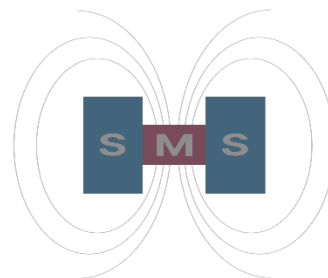




INTERNATIONAL
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FOR NUCLEAR RESEARCH**



**BOGOLIUBOV LABORATORY
OF THEORETICAL PHYSICS**
EXPLORING THE LAWS OF NATURE FROM QUANTUM TO COSMOS











SMHS -2025

Dubna

List of Participants

Plenary Talks

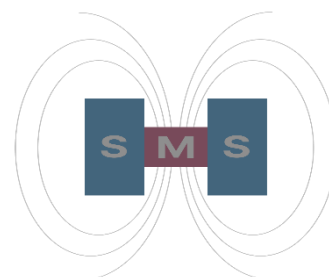
 <i>A. Golubov</i>	<p>Full counting statistics for unconventional superconductor junctions <i>"Moscow Institute of Physics and Technology (MIPT)"</i></p>	 <i>A. Mel'nikov</i>	<p>Interplay of superconductivity and altermagnetism in hybrid systems <i>"Moscow Institute of Physics and Technology (MIPT)"</i></p>
 <i>I. Burmistrov</i>	<p>Bulk-edge correspondence at the spin-to-integer quantum Hall effect crossover in topological superconductors <i>"L.D. Landau Institute for Theoretical Physics"</i></p>	 <i>Y. Shukrinov</i>	<p>Peculiarities of mutual influence of superconductivity and magnetism in Josephson structures with ferromagnet. <i>"JINR"</i></p>
 <i>Y. Fominov</i>	<p>Superconducting diode effect <i>"Landau Institute for Theoretical Physics (Chernogolovka)"</i></p>	 <i>I. I. Soloviev</i>	<p>Integrated cryogenic superconductor qubit control system <i>Lomonosov Moscow State University Skobel'syn Institute of Nuclear Physics</i></p>
 <i>N. Klenov</i>	<p>Superconducting neuromorphic frontiers: Josephson junctions in adiabatic and spiking neural networks <i>"Lomonosov Moscow State University"</i></p>	 <i>V. Krasnov</i>	<p>Josephson emission: junction as an active antenna <i>"Stockholm University"</i></p>



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Invited Talks



D. Anghel

**Resonance phenomena and kapitza
pendulum effects in a nanomagnet
coupled to a Josephson junction and
under external radiation**
"JINR"



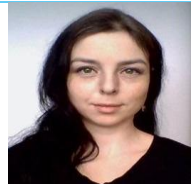
S. Kuzmichev

**Observation of the Leggett collective
plasma oscillation and the spin
exciton in two-gap superconductors
using SNS-Andreev spectroscopy**
"Lomonosov Moscow State University"



A. Bobkov

**Anomalous Josephson effect and
superconducting diode effect in
Josephson junctions via RET2Si2
intermetallic magnets**
*"Moscow Institute of Physics and
Technology (MIPT)"*



T. Kuzmicheva

**Single-gap superconductivity of
alkali-metal ferroselenides with
isovalent substitution**
"Lomonosov Moscow State University"



V. Bol'ginov

**Numerical modeling for the design of
superconducting neurons**
*"Osipyan Institute of Solid State Physics
RAS (ISSP RAS)"*



A. Neilo

**Superconductor-ferromagnet spin
valve with tunable inductance**
"Lomonosov Moscow State University"



T. Golikova

**Controllable supercurrent and $0-\pi$
transition via quasiparticle injection in
mesoscopic multiterminal SNS
Josephson junctions**
*"Osipyan Institute of Solid State Physics
RAS (ISSP RAS)"*



A. Pankratov

**Detectors for radioastronomy and
axion search**
*"Institute for Physics of Microstructures
of RAS and Nizhny Novgorod State
Technical University"*



M. Khapaev

**Finite difference balance method for
discontinuous solutions of the Usadel
equations**
*"Lomonosov Moscow State University,
VMK, Dep. of Numerical Methods, Russia"*



A. Putilov

**Vortex structure and intervortex
interaction in superconducting
structures with intrinsic diode effect**
*"Moscow Institute of Physics and
Technology (MIPT)"*



A. Kopasov

**Effects of the in-plane magnetic field in
van der Waals bilayers with interlayer
superconducting ordering**
*"National University of Science and
Technology "MISIS" "*



A. Semenov

**Quantum Coulomb drag mediated
by cotunneling of fluxons**
"P.N. Lebedev Physical Institute"



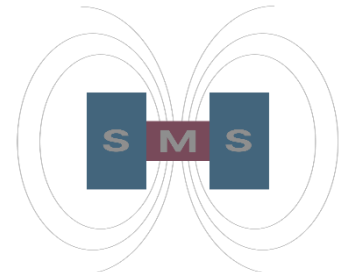
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Invited Talks



M. Skvortsov

Thermal phase slips in superconducting films

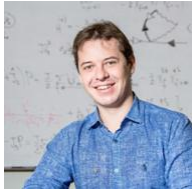
"Landau Institute for Theoretical Physics"



V. Yukalov

Rabi-Josephson dynamical transition in trapped superfluids

"JINR"



M. Shustin

The fate of Majorana zero modes under Markovian dissipation

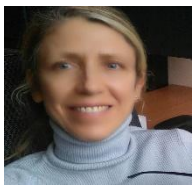
"L.D. Landau Institute for Theoretical Physics, cad. Semenova av. 1-a, Chernogolovka"



V. Zhaketov

Polarized neutron scattering for 2d periodic and fibonacci heterostructures

"JINR"



J. Tekic

Self-generated time crystal in superconductor ferromagnet heterostructure

"Vinča" Institute of Nuclear Sciences, Laboratory for Theoretical and Condensed Matter Physics, University of Belgrade



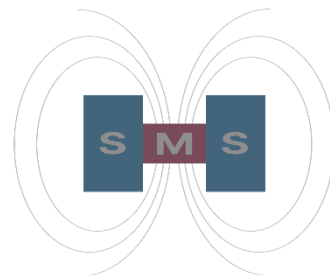
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Oral Talks



T. Enderova

DC and AC study of anisotropic transport properties in the topological insulator $\text{Bi}_{1.06}\text{Sn}_{0.04}\text{Sb}_{0.9}\text{Te}_2\text{S}$

*"Zavoisky Physical-Technical Institute, FRC
Kazan Scientific Center of RAS"*



K. Kulikov

Locking phenomena in Josephson junction conventional vs hybrid

"JINR"



D. Kalashnikov

Nonreciprocal phenomena in the asymmetric superconducting interferometer with external microwave irradiation

*"Moscow Institute of Physics and
Technology (MIPT)"*



S. Larionov

Peculiarities of the vortex dynamics in a granular niobium superconducting bridge

*"Advanced Mesoscience and
Nanotechnology Centre, Moscow
Institute of Physics and Technology; All-
Russian Research Institute of
Automatics n.a. N.L. Dukhov (VNIIA)"*



M. Khrenov

Josephson Oscillator for On-Chip Qubit Excitation and Two-Tone Spectroscopy

*"Russian Quantum Center, Skolkovo,
Moscow Region 143027, Russia;"*



K. Polevoy

Transport properties of planar Nb/Al/Nb Josephson junction

*"Moscow Institute of Physics and
Technology (MIPT)"*



E. Kovalenko

Current steps in voltage-biased ϕ_0 Josephson junction under a harmonic magnetic field

*"Center for the Development of Digital
Technologies, Krasnogorsk"*



I. Rahmonov

Resonant control of magnetization in a shunted ϕ_0 junction with LC circuit

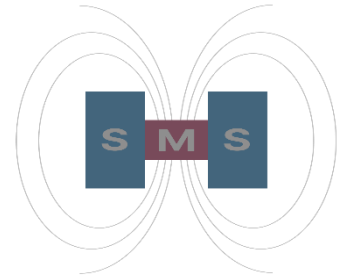
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Poster Presentations



*M. Nashaat
AbdelGhani*

**Magnetic moment bifurcation on
different synchronized voltage steps in
 ϕ_0 junction**

"JINR"



D. Kokaev

**Parametric resonance in a Φ_0
Josephson junction**

"MLIT, JINR"



D. Annenkov

**Domain wall superconductivity in van
der Waals structures with ferroelectric
ordering**

*"Moscow Institute of Physics and
Technology (National Research
University)"*



D. Malkin

**Investigation of magnetization
dynamics in ϕ_0 Josephson junctions
under the influence of an external EM
field**
"JINR"



M. Bashashin

**High-performance numerical study of
physical characteristics of
superconducting Josephson structures
in dependence of parameters of the
models**

"MLIT, JINR"



A. Rahmonova

**Development of toolkit for
mathematical modeling of a DC-
SQUID**

"MLIT, JINR"



Y. Dmitrievtsev

**Superconducting orbital diode effect in
SN bilayers**

*"Landau Institute for Theoretical Physics,
Russia"*



V. Sakhin

**Magnetotransport of
Pb/Bi_{1.08}Sn_{0.02}Sb_{0.9}Te₂S
heterostructures**

*"Zavoisky Physical-Technical Institute, FRC
Kazan Scientific Center of RAS"*



A. Ionin

**Progress of implementation of the
superconducting neuron prototype**

"Institute of Solid State Physics"



R. Tyumenev

**Development and measurement of a
cryogenic microwave generator based
on Josephson junction planar
technology**

*"Moscow Institute of Physics and Technology
(MIPT)"*



O. Kibardina

**Possibility of magnetization controlling
in a shunted ϕ_0 junction**

"MLIT, JINR"

Attendee



E. Nikonov
"JINR"



E. Yukalova
*"Laboratory of Information
Technologies, JINR"*