

## The 12th International Conference on Intrinsic Josephson Effect and Horizons of Superconducting Spintronics

*22-25 September 2021, Chisinau, Moldova*

<b>DAY 1, Wednesday 22 september</b>		
Time	Name	Title
9:30 – 9:50	Sidorenko A.	Welcome note
		<b>Session - I. Bi-2212 THz sources (East asia)</b>
9:50-10:20	Kadowaki Kazuo	Towards Higher Power THz Emission from High $-T_c$ Superconducting $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+d}$ IJJ Mesa Devices
10:20-10:50	Kekeya Itsuhiro	Mutual synchronization and helicity switching of terahertz radiation from intrinsic Josephson junction stack demonstrated by polarization analysis
10:50-11:20	Wei Zihan	Tailoring surface Josephson junction of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+d}$ for microwave applications.
11:20-11:40	Kuwano Genki	Mesa Sidewall Effects on Synchronization of Intrinsic Josephson Junctions in High- $T_c$ Superconducting $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+d}$ Terahertz Emitters
11:40-12:00	Kashiwagi Takanari	Study of fabrication processes of high temperature superconducting terahertz emitters
12:00-12:20	Kobayashi Ryota	Analysis of Frequency Entrainment of Mutual Synchronous Terahertz Oscillation in Bi2212 Mesa Array
12:20-12:40	Leonid Revin	Nonmonotonous temperature dependence of Shapiro steps in YBCO grain boundary junction
12:40-14:00	Lunch break	
		<b>Session –II. Novel devices</b>
14:00-14:30	Hilgenkamp Hans	Challenges in energy-efficient computing
14:30-14:50	Kitano Haruhisa	Nonlinear Bifurcation in Microwave-Induced Phase Escapes of Current-biased Intrinsic Josephson Junctions
14:50-15:20	Delfanazari Kaveh	Quantum Terahertz Electronics: from superconducting coherent THz light sources to ultracompact waveguides and photonic integrated circuitry with quantum materials
15:20-15:40	Truccato Marco	X-ray nanopatterning on Bi-2212 whiskers
15:40-16:00	Krasnov Vladimir	Power efficient THz sources based on Bi-2212 whiskers
16:00-16:30	Klemm Richard	The important role of symmetry in the terahertz emission from thin $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+d}$ microstrip antennas
16:30-17:00	Coffee break	

		<b>Session-III. Layered superconductors (USA)</b>
17:00-17:20	Kim Philip	Toward realization of novel superconductivity based on twisted van der Waals Josephson junction in cuprates
17:20-17:40	Benseman Timothy	Intrinsic Josephson junction Bi <sub>2</sub> Sr <sub>2</sub> CaCu <sub>2</sub> O <sub>8</sub> terahertz sources: Considerations for enhanced power output and operating temperature
17:40-18:00	Fomin Vladimir	Topological transitions in rolled-up superconductor nanomembranes under a strong transport current
18:00-18:20	Koshelev Alexei	Spin waves and related dynamic phenomena in layered superconductors with helical magnetic structure
18:00-18:20	Savva Yurii	Using the database and information technologies in studying functional nanostructures

		<b>DAY 2, Thursday 23 september</b>
		<b>Session-IV. Unconventional superconductors and applications</b>
Time	Name	Title
9:30-10:00	Kleiner Reinhold	Space-time crystalline order of a high-critical-temperature superconductor with intrinsic Josephson junctions
10:00-10:30	Shibauchi Takasada	Exotic superconducting states in FeSe-based materials
10:30-11:00	Lee Gil-Ho	Steady Floquet-Andreev States Probed by Tunnelling Spectroscopy
11:00-11:20	Li Qiang	Josephson coupling and pair density waves in stripe-ordered superconductors
11:20-11:40	Kieler Oliver	The pulse-driven AC Josephson voltage standard
11:40-12:00	Galin Mikhail	Tiny radiation effects in large Josephson systems
12:00-12:30	Kuzmin Leonid	Development of Single Photon Counter for yoctojoule energy range
12:30-14:00	Lunch break	
14:00-16:30		<b>Poster session</b> [Cattaneo Roger, Chiginev Alexander, Krasnov Mihail, Kulikov Kirill, Novikova Nataliya, Pimanov Dmitry, Boian Vladimir, Wolter Silke, Kapran Olena, Mazanik Andrey, Muntyanu Fiodor, Rahmonov Ilhom, Severyukhina Olesya, Yanilkin Igor, Yusupov Roman, Bobkov Grigorii, Condrea Elena, Gutul Tatiana, Morari Vadim, Suvorov Stepan, Sirbu Andrei]
		<b>External Session-V (in Cricova)</b>

14:00-18:00	<b>Round table discussion in Cricova</b>	
	<b>DAY 3, Friday 24 september</b>	
	<b>Session -VI. Unconventional superconductors</b>	
Time	Name	Title
9:30-10:00	Kordyuk Alexander	Multiband electronic structure as a key to high temperature superconductivity and new quantum applications
10:00-10:30	Belzig Wolfgang	Magnetic Field-Induced “Mirage” Gaps and Triplet Josephson Effect in Ising Superconductors
10:30-10:50	Vakhrushev Alexander	Modeling of technological processes for the formation of nanostructures on a solid surface
10:50-11:10	Shukrinov Yury	Phase dynamics, IV-characteristics and magnetization dynamics of the $\phi 0$ Josephson junction
11:10-11:30	Kusmartsev Fiodor	Topological Order in HighTemperature Superconductors
11:30-11:50	Pankratov Andrei	Development of Dichroic 220/240 GHz Parallel Arrays of Cold-Electron Bolometers with Slot Antennas for LSPE project
11:50-12:10	Karabassov Tairzhan	Josephson effect in a disordered superconductor/topological insulator/superconductor junction with magnetization
12:10-12:40	Lunch break	
	<b>Session -VII. S/F</b>	
14:00-14:30	Ryazanov Valery	Superconducting phase inversions in mesoscopic superconductor-normal metal-ferromagnet Josephson structures controlled by nonequilibrium
14:30-15:00	Klenov Nikolai	Superconducting neuron for networks based on radial basis functions
15:00-15:30	Tagirov Lenar/ Yanilkin Igor	Controllable two- vs three-state magnetization switching in single-layer epitaxial Pd <sub>1</sub> xFe <sub>x</sub> films and Pd <sub>0.92</sub> Fe <sub>0.08</sub> /Ag/Pd <sub>0.94</sub> Fe <sub>0.04</sub> heterostructure
15:30-15:50	Sidorenko Anatolie	Nanostructures Superconductor/Ferromagnet for Superconducting Spintronics
15:50-16:10	Soloviev Igor	Approaches to scaling superconducting digital circuits
16:10-16:30	Bobkova Irina	Triplet superconductivity induced by moving condensate
16:30-16:50	Khaydukov Yuri	Chirality of Bloch domain walls in exchange biased CoO/Co bilayer seen by waveguide-enhanced neutron spin-flip scattering
16:50-18:00	Coffee break and closing remarks of the conference	
19:30	<b>Conference dinner</b>	

