Ildus Khasanov (Scientific and Technological Center of Unique Instrumentation of the Russian Academy of Sciences) (Zoom 860 5034 1820) |
| 20:00 | Poster Session (until 21:00) () | 19:00 | On the efficiency of backward collinear acousto-optic interaction between terahertz radiation and acoustic beam in hexane - Dr Pavel Nikitin (Scientific and Technological Center of Unique Instrumentation of RAS) (Zoom 860 5034 1820) |
| | | 14:00 | Time-resolved X-ray diffraction -Mr Marat Sharafutdinov Boris Tolochko (until 16:20) (Zoom 890 9721 5207) |
| | | 14:00 | Two stage shock wave processes in construction materials - Evgeniy Smirnov (Russian Federal Nuclear Center - VNIITF) (Zoom 890 9721 5207) |
| | | 14:30 | Status of detonation experimentat VEPP-3/VEPP-4 - Edward Prueel (Zoom 890 9721 5207) |
| | | 15:00 | The use of polychromatic synchrotron radiation to study fast processes in solids. Advantages and challenges. - Prof. Boris Tolochko (Institute of solid state chemistry and mechanochemistry) (Zoom 890 9721 5207) |
| | | 15:20 | Status of the studies of thermal stresses and deformations in materials caused by pulsed heat loads in BINP - Dr Aleksey Arakcheev (Zoom 890 9721 5207) |
| | | 16:40 | X-ray structural analysis - Boris Tolochko Mr Marat Sharafutdinov (until 20:30) (Zoom 890 9721 5207) |
| | | 16:40 | High Energy Imaging and Diffraction at Diamond Light Source Beamline I12: 11 Years of Experience and Lessons Learned - Dr Thomas Conolly (Diamond Light Source) (Zoom 890 9721 5207) |
| | | 17:10 | XRD Diagnostics of Functional Materials at SSTRC - Dr Alexander Shmakov (Boreskov Institute of Catalysis SD RAS) (Zoom 890 9721 5207) |
| | | 17:30 | Investigation of the local phase composition and morphology of laser welded joints based on titanium and aluminum alloys by hard synchrotron radiation diffraction methods. - Mr Alexey Ancharov (Institute of Solid State Chemistry and Mechanochemistry SB RAS) (Zoom 890 9721 5207) |
| | | 17:50 | High-P,T diffraction studies of dehydration of magnesium silicates related to the deep Earth's water cycle - Dr Anna Likhacheva (Sobolev Institute of Geology and Mineralogy SibD RAS) (Zoom 890 9721 5207) |
| | | 18:10 | Structural analysis of catalysts using the atomic pair distribution function - Dr Vera Pakharukova (Boreskov Institute of Catalysis) (Zoom 890 9721 5207) |
| | | 18:30 | Small-Angle scattering applications to the analysis of aptamer structure and conformational changes - Roman Moryachkov (Kirensky Institute of Physics) (Zoom 890 9721 5207) |
| | | 18:50 | Study of Au-Co ultrafine grained alloy by synchrotron radiation diffractometry - Timofey Tolmachev (M.N. Mikheev Institute of Metal Physics of the Ural Branch of the Russian Academy of Sciences (IMP UB RAS)) (Zoom 890 9721 5207) |
| | | 19:10 | In situ synchrotron x-ray diffraction study of face-centered cubic platinum hydride and phase diagram of PtH - Ms Anna Semerikova (Novosibirsk State University) (Zoom 890 9721 5207) |
| | | 19:30 | PDF analysis of alumina containing systems - Dr Kristina Shefer (Boreskov Institute of Catalysis SB RAS) (Zoom 890 9721 5207) |
| | | 19:50 | In situ XRD study of the reduction of mixed Mn-Co oxide - Olga Bulavchenko (Boreskov Institute of Catalysis) (Zoom 890 9721 5207) |
| | | 20:10 | Nitrogen doped diamond single crystals for x-ray optics applications - Mr Sergey Shevyrtaov (Immanuel Kant Baltic Federal University, Kaliningrad, Russia) (Zoom 890 9721 5207) |

| 15 Jul 2020 | |
|-------------|--|
| 14:00 | SR technological application and X-ray apparatus -Dr Konstantin Kuper Dr Anton Nikolenko (until 16:00) (Zoom 890 9721 5207) |
| 14:00 | Generation and use of coherent X-ray beams at future SKIF storage ring - Dr Sergey Rashchenko (Novosibirsk State University) (Zoom 890 9721 5207) |
| 14:20 | The design of «Structural Diagnostics» beamline for SRF «SKIF» - Boris Zakharov (Boreskov Institute of Catalysis SB RAS, Novosibirsk State University) (Zoom 890 9721 5207) |
| 14:40 | Conceptual design of the "Fast Processes" beamline at the SRF SKIF 4th generation synchrotron - Ivan Rubtsov (Lavrentyev Institute of Hydrodynamics of the Siberian Branch of the Russian Academy of Sciences) (Zoom 890 9721 5207) |
| 15:00 | In situ XRD analysis with the time-resolution (0.4 ms) of stainless steel in during selective laser melting. - Dr Konstantin Kuper (Zoom 890 9721 5207) |
| 15:20 | "Electronic Structure" beamline 1-6 at SKIF synchrotron facility. - Dr Andrey Bukhtiyarov (Boreskov Institute of Catalysis) (Zoom 890 9721 5207) |
| 15:40 | Beam-shaping refractive optics for coherent X-ray sources - Mr Dmitry Zverev (Immanuel Kant Baltic Federal University) (Zoom 890 9721 5207) |
| 16:00 | --- Coffee break --- |
| 16:20 | SR technological application and X-ray apparatus -Dr Anton Nikolenko Dr Konstantin Kuper (until 18:00) (Zoom 890 9721 5207) |
| 16:20 | Trends on Montel X-ray Optics and Pinholes for Synchrotron Beamlines - Jörg Wiesmann (Incoatec GmbH) (Zoom 890 9721 5207) |
| 16:40 | Metrological approach for diagnostics of x-ray refractive lenses - Anton Narikovich (KBFU) (Zoom 890 9721 5207) |
| 17:00 | The Application of Advanced X-Ray Diffraction Image Processing Methods for Study Linear Defects in Silicon Single Crystals - Dr Irina Dyachkova (FSRC "Crystallography and Photonics" RAS) Dr Denis Zolotov (Shubnikov Institute of Crystallography FSRC "Crystallography and Photonics" RAS) (Zoom 890 9721 5207) |
| 17:20 | Evaluation of CCD detector absolute responsivity with the aid of synchrotron radiation - Dr Eugene Vishnyakov (P.N.Lebedev Physical Institute of RAS) (Zoom 890 9721 5207) |
| 17:40 | The modification of optical properties of the surfaces by the glancing angle deposition of TiO2 - Aleksey Lemzyakov (Budker INP SB RAS) (Zoom 890 9721 5207) |
| 18:00 | Technological solutions for SR centers/beamlines - Konstantin Zolotarev (Budker Institute of Nuclear Physics) Dr Anton Nikolenko (until 18:40) (Zoom 890 9721 5207) |
| 18:00 | EIGER2 DETECTOR SYSTEMS: TOOLS FOR ADVANCED X-RAY STUDIES - Dr Stefan Brandstetter (DECTRIS Ltd.) (Zoom 890 9721 5207) |
| 18:20 | Beamline instrumentation at SKIF by JJ X-Ray - Mr Paw Kristiansen (JJ X-ray) (Zoom 890 9721 5207) |
| 18:40 | What does the macromolecular crystallography users community expect from the modern synchrotron source? - Sergey Arkhipov (Novosibirsk State University) (Zoom 890 9721 5207) |

| 16 Jul 2020 | |
|-------------|--|
| 14:00 | SKIF project - Konstantin Zolotarev (Budker Institute of Nuclear Physics) (until 16:20) (Zoom 860 5034 1820) |
| 14:00 | Introduction to the SKIF project - Prof. Valerii Bukhtiyarov (BIC SB RAS) (Zoom 860 5034 1820) |
| 14:20 | Storage ring for Novosibirsk low emittance light source SKIF - Eugeny Levichev (BINP) (Zoom 860 5034 1820) |
| 14:40 | SKIF injector complex - Andrey Zhuraviev (Nikolaevich) (Zoom 860 5034 1820) |
| 15:00 | Superconducting insertion devices constructed by Budker INP - Dr Nikolay Nikolay Mezentsev (Chief researcher) (Zoom 860 5034 1820) |
| 15:20 | First phase SKIF beamlines design - Dr Iakov Rakshun (Zoom 860 5034 1820) |
| 15:40 | Second phase SKIF beamlines design - Dr Yan Zubavichus (Zoom 860 5034 1820) |
| 16:00 | SKIF civil engineering - Dr Igor Churkin (Budker INP SB RAS) (Zoom 860 5034 1820) |
| 16:20 | --- Coffee break --- |
| 17:00 | SKIF project (until 18:00) (Zoom 860 5034 1820) |
| 17:00 | General discussion - Eugeny Levichev (BINP) (Zoom 860 5034 1820) |

| 17 Jul 2020 | |
|-------------|---|
| 14:00 | --- Poster session review, final discussion and Conference closing (Zoom 860 5034 1820) --- |