

List of Presentations

Invited speakers

Akinobu	Irie	Utsunomiya University
Alexander	Buzdin	University of Bordeaux
Alexei	Koshelev	Argonne National Laboratory
Alexey	Ustinov	Karlsruhe Institute of Technology
Chih-Wei	Luo	National Chiao Tung University
Edward	Goldobin	University of Tübingen
Francesco	Tafari	Second University of Naples
Hidehiro	Asai	AIST
Hidetoshi	Minami	University of Tsukuba
Huabing	Wang	NIMS
Hu-Jong	Lee	Pohang University of Science and Technology
Iwao	Kawayama	Osaka University
Jian	Chen	Nanjing University
Kensuke	Nakajima	Yamagata University
Lutfi	Ozyuzer	Izmir Institute of Technology
Manabu	Tsujimoto	Kyoto University
Paul	Mueller	University of Erlangen
Paul	Seidel	Friedrich Schiller University Jena
Philip	Moll	ETH Zurich
Reinhold	Kleiner	University of Tübingen
Richard	Klemm	University of Central Florida
Shuuichi	Ooi	NIMS
Steven	Anlage	University of Maryland
Takanari	Kashiwagi	University of Tsukuba
Takashi	Tachiki	National Defense Academy of Japan
Takekazu	Ishida	Osaka Prefecture University
Taro	Yamashita	NICT
Ulrich	Welp	Argonne National Laboratory
Vladimir	Krasnov	Stockholm University
Xiao	Hu	NIMS
Yannis	Laplace	Max Planck Institute
Yoshinori	Uzawa	NICT
Yukihiro	Ota	Japan Atomic Energy Agency
Yury	Shukrinov	Joint Institute for Nuclear Research

Contributed talks

Chiharu	Watanabe	University of Tsukuba
Davide	Massarotti	University of Naples Federico II
Feodor	Kusmartsev	Loughborough University
Gaku	Eguchi	Kyoto University
Haruhisa	Kitano	Aoyama Gakuin University
Hiroki	Yamazaki	RIKEN
Hitoshi	Kambara	Kyoto University
Ilhom	Rahmonov	Joint Institute for Nuclear Research
Masanori	Nagao	University of Yamanashi
Masaru	Kato	Osaka Prefecture University
Min	Ji	Nanjing University
Mohammad	Kolahchi	Institute for Advanced Studies
Muhammad Shahbaz	Anwar	Kyoto University
Sachio	Komori	Kyoto University
Saoto	Fukui	Osaka Prefecture University
Tsuyoshi	Tamegai	The University of Tokyo
Xianjing	Zhou	Nanjing University
Yilmaz	Simsek	University of Erlangen
Yoshihiko	Takano	NIMS
Zhao	Huang	NIMS

Poster Presenters

Akira	Uzawa	Kyoto University
Arakawa	Yuki	University of Tsukuba
Chien-Ming	Tu	National Chiao Tung University
Daiki	Takehi	Aoyama Gakuin University
Hiroki	Akiyama	The University of Tokyo
Holger	Motzkau	Stockholm University
Kentaro	Asanuma	University of Tsukuba
Kirill	Kulikov	Joint Institute for Nuclear Research
Kohei	Tsumura	Tokyo University of Science
Kurama	Nakade	University of Tsukuba
Manabu	Tsujimoto	Kyoto University
Masaki	Umeda	Osaka Prefecture University
Masashi	Komatsu	University of Tsukuba
Masataka	Kashiwagi	Osaka Prefecture University

Metin	Kurt	Izmir Institute of Technology
MOITRI	MAITI	Joint Institute for Nuclear Research
Noeru	Satou	University of Electro-Communications
Norio	Fujita	Osaka Prefecture University
Shin-ya	Ayukawa	Aoyama Gakuin University
Svetlana	Medvedeva	Moscow Institute of Physics and Technology
Taichiro	Nishio	Tokyo University of Science
Takahiro	Kato	Nagaoka University of Technology
Takaki	Yasui	University of Tsukuba
Takeo	Kitamura	University of Tsukuba
Tien-Tien	Yeh	National Chiao Tung University
Tim	Wootton	University College London
Tubasa	Nishikata	Nagaoka University of Technology
Yasemin	Demirhan	Izmir Institute of Technology
Yoshiki	Nomura	Kyoto University
Yusaku	Takahashi	Aoyama Gakuin University
Yusuke	Yoshioka	Kyoto University
Yuuya	Nakagawa	Kyoto University

Scientific Programme

Sunday, November 30

Arrival

18:00 – 20:00 Registration / Reception

Monday, December 1

Opening 9:00 – 9:10

Session: THz emission I 9:10 – 10:50

9:10 – 9:35 **Reinhold Kleiner** 1
Hot spots and THz waves in Bi₂Sr₂CaCu₂O₈ intrinsic Josephson junction stacks: Recent developments

9:35 – 10:00 **Takanari Kashiwagi** 1
Development of THz imaging systems by using an IJJ emitter

10:00 – 10:25 **Ulrich Welp** 1
Current filamentation in large Bi₂Sr₂CaCu₂O_{8+δ} mesa devices observed via luminescent and scanning laser thermal microscopy

10:25 – 10:50 **Yoshinori Uzawa** 1
Performance of terahertz superconducting receivers for the ALMA telescope

Coffee break 10:50 – 11:10

Session: Nanostructure/Josephson 11:10 – 12:25

11:10 – 11:35 **Taro Yamashita** 1
Recent progress of superconducting nanowire single-photon detector and its applications

11:35 – 12:00 **Shuichi Ooi** 1
Detection of vortex state in mesoscopic intrinsic Josephson junctions stacks

12:00 – 12:25 **Steven Anlage** 1
Coherence and transparency in rf SQUID metamaterials

Lunch 12:25 – 14:00

Session: THz emission II 14:00 – 16:05

14:00 – 14:25 **Huabing Wang** 1
Some efforts on improving performance and understanding mechanism of THz emission in intrinsic Josephson junctions

14:25 – 14:50 **Manabu Tsujimoto** 1
Dynamic control of temperature distributions and terahertz waves in stacks of intrinsic Josephson junctions in Bi₂Sr₂CaCu₂O₈

14:50 – 15:15 **Hidetoshi Minami** 1
THz IJJ emitters operated at liquid nitrogen temperatures and 1.3 THz emission at 30 K

15:15 – 15:40 **Akinobu Irie** 1
Fabrication and characterization of intrinsic Josephson junction THz oscillators

15:40 – 16:05 **Takashi Tachiki** 1
Evaluation of cavity modes and radiation power of THz-wave oscillators using intrinsic Josephson junctions

Tea break 16:05 – 16:30

Session: Interface/topological materials 16:30 – 18:30

16:30 – 16:55 **Alexander Buzdin** 1
Short vs long-ranged proximity effect in S/F/S Josephson junctions

16:55 – 17:10 **Muhammad Anwar** 1
Development of ferromagnet SrRuO₃ and spin triplet superconductor Sr₂RuO₄ junctions

17:10 – 17:25 **Hiroki Yamazaki** 1
Superconducting proximity effects in Nb/rare-earth bilayers

17:25 – 17:50 **Hu-Jong Lee** 1
Josephson coupling via robust surface conducting layers in 3D topological

insulators
17:50 – 18:15 **Chih-Wei Luo** 1
THz emission and detection on surface carriers in topological insulators

18:15 – 18:30 **Gaku Eguchi** 1
Ideal surface Dirac cone and its transport properties in the topological insulator TlBiSe₂

Light meal 18:30 – 19:00

Session: Josephson junctions 19:00 – 20:30

19:00 – 19:25 **Paul Seidel** 1
Modeling different kinds of Josephson junctions and circuits for interpretation of their electrical characteristics

19:25 – 19:50 **Yury Shukrinov** 1
Effects of coupling in intrinsic Josephson junctions under external electromagnetic radiation

19:50 – 20:15 **Edward Goldobin** 1
Experiments with ferromagnetic φ Josephson junctions

20:15 – 20:30 **Mohammad Kolahchi** 1
Resonance overlap as the origin of structured chaos in Josephson junctions

Tuesday, December 2

Session: THz emission III 9:00 – 10:40

- 9:00 – 9:25 **Xiao Hu** 1
Josephson phenomena in novel superconducting states
- 9:25 – 9:50 **Yukihiro Ota** 1
Numerical simulations of terahertz emission from intrinsic Josephson junctions with variation of the number of junctions
- 9:50 – 10:15 **Alexei Koshelev** 1
Role of dissipation, disorder, and thermal noise in synchronization of intrinsic Josephson junctions
- 10:15 – 10:40 **Richard Klemm** 1
Emission distributivities from novel geometrical antennas
- Coffee break 10:40 – 11:10

Session: Intrinsic Josephson junction I 11:00 – 12:35

- 11:00 – 11:25 **Phillip Moll** 1
Intrinsic Josephson junctions in the iron-based multi-band superconductor (V₂Sr₄O₆)Fe₂As₂
- 11:25 – 11:50 **Paul Mueller** 1
Doping of high-T_c superconductors by carrier injection
- 11:50 – 12:05 **Yoshihiko Takano** 1
New BiS₂-based superconductors
- 12:05 – 12:20 **Masanori Nagao** 1
Growth and c-axis transport property of PrO(F)BiS₂ single crystal
- 12:20 – 12:35 **Sachio Komori** 1
Underdamped intrinsic Josephson junctions in Pb_{1-y}Sr_{2y}1-xCa_xCu_{2+y}O_{7+δ} epitaxial films
- Excursion 13:00 – 18:00

Poser session 18:00 – 20:30

Wednesday, December 3

Session: Metamaterials 9:00 – 10:30

- 9:00 – 9:25 **Alexey Ustinov** 1
Superconducting metamaterials
- 9:25 – 9:50 **Hidehiro Asai** 1
Peculiar electromagnetic response of quantum metamaterial composed of Superconducting qubits
- 9:50 – 10:15 **Iwao Kawayama** 1
Nonlinear responses of superconducting thin films induced by intense terahertz pulses
- 10:15 – 10:30 **Fedor Kusmartsev** 1
Topological fractal metamaterials composed of electrically isolated Pi-rings for THz-radiation devices
- Coffee break 10:30 – 10:50

Session: Nanostructure/detector 10:50 – 12:20

- 10:50 – 11:15 **Francesco Tafuri** 1
Nano domain encoding in transport properties of unconventional Josephson junctions and nanostructures
- 11:15 – 11:40 **Takekazu Ishida** 1
Novel current-biased kinetic inductance detectors aiming at neutron radiography
- 11:40 – 12:05 **Jian Chen** 1
Terahertz detectors working at room temperature
- 12:05 – 12:20 **Masaru Kato** 1
Modified molecular-dynamics method for vortex dynamics in nano-structured superconductors
- Lunch 12:20 – 14:00

Session: Intrinsic Josephson junction II 14:00 – 15:35

- 14:00 – 14:25 **Vladimir Krasnov** 1
Generation-detection of nonequilibrium bosons using Bi-2212 intrinsic Josephson junctions: A hint about the pairing mechanism

- 14:25 – 14:50 **Yannis Laplace** 1
Controlling high-Tc Josephson plasmonics with strong THz fields and optical cavities
- 14:50 – 15:05 **Haruhisa Kitano** 1
Possibility of macroscopic quantum tunneling in higher order switching events of Bi2Sr2CaCu2O8 intrinsic Josephson junctions
- 15:05 – 15:20 **Hitoshi Kambara** 1
Switching characteristics of BSCCO intrinsic Josephson junction on a cross-type device: A systematic study by sequential doping
- 15:20 – 15:35 **Yilmaz Simsek** 1
Current injection into hole and electron doped high-Tc superconductors

Tea break 15:35 – 15:55

Session: THz emission IV 15:55 – 17:30

- 15:55 – 16:20 **Lutifi Ozyuzer** 1
Area dependence of Josephson critical current density in superconducting Bi2Sr2CaCu2O8+d mesa structures for terahertz emission
- 16:20 – 16:45 **Kensuke Nakajima** 1
Successful terahertz emission from monolithic Bi-2212 intrinsic Josephson junctions near 77K
- 16:45 – 17:00 **Tsuyoshi Tamegai** 1
Thermal imaging of Bi2212 mesas
- 17:00 – 17:15 **Chiharu Watanabe** 1
The effect of temperature distribution on THz emission from high-Tc superconducting THz devices
- 17:15 – 17:30 **Min Ji** 1
Terahertz radiation above 1 THz from intrinsic Josephson junction arrays

Closing 17:30 – 17:40