



AOSOC 2000



**Applied
Superconductivity
Conference**

Technology for the 21st Century

Pre-Conference
Booklet

September 17 - 22, 2000

Pavilion Convention Center • Virginia Beach, Virginia USA

5EB04 Peculiarities of rf SQUID response with a finite amplitude of the second harmonic in the current-phase relationship.

E. Il, R. Ijsselstein, V. Schultze, H.E. Hoenig, H.-G. Meyer, IPHT Jena, Dept. of Cryoelectronics, P.O.Box 100239, D-07702 Jena, Germany.

5EB05 Mutual inductance and noise of high-Tc SQUIDs with flip-chip and integrated input coils

J. Ramos, V. Zakosarenko, R. Ijsselstein, V. Schultze, H.-G. Meyer, IPHT Jena, Dept. of Cryoelectronics, P.O.Box 100239, D-07702 Jena, Germany.

5EB06 Characterisation of the balance in a planar, directly coupled HTS gradiometer.

T. Greibe, J. Bindslev Hansen, Department of Physics, Technical University of Denmark, DK-2800 Lyngby, Denmark; P.R.E. Petersen, Department of Clinical Neurophysiology, Rigshospitalet, Blegdamsvej 9, DK-2100 Copenhagen, Denmark; T. Holst, Y.Q. Shen, NKT Research, Priorparken 878, DK-2605 Brøndby, Denmark.

5EB08 Versatile High Performance Digital SQUID Electronics

Christoph Ludwig, Christoph Kessler, Adrianus Johannes Steinfurt, Wolfgang Ludwig, STL Systemtechnik Ludwig GmbH.

5EB09 High-Tc YBCO rf SQUID with a bicrystal Josephson junction

S.Z. Wang, P. Ma, T. Yang, F.X. Xie, R.J. Nie, L.Y. Liu, S.G. Wang, Y.D. Dai, Department of Physics and Mesoscopic Physics National Laboratory Peking University, Beijing 100871.

5EC Advanced Josephson Junction Techniques II

5EC01 Nanoscale Nb-Cu SNS Junction Fabrication in Superconductor-Normal Metal Bilayers

Robert Hadfield, Wilfred Booij, Gavin Burnell, Mark Blamire, University of Cambridge, U.K..

5EC02 Fabrication and Characterization of SNS Josephson Junctions with an Aluminum Barrier

Vincenzo Lacquaniti, Sabino Maggi, Albino Polcari, Raffaella Steni, Domenico Andreone, Istituto Elettrotecnico Nazionale.

5EC03 Development of sub-micron SNS ramp-type Josephson junctions

D. Hagedorn, R. Dolata, R. Poepel, F.-Im. Buchholz, J. Niemeyer, Physikalisch-Technische Bundesanstalt, Bundesallee 100, D-38116 Braunschweig, Germany.

5EC04 Lumped SNS Josephson Arrays for AC Voltage Metrology

Paul Dresselhaus, Sam Benz, Charles Burroughs, NIST.

5EC05 Coherent vs. incoherent electron transport across the double-barrier SINIS junctions

Serhii Shafranuk, NASU Institute of Magnetism, Kyiv, Ukraine; Ivan Nevirkovets, John Ketterson, Northwestern University, Dept. of Physics and Astronomy, Evanston, IL.

5EC06 Investigation of the double-barrier Nb/Al-AlOx-Al-AlOx-(Al)/Nb junctions under high-frequency irradiation

I.P. Nevirkovets, Northwestern University, Evanston IL; Inst. of Metal Physics, Kyiv, Ukraine; J.B. Ketterson, Northwestern University, Evanston IL; M. Siegel, Institute of Thin Film and Ion Technology, Forschungszentrum Juelich, Juelich, Germany.

5EC07 Current-Phase Relation in a Nb/Al/AlOx/Al/AlOx/Al/Nb-Based SINIS-type Josephson Junction between 4.2K and its Critical

Temperature

M. Goetz, V. Khanin, H. Schulze, A.B. Zorin, J. Niemeyer, Physikalisch-Technische Bundesanstalt (PTB), Projekt 2.401, Bundesallee 100, Braunschweig, Lower Saxony, D - 38116, Germany; E. Il, H.E. Hoenig, H.-G. Meyer, Institute for Physical High Technology (IPHT), Jena, Germany.

5EC08 Programmable Josephson Voltage Standards Using SINIS Junctions

Holger Schulze, Ralf Behr, Johannes Kohlmann, Franz Mueller, Juergen Niemeyer, Physikalisch-Technische Bundesanstalt.

5EC09 Double barrier Josephson junctions: theory and experiment

A. Brinkman, A.A. Golubov, H. Rogalla, Department of Applied Physics, University of Twente, Enschede, The Netherlands; M.Yu. Kupriyanov, Nuclear Physics Institute, Moscow State University, Russia; M. Siegel, Forschungszentrum Juelich GmbH, Institut fuer Schicht- und Ionentechnik, Germany.

5ED Tunable Microwave Materials and Measurement Techniques

5ED01 Epitaxial YBa₂Cu₃O₇/SrTiO₃ heterostructures grown by pulsed laser deposition for voltage agile microwave filter applications

K. Bouzehouane, P. Woodall, J.P. Contour, CNRS; B. Marcilhac, Y. Lemaitre, J.C. Mage, Thomson-CSF.

5ED02 Fabrication and Investigation of HTS/Ferroelectric/Ferromagnetic Structures for Electrically and Magnetically Tunable Superconducting Microwave Devices

S. Hontsu, T. Sakatani, H. Nakai, H. Nishikawa, Kinki Univ.; M. Nakamori, Kumano Tech. College; H. Tabata, T. Kawai, Osaka Univ..

5ED03 Anisotropy in the transparency of HTS films at mm and submm waves

Michael Tarasov, Evgueni Stepanov, Tobias Lindström, Zdravko Ivanov, Chalmers University of Technology; Hongqui Chen, Lars-Gunnar Johansson, Göteborg University.

5ED04 Ferroelectric characterisation using Josephson junctions

P.F. McBrien, W.E. Booij, G. Burnell, F. Kahlmann, M.G. Blamire, E. J. Tarte, University of Cambridge; E. J. Romans, C. M. Pegrum, University of Strathclyde.

5ED05 Electric and Magnetic Properties of Pr_{1-x}CaxMnO₃ Thin Films for Superconducting Tunable Microwave Devices.

T. Sakatani, H. Nakai, S. Hontsu, H. Nishikawa, Kinki Univ.; M. Nakamori, Kumano T.C.; H. Tabata, T. Kawai, Osaka Univ..

5ED06 Magnetically Tunable Superconducting Resonators Using Ferromagnetic Perovskites

M. Kamel, L.-M. Xie, J. Wosik, M. Strikovski, S.A. Long, University of Houston; P. Przyslupski, Polish Academy of Sciences.

Friday Oral Sessions (Doubletree Hotel) 10:00am - 11:30am

5EE Applications of SQUIDs I

5EE01 SQUID-Photoscanning: An imaging technique for NDE of semiconductor wafers and devices based on photo-magnetic detection (10:00am)

J. Beyer, Th. Schurig, PTB Berlin.

5EE02 Multiplexed SQUID Array for Non-Destructive Evaluation of Aircraft Structures (10:30am)

H.-J. Krause, S. Gärtner, N. Wolters, R. Hohmann, W. Wolf, J. Schubert, W. Zander, Y. Zhang, ISI, Forschungszentrum Jülich; M. v. Kreuzbruck, M. Mück, IAP, University of Giessen.

5EE03 Analysis of low-energy impact delamination damages in reinforced carbon fiber composites by HTS-SQUID magnetometers (10:45am)

Massimo Valentino, Adele Ruosi, Giovanni Piero Pepe, Giuseppe Peluso, Istituto Nazionale della Fisica della Materia INFM Naples Italy.