



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

## Monday 13 July 2020

**Poster Session: SR and FEL sources and centers (20:00-20:26)**

[id] title	presenter	board
[2] THE RESEARCH OF STRUCTURE AND MORPHOLOGY OF POWDER TYPE D-16 AND MATERIAL ON IT'S BASIS OBTAINED BY METHOD OF 3D PRINTING	Mr ESELEVICH, Danil	
[3] AN EXAMPLE OF USING THE OPTICAL CHARACTERISTICS OF METALS OBTAINED BY THE METHODS OF SYNCHRO-TRON RADIATION AND ELLIPSOMETRY TO DETERMINE THE ELECTRONIC PROPERTIES OF ALUMINUM IN A SOLID STATE	Mr KISELEV, Anatoly	
[10] Optical design of the «Structural Diagnostics» beamline for SRF «SKIF»	VINOKUROV, Zakhar	
[14] Simulation and Experimental Study of Beam Dynamics in NovoFEL RF Gun and its Beamline	Mr MATVEEV, Anton	
[17] Monitoring system of Novosibirsk FEL optical channel state using 1-Wire devices	Dr TARARYSHKIN, Sergey	
[18] Usage of Epics Channel Access protocol in Novosibirsk FEL control system	SEREDNYAKOV, Stanislav	
[21] The variable period undulator magnetic field measurements and correction of the field errors	GORBACHEV, Yaroslav	
[26] measurements and calculation of induced radioactivity from technological units of the Novosibirsk FEL accelerator-recuperator	Dr SALUIKOVA, Tatiana	
[28] estimates and measurements of photon and neutron radiation doses of the Novosibirsk FEL micron-recuperator	Dr SALIKOVA, Tatiana	
[29] The NovoFEL Optical Diagnostics Upgrade	RESHETOV, D. MESHKOV, O.I. DOROKHOV, V.L. Mr BORIN, Vladislav	
[43] Measuring Installation for Determining Current-Voltage Characteristics at Liquid Helium Temperature	Mr BRODNIKOV, Alexandr	
[44] A development of compact combined pump for SRF SKIF	Dr SEMENOV, Alexey	
[56] Beam-beam compensation in a collider based on energy recovery linac and storage ring	LACHYNOV, Shamil	
[58] Magnetic measurements in small aperture of indirect cooling wiggler.	KHRUSHCHEV, Sergey	
[74] A step-wise tapered undulator for the quick-EXAFS beamline at the Siberian Circular Photon Source	TREBUSHININ, Andrei	
[75] Method for polarization shaping at free-electron lasers	Mr TREBUSHININ, Andrei	
[77] Superconducting elliptical undulator	KANONIK, Pavel	
[78] Superconducting undulator with a variable configuration of the magnetic field.	KANONIK, Pavel	

[80] Pulsed wire field measurements of 38-period superconducting undulator prototype	Mr KAZANTSEV, Fedor	
[97] Theory of multibunch storage ring with transverse feedback	Prof. VINOKUROV, NIKOLAY	
[112] Electromagnetic Undulator with switchable period for soft X-ray application in the SKIF project	Mr UTKIN, Anatoly	
[117] Development of indirect cooling cryogenic system with nitrogen and helium heat pipes for superconducting insertion devices in BINP.	TSUKANOV, Valeriy	
[138] Conception of vacuum system for SRS «SKIF»	Dr KRASNOV, Alexander	
[153] THE INFLUENCE OF INTERNAL BERYLLIUM MICROSTRUCTURE AND IMPURITIES ON THE CRL X-RAY OPTICAL PROPERTIES	LYATUN, Ivan	
[154] Inverse Compton scattering at collision of electron and photon beams with oblique fronts	Dr TISHCHENKO, A.A.	
[155] Generation of Smith-Purcell radiation from an array of sub-wavelength particles	Mrs SERGEEVA, D.Yu.	

**Poster Session: SR for medicine and biology application (20:27-20:29)**

[id] title	presenter	board
[6] EFFECT OF TiO <sub>y</sub> STOICHIOMETRY ON THE STRUCTURE OF TiO <sub>y</sub> /HAP NANOCOMPOSITE	Mr ESELEVICH, Danil	
[130] An attempt of the quantitative analysis of cyclical constituents in structure of scanning microfluorescence signals from human hairs	Mr SOROKOLETOV, Dmitry CHERNETSKAJA, Maria	

**Poster Session: SR technological application and X-ray apparatus (20:30-20:49)**

[id] title	presenter	board
[16] Project of the optical scheme for the soft X-ray & VUV beamline at SKIF synchrotron facility	Dr NIKOLENKO, Anton	
[31] W-containing PMMA-based nanocomposite	Dr NAZMOV, Vladimir	
[33] Direct writing on PbWO <sub>4</sub> monocrystalline using X-rays	Dr NAZMOV, Vladimir	
[32] Self-aligned single exposure deep x-ray lithography	Mr NAZMOV, Vladimir	
[51] COMPRESSION AND HIGH-PRESSURE TORSION TECHNIQUES FOR DIFFRACTOMETRY IN SYNCHROTRON RADIATION AND NGR-SPECTROSCOPY	PATSELOV, Alexander Mr CHERNYSHEV, Eugeny	
[53] FT-IR investigation of netlike polymerization of SU-8 resist layers during photo- and X-ray lithography processes	Dr REZNIKOVA, Elena	
[66] First experiments on new synchrotron radiation technological station on the VEPP-4M	Dr GOLDENBERG, Boris	
[69] Status of the development of the silicon microstrip detector for ultra-fast dynamic studies	SHEKHTMAN, Lev	
[96] Способ изготовления LIGA-шаблонов на основе танталовой фольги	ГЕНЦЕЛЕВ, александр	
[99] "In situ diffraction at extreme conditions" end-station at SKIF	Dr RASHCHENKO, Sergey	

[132] A range of intuitive discretization schemes to accelerate algorithms for solving deconvolution problems without loss of accuracy	Mr SOROKOLETOV, Dmitry	
[134] The first results of measuring XAFS spectra in the soft X-ray range at KOSMOS station	NIKOLENKO, Anton SYROKOVASHIN, Mikhail	
[136] Diamond micro-CRL for coherent X-ray imaging and microscopy	Ms MEDVEDSKAYA , Polina	
[137] X-ray reflecto-interferometer based on compound refractive lenses for thin-films study	Ms VOEVODINA, Maria	
[149] Development of photon diagnostic methods for synchrotron radiation sources	KHEGAY, Artem	
[151] Development of an approach to minimize the effects of x-ray glitches	KLIMOVA, Nataliya	
[156] Transmission Hard X-ray Interferometer-Microscope (15-35 keV) at VEPP-4 storage ring facility as a project	Dr REZNIKOVA, Elena	
[47] The project "Diagnostics in the high-energy X-ray range" beamline at the Siberian synchrotron SKIF	Dr KUPER, Konstantin	
[157] mu-XRF for thick specimens	Dr NAZMOV, Vladimir	

**Poster Session: THz radiation application (20:50-20:58)**

[id] title	presenter	board
[27] Technical and software improvements of the EPR spectroscopy station at the NovoFEL facility: status 2020.	Dr MELNIKOV, Anatoly	
[40] Techniques for generation of annular surface plasmon polaritons with refractive binary and reflective cylindrical diffraction gratings	Prof. KNYAZEV, Boris	
[55] Test results of the 7 T superconducting solenoid for THz laser spectroscopy	BRAGIN, Alexey	
[65] Numerical simulation of the interaction of terahertz waves with diffraction metal gratings and conditions for the generation of surface plasmons	Mr KAMESHKOV, Oleg	
[94] Single-color pump-probe setup at the NovoFEL facility for measuring the temporal dynamics of relaxation in Ge:As	KUKOTENKO, Valeriia	
[95] Цельнометаллические микроструктурные элементы управления терагерцовым излучением	КУЗНЕЦОВ, Сергей	
[39] THz sensing based on subwavelength grating in attenuated total reflection configuration	Mr KAMESHKOV, Oleg Dr GERASIMOV, Vasily	

**Poster Session: X-ray fluorescent analysis (20:58-21:10)**

[id] title	presenter	board
[42] Development of SRXFA method with the hard X-ray range for paleoclimate reconstruction (region of Lake Baikal) on the storage ring VEPP-4M	Mr LEGKODYMOV, Aleksandr	
[30] SR-XRFA in Botanical Research: Elemental Composition of Species of the Genus Syringa (Oleaceae) under Technogenic Impact in Novosibirsk	Dr KHRAMOVA, Elena	
[62] Investigation of the chemical composition of bottom sediments Bering Sea	KIRICHENKO, Ivan	
[71] Analysis of the individual annual layers elemental composition in the Lake Kucherlinskoe (Altai) varves sediments with submicron spatial resolution by scanning micro_XRF-SR with x-ray optics (poly capillary lenses).	DARIN, Andrey	

<b>[72] Comparison of the geochemical profiles of Lake Khindiktykol (Tuva) bottom sediments cores according to the scanning <math>\mu</math>XRF-SR.</b>	DARIN, Andrey	
<b>[82] The study of the aerosol impurities seasonal accumulation in a snow cover by scanning <math>\mu</math>XRF-SR.</b>	DARIN, Andrey	
<b>[103] SECONDARY MINERAL FORMATION MONDMILCH FROM BOTOVSKAYA CAVE (EASTERN SIBERIA)</b>	Dr SHOLOKHOVA, Yulia	
<b>[108] The nongaussian behaviour of the spread function of the x-ray polycapillary lens: characteristic cases and new nonstandard approximation models</b>	Mr SOROKOLETOV, Dmitry	
<b>[114] The code for processing of the SRXRF spectra</b>	ZLOTAREV, Konstantin	
<b>[133] Regularization approach for specific adverse events in processing elemental maps obtained using micro-XRF</b>	Mr SOROKOLETOV, Dmitry	
<b>[141] X-ray phase-sensitive imaging technique based on a bilens interferometer</b>	ZVEREV, Dmitry	
<b>[46] Microelemental limitation of lymph nodes structure according to the X-ray fluorescent analysis with a synchrotron radiation</b>	Prof. GORCHAKOV, Vladimir	

**Poster Session: X-ray spectroscopy (21:11-21:24)**

[id] title	presenter	board
<b>[48] Application of complex studies of test samples for the implementation of combined SR methods for the study of micro-objects</b>	Dr KRIVENTSOV, Vladimir	
<b>[90] Study of thiacalexarene conformation effect on the electronic structure by X-Ray Absorption Spectroscopy and quantum chemistry methods</b>	LAVRUKHINA, Svetlana	
<b>[105] Characteristic of d-f states in DyNi<sub>2</sub>Mn and ErCo<sub>2</sub>Mn compounds with strong electronic correlations by resonant photoemission</b>	PONOMAREVA, Ekaterina	
<b>[123] Application of XAFS spectroscopy for study of microparticles of Sikhote-Alin meteorite</b>	Dr KRIVENTSOV, Vladimir	
<b>[124] Structural study of Pt-complexes in aqueous solution by EXAFS</b>	Dr KRIVENTSOV, Vladimir	
<b>[125] XAFS study of zirconium oxides modified by yttrium and magnesium</b>	Dr KRIVENTSOV, Vladimir	
<b>[128] High resolution monochromator for synchrotron radiation based on flat VLS-gratings</b>	SHATOKHIN, Alexey	
<b>[129] XAFS study of stable bimetallic catalysts for selective hydrogenation of furfural</b>	Dr KRIVENTSOV, Vladimir	
<b>[131] Structural study of mono- bimetallic catalytic nanosystem by XAFS</b>	Dr KRIVENTSOV, Vladimir	
<b>[139] Characteristic of the BiTeCl electronic structure by resonant photoemission</b>	KHATCHENKO, Yulia	
<b>[158] Determination of the state of the active component of nanocomposite model metal-carbon catalysts by XAFS method</b>	Dr KRIVENTSOV, Vladimir	
<b>[159] Structural study of bimetallic catalytic nanosystems containing precious metals by XAFS spectroscopy</b>	Dr KRIVENTSOV, Vladimir	
<b>[160] XAFS study of stable bimetallic catalysts for selective hydrogenation of furfural</b>	Dr KRIVENTSOV, Vladimir	

**Poster Session: X-ray structural analysis (21:25-21:37)**

[id]	title	presenter	board
[64]	<b>Calculation of thermal loads of X-ray mirror optics of a synchrotron radiation source SKIF</b>	RAZUMOV, Nikolay	
[84]	<b>Measurement of the residual stresses dynamics in tungsten during heating</b>	BALASH, Ilya	
[93]	<b>Studying the effects of electron beam irradiation on thermal properties and particle size distribution of magnesium hydroxide</b>	NGUYEN, ThiVanAnh Dr MIKHAILENKO, Mikhail	
[98]	<b>Development of silicon microstrip detector with integrating readout for time-resolved studies in microsecond scale.</b>	SHEKHTMAN, Lev	
[121]	<b>Focusing system of synchrotron radiation with refractive mosaic lenses for the station "Extreme state of matter" of the VEPP-4</b>	BERDYUGIN, Alexandr	
[127]	<b>Current status of the studies of X-ray diffraction on tungsten during pulsed heat loads at the scattering station «Plasma» at the VEPP-4 source of synchrotron radiation</b>	KAZANTSEV, Sergey	
[143]	<b>Mathematical modeling of thermal loads of x-ray adaptive optics materials</b>	Dr KOROBEKOV, Maksim	
[144]	<b>Experimental implementation of X-ray powder diffraction by polychromatic synchrotron radiation in the range of 20-30 keV</b>	TOLOCHKO, Boris	
[148]	<b>Comparison of experimental data of 3D density of the expansion zone of TATB detonation products obtained on the synchrotron radiation of VEPP-3 with computer simulation</b>	SMIRNOV, Evgeniy	
[150]	<b>Discovery of the scale effect of the dependence of the mass of solid detonation products on the mass of explosives in "in situ" explosive experiments on synchrotron beams VEPP-4</b>	RUBTSOV, Ivan	
[152]	<b>STUDY THE DIAMOND THIN MEMBRANES BY X-RAY REFLECTOR-INTERFEROMETRY AT THE ESRF BEAMLINE ID10</b>	Ms LYATUN, Svetlana	