



AOSOC 2000



**Applied  
Superconductivity  
Conference**

*Technology for the 21<sup>st</sup> Century*

Pre-Conference  
Booklet

**September 17 - 22, 2000**

Pavilion Convention Center • Virginia Beach, Virginia USA

## **2EB10 High Temperature Superconductive Microwave Filters for Space Applications**

Jagdish P. Shivhare, P.P. Vaidya, S. Shrinivasulu, C.N. Lal, D. Balasubramanyam, A.D. Dave, O.P. Kaushik, Space Application Center, ISRO..

## **2EB11 Further Development of a Future ESM Channeliser with High Temperature Superconducting Filters**

R.F. Jeffries, R.B. Greed, D.C. Voyce, BAE SYSTEMS, Marconi Research Centre; G. Nudd, MAv, Stanmore, Middlesex; R.G. Humphreys, S.W. Goodyear, DERA, Malvern, Worcester.

## **2EB12 A Ka-band microstrip band-pass filter using double-sided YBCO films**

T. Yoshitake, W. Hattori, S. Murakami, S. Suzuki, NEC Corporation.

## **2EC Bi Crystal and Junction Physics**

### **2EC01 Theory of Resonant Tunneling in NSmD Structures with 2D-electron transport in Sm layer.**

Igor Devyatov, Denis Goncharov, Mikhail Kupriyanov, Moscow State University, Institute of Nuclear Physics.

### **2EC02 YBCO Josephson junctions on bicrystal sapphire substrates for submm wave applications**

K. Y. Constantinian, G. A. Ovsyannikov, I. V. Borisenko, A. D. Mashtakov, Institute of Radio Engineering and Electronics RAS; N. G. Pogosyan, A. A. Hakhoumian, Institute of Radiophysics and Electronics Armenian NAS; J. Mygind, N. F. Pedersen, Department of Physics, Technical University of Denmark.

### **2EC04 Controlled adjustments of High-Tc Josephson Junctions by Doping their Electrodes**

C.W. Schneider, G. Hammerl, R.R. Schulz, B. Goetz, A. Schmehl, H. Bielefeldt, J. Mannhart, University of Augsburg; H. Hilgenkamp, University of Twente.

### **2EC05 Superconducting current - phase dependence in Josephson YBCO bicrystal junctions on sapphire**

I. V. Borisenko, G. A. Ovsyannikov, K. Y. Constantinian, A. D. Mashtakov, Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Moscow .

### **2EC06 Effect of grain boundary angle on noise correlation in grain boundary junctions**

P. Mikheenko, S. Corner, F. Wellhofer, R. Chakalov, M.S. Colclough, C.M. Muirhead, School of Physics, University of Birmingham, UK.

### **2EC07 Faceting of grain-boundary and spread of critical currents in thin-film YBCO bicrystal junctions.**

P. Shadrin, Institute of Radioengineering and Electronics, Russian Academy of Sciences, Moscow, 103907, Russia; Y. Divin, IFF-IMF, Forschungszentrum Juelich GmbH, Juelich, D-52425, Germany.

### **2EC08 Spin injection into HTS materials and grain boundary junctions**

P. Mikheenko, J. Ireland, M. Allsworth, C. Severac, F. Wellhofer, R. Chakalov, C.M. Muirhead, M.S. Colclough, School of Physics, University of Birmingham, UK.

### **2EC09 Capacitance as a probe of high angle grain boundary transport in oxide superconductors**

Edward Tarte, Philip McBrien, James Ransley, Frank Kahlmann, Jan Evetts, IRC in Superconductivity, Madingley Road, Cambridge, CB3 0HE UK; Edward Romans, Colin Pegrum, Department of Physics and Applied Physics, Strathclyde University, Glasgow, G4 0NG, UK.

### **2EC10 Manifestation of interface bound states in current-phase relationship of HTS Josephson junctions**

A.A. Golubov, H. Rogalla, University of Twente, Dept. of Applied Physics, P.O. Box 217, 7500 AE Enschede, The Netherlands; E. Il, H.E. Hoenig, H.-G. Meyer, IPHT Jena, P.O. Box 100239, D-07702 Jena, Germany; M.Yu. Kupriyanov, Moscow State University, Moscow, Russia; M. Siegel, ISI KFA Juelich, Germany.

### **2EC11 Inelastic Resonant Tunneling Effects in Conductivity and Microwave Response of YBaCuO Josephson Junctions formed on Bicrystal Boundary**

Aleksandr Verevkin, Yale University; Andrej Lipatov, Denis Meledin, Vadim Ilyin, MSPU.

### **2EC12 Andreev reflection in layered structures: implications for high critical temperature grain boundary Josephson junctions**

Alexander Golubov, University of Twente; Francesco Tafuri, INFN - Seconda Universita.

### **2EC13 Two-states complementary behavior of an all high Tc dc pi-SQUID**

B. Chesca, R. Schulz, B. Goetz, C. Schneider, H. Hilgenkamp, J. Mannhart, University of Augsburg.

### **2EC14 YBa2Cu3O7 Bicrystal Grain Boundary Junction Microstructure**

Jerome A. Luine, TRW; Alexander M. Klushin, Forschungszentrum Jülich GmbH, Institut für Schicht-und Ionentechnik; Vladimir Z. Kresin, Lawrence Berkeley Laboratory.

## **2ED Tunable Microwave Devices**

### **2ED01 Laser Trimming for Tuning HTS Microwave filters**

Simon Goodyear, Nick Parker, Richard Humphreys, DERA Malvern.

### **2ED02 High Temperature Superconducting Ferrite Phase Shifter with New Latching Structure**

K.S.K. Yeo, M.J. Lancaster, University of Birmingham.

### **2ED03 Tuning Properties of 2GHz Superconducting Microstrip-line Filters**

H. Fuke, Y. Terashima, H. Kayano, M. Yamazaki, F. Aiga, H. Yoshino, Y. Suzuki, R. Katoh, Toshiba Corporation.

### **2ED04 Frequency Agile Microwave Filters Based on YBCO/STO Heterostructure on LAO Substrate**

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

### **2ED05 Effect of Varying Dielectrics on YBCO for use in MEMS Capacitive Switches**

Alfredo Corrales, Florida International University (FIU); James Reid, John Derov, AFRL; Grover Larkins, Yuri Vlasov, FIU.

### **2ED06 1/2 wave YBa2Cu3O7 on LaAlO3 Resonators with Tunable BaTiO3 and SrTiO3 coupling capacitors**

G.L. Larkins, Jr., Yu.A. Vlasov, P. Brown, J.M. Vargas, Florida International University.

### **2ED07 Broadband and Low Driving-Voltage LiNbO3 Optical Modulator with High Tc Superconducting Transmissionline**

K. Yoshida, H. Takeuchi, H. Morita, H. Kanya, Kyushu University; Y. Kanda, Fukuoka Institute of Technology; T. Uchiyama, Z. Wang, CRL.

### **2ED08 An Integrated HTS and Schottky Barrier Diode Circuit for Bandwidth Modulation.**

Dr. M. W. Hosking, University of Portsmouth.

### **2ED09 Transmission characteristics of HTS microstrip resonators with a ferrite component**

T. Nurgaliev, Institute of Electronics BAS, Bulgaria ; S. Miteva, Institute of Electronics BAS, Bulgaria; A. Jenkins, D. Dew-Hughes, University of Oxford, UK.

### **2ED10 Strontium titanate thin films for tunable YBCO microwave filters**

Brian Moeckly, Yongming Zhang, Conductus, Inc..