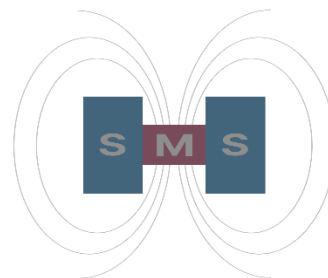




INTERNATIONAL
INTERGOVERNMENTAL
ORGANIZATION
**JOINT INSTITUTE
FOR NUCLEAR RESEARCH**



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



SMHS -2025

Dubna

List of Participants

Plenary Talks

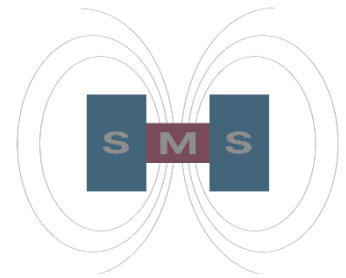
| | | | |
|--|--|--|--|
|  <i>A. Golubov</i> | <p>Full counting statistics for unconventional superconductor junctions <i>"Moscow Institute of Physics and Technology (MIPT)"</i></p> |  <i>A. Mel'nikov</i> | <p>Interplay of superconductivity and altermagnetism in hybrid systems <i>"Moscow Institute of 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. 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. Stolyarov</i> | <p>Ballistic transport in nanocrystals of topological insulators <i>"Moscow Institute of Physics and Technology (MIPT)"</i></p> |
|  <i>V. Krasnov</i> | <p>Josephson emission: junction as an active antenna <i>"Stockholm University"</i></p> | | |



INTERNATIONAL
INTERGOVERNMENTAL
ORGANIZATION
**JOINT INSTITUTE
FOR NUCLEAR RESEARCH**



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



Invited Talks



D. Anghel

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



V. Kondratyev

Superferromagnetoresistors

"JINR"



A. Bobkov

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



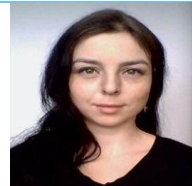
S. Kuzmichev

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



V. Bol'ginov

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



T. Kuzmicheva

**Single-gap superconductivity of
alkali-metal ferroselenides with
isovalent substitution**
"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. Neilo

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

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



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. Putilov

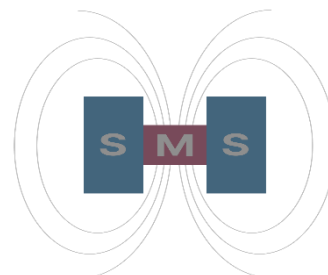
**Vortex structure and intervortex
interaction in superconducting
structures with intrinsic diode effect**
*"Moscow Institute of Physics and
Technology (MIPT)"*



INTERNATIONAL
INTERGOVERNMENTAL
ORGANIZATION
**JOINT INSTITUTE
FOR NUCLEAR RESEARCH**



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



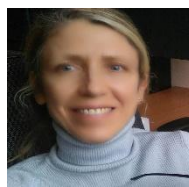
Invited Talks



A. Saha

**Static and Floquet topological
superconductivity in altermagnet
heterostructures**

"Institute of Physics, Bhubaneswar"



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*



A. Semenov

**Quantum Coulomb drag mediated by
cotunneling of fluxons**

"P.N. Lebedev Physical Institute"



V. Yukalov

**Rabi-Josephson dynamical transition
in trapped superfluids**

"JINR"



M. Skvortsov

**Thermal phase slips in superconducting
films**

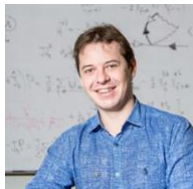
"Landau Institute for Theoretical Physics"



V. Zhaketov

**Polarized neutron scattering for 2d
periodic and fibonacci
heterostructures**

"JINR"



M. Shustin

**The fate of Majorana zero modes under
Markovian dissipation**

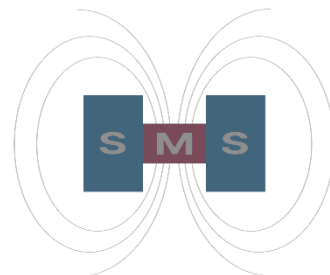
*"L.D. Landau Institute for Theoretical
Physics, cad. Semenova av. 1-a,
Chernogolovka"*



INTERNATIONAL
INTERGOVERNMENTAL
ORGANIZATION
**JOINT INSTITUTE
FOR NUCLEAR RESEARCH**



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



Oral Talks



M. AbdelGhani

**Bifurcation of the magnetic moment on
Buzdin and Chimera Steps in ϕ_0
Josephson Junction**

"JINR"



K. Kulikov

**The uniqueness of the locking
phenomena in ϕ_0 Josephson junction**

"JINR"



T. Enderova

**DC and AC study of anisotropic
transport properties in the topological
insulator Bi_{1.06}Sn_{0.04}Sb_{0.9}Te₂S**

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



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)"*



D. Kalashnikov

**Nonreciprocal phenomena in the
asymmetric superconducting
interferometer with external microwave
irradiation**

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



A. Mukhopadhyay

**Identification of odd-frequency
superconducting pairing in
Josephson junctions**

"Weizmann Institute of Science"



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

*To be announced
"JINR"*



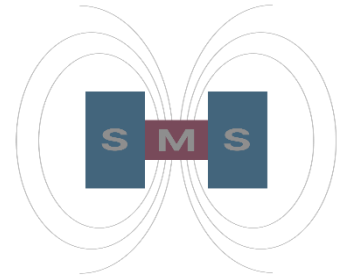
INTERNATIONAL
INTERGOVERNMENTAL
ORGANIZATION

JOINT INSTITUTE
FOR NUCLEAR RESEARCH



BOGOLIUBOV LABORATORY
OF THEORETICAL PHYSICS

EXPLORING THE LAWS OF NATURE FROM QUANTUM TO COSMOS



Posters Presentations

| | | | |
|---|--|---|--|
|  <i>D. Annenkov</i> | Domain wall superconductivity in van der Waals structures with ferroelectric ordering <i>"Moscow Institute of Physics and Technology (National Research University)"</i> |  <i>A. Ionin</i> | Progress of implementation of the superconducting neuron prototype <i>"Institute of Solid State Physics"</i> |
|  <i>Y. Dmitriyev</i> | Superconducting orbital diode effect in SN bilayers <i>"Landau Institute for Theoretical Physics, Russia"</i> |  <i>V. Sakhin</i> | Magnetotransport of Pb/Bi_{1.08}Sn_{0.02}Sb_{0.9}Te₂S heterostructures <i>"Zavoisky Physical-Technical Institute, FRC Kazan Scientific Center of RAS"</i> |
|  <i>A. Elistratova</i> | To be announced <i>"Moscow Institute of Physics and Technology (MIPT)"</i> |  <i>R. Tyumenev</i> | Development and measurement of a cryogenic microwave generator based on Josephson junction planar technology <i>"Moscow Institute of Physics and Technology (MIPT)"</i> |

Attendee

| | | |
|--|---|--|
|  <i>E. Dronova</i> <i>"Moscow Institute of Physics and Technology (National Research University)"</i> |  <i>E. Nikonov</i> <i>"JINR"</i> |  <i>E. Yukalova</i> <i>"Laboratory of Information Technologies, JINR"</i> |
|--|---|--|