

Oral Sessions Tuesday, September 20

Plenary Lectures (World Forum Theater)

Chairperson: Cardwell, Tixador

2-P-1 9:00 – 9:45

Bulk High Temperature Superconductors

M. Izumi

Tokyo University of Marine Science and Technology, Tokyo

2-P-2 9:45 – 10:30

Smart grids perspectives for superconductivity

N. Hadjsaid

Grenoble Institute of Technology/ENSE3/G2Elab

10:30 – 11:00 Coffee break

Oral Session Electronics A (Mississippi)

“Novel Devices”

Chairperson: Koshelets

2-EA-O1 11:00 – 11:15 (A391)

Bi-SQUIDs with sub-micron cross-type Josephson tunnel junctions

I. I. Soloviev¹, A. V. Sharafiev², V. K. Kornev², M. Schmelz³, R. Stolz³,
V. Zakosarenko³, S. Anders³, H.-G. Meyer³

¹*Institute of Nuclear Physics & ² Physics Department, Moscow State University, Moscow 119991, Russia, ³Institute of Photonic Technology, Albert-Einstein Str. 9, D-07745 Jena, Germany*

2-EA-O2 11:15 – 11:30 (A458)

Solid-state NIS refrigerators with technologically useful cooling power and temperature reduction

J. M. Underwood, G. C. O’Neil, P. J. Lowell, and J. N. Ullom

National Institute of Standards and Technology, Boulder, CO, USA

2-EA-O3 11:30 – 11:45 (A682)

Thin-film-like BSCCO single crystals made by mechanical exfoliationX Wang¹, D K Liu¹, L X You¹, X Y Yang¹, C T Lin², X M Xie¹ and M H Jiang¹¹ State Key Laboratory of Functional Materials for Informatics, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, Shanghai 200050, P. R. China, ²Max-Planck-Institut für Festkörperforschung, Heisenbergstrasse 1, D-70569 Stuttgart, Germany

2-EA-O4 11:45 – 12:00 (A41)

Identification of Liquids by High- T_c Josephson THz Detectors

Y. Divin, M. Lyatti, U. Poppe, K. Urban

PGI, Forschungszentrum Jülich GmbH, D-52425 Jülich, Germany

2-EA-O5 12:00 – 12:15 (A284)

Superconducting triplet spin valveYa. V. Fominov¹, A. A. Golubov², T. Yu. Karminskaya³, M. Yu. Kupriyanov³, R. G. Deminov⁴, L. R. Tagirov⁴¹ L. D. Landau Institute for Theoretical Physics, RAS, 119334 Moscow, Russia, ² Faculty of Science and Technology and MESA+ Institute of Nanotechnology, University of Twente, P.O. Box 217, 7500 AE Enschede, The Netherlands, ³ Nuclear Physics Institute, Moscow State University, 119992 Moscow, Russia, ⁴ Physics Faculty, Kazan State University, 420008 Kazan, Russia

2-EA-O6 12:15 – 12:30 (A783)

Magnetic Josephson junction technology for digital and memory applicationsV. V. Ryazanov¹, O. A. Mukhanov², I. V. Vernik²¹ Institute of Solid State Physics, Russian Academy of Sciences, Chernogolovka, 142432, Russia, ² HYPRES, Inc., Elmsford, NY 10523, USA

2-EA-O7 12:30 – 12:45 (A1148)

Interplay of self-heating and terahertz emission in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_8$ intrinsic Josephson junctionsH. B. Wang^a, S. Guenon^b, Z. G. Jiang^c, B. Gross^b, J. Yuan^a, M. Grunzweig^b, Y. Y. Zhong^c, M. Y. Li^c, P. H. Wu^c, A. Iishi^a, T. Hatano^a, D. Koelle^b, and R. Kleiner^b^a National Institute for Materials Science, Tsukuba 3050047, Japan, ^b Physikalisches Institut Experimentalphysik II and Center for Collective Quantum Phenomena, Universität Tübingen, Auf der Morgenstelle 14, D-72076 Tübingen, Germany, ^c Research Institute of Superconductor Electronics, Nanjing University, Nanjing 210093, China

2-EA-O8 12:45 – 13:00 (A707)

Conditions of terahertz radiation from $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ -intrinsic Josephson junctions

I. Kakeya¹, Y. Omukai¹, T. Yamamoto², K. Kadowaki², and M. Suzuki¹

¹ *Department of Electronic Science and Engineering, Kyoto University,*

² *Institute of Materials Science, University of Tsukuba, and CREST-JST*

13:00 – 14:00 Lunch Break

14:00 – 16:00 Poster Session

“Device Fabrication”

Chairperson: Fujimaki

2-EA-O9 16:00 – 16:15 (A926)

Room-temperature probing of unpatterned Josephson tunnel junctions

J. Talvacchio¹, R. M. Lewis¹, J. Z. Wu² and R. T. Lu²

¹ *Northrop Grumman Electronic Systems, Baltimore, Maryland, USA,*

² *University of Kansas, Dept. of Physics and Astronomy, Lawrence, Kansas, USA*

2-EA-O10 16:15 – 16:30 (A1036)

Submicron NbN Internally-Shunted Junctions Integrated in SFQ Circuits

J-C. Villegier¹, S. Bouat¹, M. Aurino¹, V. Michal¹, M. Heitzman², D. Renaud²

¹ *Institute of Nanosciences and Cryogenics, CEA-Grenoble, 38054*

Grenoble- Cedex-9, France, ² *Laboratory of Electronics and Integrated Technologies, CEA/LETI, 38054 Grenoble- Cedex-9, France*

2-EA-O11 16:30 – 16:45 (A916)

Atomic layer deposition and characterization of the Al_2O_3 barrier layer in Nb- Al_2O_3 -Nb trilayers

Rongtao Lu¹, Alan Elliot¹, Logan Wille¹, Bo Mao¹, Siyuan Han¹ and Judy Z. Wu¹, John Talvacchio² and Rupert Lewis²

¹ *Department of Physics and Astronomy, University of Kansas, Law-*

rence, Kansas 66045, USA, ² *Northrop Grumman Electronic Systems, Baltimore, Maryland 21203, USA*

2-EA-O12 16:45 – 17:00 (A1021)

Shadow evaporation of epitaxial Al/Al₂O₃/Al tunnel junctions on sapphire utilizing an inorganic bilayer mask

Paul B. Welander, Vladimir Bolkhovskiy, William D. Oliver, Mark A. Gouker

Lincoln Laboratory, Massachusetts Institute of Technology, Lexington, MA 02420

2-EA-O13 17:00 – 17:15 (A34)

Towards “Ideal” High- T_c Josephson Junction: [100]-tilt YBa₂Cu₃O_{7-x} bicrystal boundary

Y. Divin, U. Poppe

PGI, Forschungszentrum Jülich GmbH, D-52425 Jülich, Germany

2-EA-O14 17:15 – 17:30 (A431)

Hydrogen Effect on Nb-based Josephson Junctions and Integrated Circuits

Sergey K. Tolpygo and Denis Amparo

HYPRES, Inc. 175 Clearbrook Rd., Elmsford, NY 10523, USA, and Department of Physics and Astronomy, Stony Brook University, Stony Brook, NY 11794-3800, USA

2-EA-O15 17:30 – 17:45 (A1087)

100-GHz high-speed demonstration of circuit components of FFT processors using 10 kA/cm² Nb process

N. Yoshikawa, F. Miyaoka, K. Hinago, Y. Shimamura, Y. Yamanashi

Yokohama National University, Japan

2-EA-O16 17:45 – 18:00 (A758)

SNS junctions for programmable Josephson voltage standards

Thomas Scheller, Franz Müller, Rüdiger Wendisch, Oliver Kieler, Kathrin Störr, Thomas Weimann, Bert Egeling, Luis Palafox, Ralf Behr, Johannes Kohlmann

Physikalisch-Technische Bundesanstalt (PTB), Bundesallee 100, 38116 Braunschweig, Germany

Oral Session Electronics B (Europe 1+2)

“Quantum Information Circuits”

Chairperson: Mooij

2-EB-O1 11:00 – 11:15 (A1062)

Sub-Photon Dispersive Readout of a Superconducting Flux Qubit Using a Microstrip SQUID Amplifier

J. E. Johnson,¹ E. M. Hoskinson,^{1,2} C. Macklin,² I. Siddiqi,² and John Clarke¹

¹Department of Physics, University of California, Berkeley, California, 94720 USA, ²QNL, Department of Physics, University of California, Berkeley, California, 94720 USA

2-EB-02 11:15 – 11:30 (A239)

Dynamics and Application of a Superconducting Phase Qubit Coupled to a Two-Level System

Guozhu Sun^{1,2,3}, XuedaWen², Bo Mao³, Jian Chen^{1,2}, Yang Yu², Siyuan Han^{1,3}, Peiheng Wu^{1,2}

¹Research Institute of Superconductor Electronics, School of Electronic Science and Engineering, Nanjing University, Nanjing 210093, China, ²National Laboratory of Solid State Microstructures, School of Physics, Nanjing University, Nanjing, China, ³Department of Physics and Astronomy, University of Kansas, Lawrence, KS 66045, USA

2-EB-O3 11:30 – 11:45 (A660)

Wafer-scale Fabrication of High Quality Josephson Tunnel Junction Phase Qubits

D. Gunnarsson¹, M. Sillanpää², J. Pirkkalainen² and M. Prunnila¹

¹VTT Technical Research Centre of Finland, Espoo, Finland, ²Low Temperature Laboratory, Aalto University School of Science, Espoo, Finland

2-EB-O4 11:45 – 12:00 (A861)

Superconducting flux qubit manipulated by fast flux pulses: observation of different decoherence regimes and study of adiabatic/non-adiabatic transitions

F. Chiarello¹, M. G. Castellano¹, G. Torrioli¹, C. Cosmelli²

(1) IFN-CNR, via Cineto Romano 42, 00156 Rome, Italy. (2) Dip. Physics, University “Sapienza”, Rome, Italy.

2-EB-O5 12:00 – 12:15 (A678)

Circuit demonstration of ultra-low-power adiabatic quantum flux parametrons

N. Yoshikawa, D. Ozawa Y. Yamanashi

Yokohama National University, Japan

2-EB-O6 12:15 – 12:30 (A1125)

Maximum effective data rate of the Josephson comparator

T. Ortlepp¹, Y. Yamanashi²

¹ *Department of Electrical Engineering and Computer Sciences, University of California, Berkeley,* ² *Interdisciplinary Research Center, Yokohama National University*

2-EB-O7 12:30 – 12:45 (A891)

Progress on superconducting comparators for pipe-line A/D conversion

J. R. Ngankio Njila¹, D-G. Crété¹, J-C. Mage¹, B. Marcilhac¹, P. Febvre²

¹ *Unité Mixte de Physique CNRS/THALES,* ² *IMEP-LAHC CNRS UMR5130 – University of Savoie - France*

2-EB-O8 12:45 – 13:00 (A119)

20 GHz operation of an asynchronous wave-pipelined RSFQ arithmetic-logic unit

Timur V. Filippov¹, Anubhav Sahu¹, Igor V. Vernik¹, Alexander F. Kirichenko¹, Oleg A. Mukhanov¹, Mikhail Dorojevets², Christopher L. Ayala²

¹ *HYPRES, Inc., Elmsford, NY 10523, USA,* ² *Department of Electrical and Computer Engineering, Stony Brook University, Stony Brook, NY 11794 USA*

13:00 – 14:00 Lunch Break

14:00 – 16:00 Poster Session

“SQUIDs: Other Applications and Biosensors”

Chairperson: Enpuku

2-EB-09 16:00 – 16:15 (A876)

Geophysics meets Archaeology – With a SQUID gradiometer system in Mongolia

H.-G. Meyer⁽¹⁾, S. Linzen⁽¹⁾, J. Bemann⁽²⁾, H.-P. Baumgart⁽¹⁾, M. Schneider⁽¹⁾, S. Dunkel⁽³⁾, and R. Stolz⁽¹⁾

⁽¹⁾ IPHT Jena, Albert-Einstein-Strasse 9, 07745 Jena, Germany,

⁽²⁾ Universität Bonn, Institut für Kunstgeschichte und Archäologie, Regina-Pacis-Weg 7, 53113 Bonn, Germany, ⁽³⁾ Supracon AG, Wildenbruchstrasse 15, 07745 Jena, Germany

2-EB-O10 16:15 – 16:30 (A524)

Superconducting Magnetic Tensor Gradiometer System for Detection of Underwater UXOs

S. T. Keenan¹, S. Billings², D. Clark¹, J. A. Young¹, K. Leslie¹, P. Fairman¹, P. Cusack¹ and C. P. Foley¹.

¹ CSIRO Materials Science and Engineering, P.O Box 218, Lindfield, NSW 2070 Sydney. ² Sky Research, Inc. 445 Dead Indian Memorial Road, Ashland, OR 97520 USA

2-EB-O11 16:30 – 16:45 (A798)

Transformer-coupled Charge-pulse Readout using SQUID Series Array Amplifier

Martin E. Huber¹, Bruce A. Hines¹, Kent D. Irwin², Gene C. Hilton², Xiaoye Chen¹, Russell J. Deitrick¹, Venesh K. Molleti¹, Hamid Nikmanesh¹

¹Departments of Physics and of Electrical Engineering, University of Colorado Denver, PO Box 173364, Denver, CO 80217-3364 and

²National Institute of Standards and Technology, 325 Broadway, Boulder, CO 80303

2-EB-O12 16:45 – 17:00 (A1119)

HTS Faraday Coils Array for Microscopy and Rat Brain 7.0 T MRI; Assessment of Practical Limit of SNR Gain

J Wosik,^{1,2} L. Xie,² T. Ichih,³ K Nesteruk,⁴ K. Bockhorst,³ P. A. Narayana³

¹University of Houston, Electrical and Computer Engineering Department; ²Texas Center for Superconductivity, Houston, USA; ³University of Texas Health Science Center, Houston, Texas, USA; ⁴Institute of Physics, Polish Academy of Sciences, Warsaw, Poland

2-EB-O13 17:00 – 17:15 (A132)

Spontaneous brain activity measured with high-Tc SQUID magnetometer

Fredrik Öisjöen¹, Justin F. Schneiderman^{2,3}, Gerard Amorós Figueras¹, Maxim L Chukharkin^{1,5}, Anders Hedström⁴, Göran Pegenius^{3,4}, Alexei Kalabukhov¹, Mikael Elam^{2,3,4}, Dag Winkler¹.

¹Chalmers University of Technology, Department of Microtechnology and Nanoscience, ²MedTech West, ³Institute of Neuroscience and Physiology, Sahlgrenska Academy, University of Gothenburg, ⁴Sahlgrenska University Hospital, Gothenburg, ⁵Department of physics, Moscow State University

2-EB-O14 17:15 – 17:30 (A179)

Application test of multilayer high-T_c dc-SQUID magnetometers for MEG

M. I. Faley¹, U. Poppe¹, M. Schiek², F. Boers³, H. Chocholacs³, J. Dammers³, E. Eich³, N. J. Shah³, A. Ermakov⁴, V. Yu. Slobodchikov⁴, Yu. V. Maslennikov⁴, and V. P. Koshelets⁴

¹PGI-5, ²ZEL, ³INM-4, Forschungszentrum Jülich GmbH, D-52425 Jülich, Germany, ⁴The Kotelnikov Institute of Radio Engineering & Electronics RAS, 125009, Moscow, Russia

2-EB-O15 17:30 – 17:45 (A126)

Clinic research for diagnosing Alzheimer's disease using HTS SQUID mixed-frequency magnetosusceptometer to quantitatively detect biomarkers in blood

S.Y. Yang¹, H.E. Horng², C.C. Yang², J.J. Chieh², H.C. Yang³, M.J. Chiu⁴ and T.F. Chen⁴

¹MagQu Co., Ltd., Sindian Dis., New Taipei City 231, Taiwan, ²Institute of Electro-optical Science and Technology, National Taiwan Normal University, Taipei 116, Taiwan, ³Department of Physics, National Taiwan University, Taipei 106, Taiwan, ⁴Department of Neurology, National Taiwan University Hospital, College of Medicine, National Taiwan University, Taipei 104, Taiwan.

2-EB-O16 17:45 – 18:00 (A924)

Handheld Magnetic Probe System Based on HTS SQUID for Intra-operative Real-time Localization of Sentinel Lymph Nodes

A. Brazdeikis and S. Subhasis

Texas Center for Superconductivity, University of Houston, Houston, TX 77204, USA

Oral Session Materials A (Amazon)

“HTS Thin Films 2”

Chairperson: Holzapfel

2-MA-I1 (Invited) 11:00 – 11:30 (A965)

Advances in chemical solution growth of $\text{YBa}_2\text{Cu}_3\text{O}_7$ thin films and multilayers*

X. Obradors¹, T. Puig¹, R. Vlad^{1,2}, A. Palau¹, F. Martínez¹, S. Ricart¹, A. Pomar¹, K. Zalamova¹, A. Calleja^{1,2}, X. Granados¹, C. F. Sánchez¹, M. Vilardell¹, M. de Palau¹, J. Farjas³, P. Roura³

¹ Institut de Ciència de Materials de Barcelona, ICMAB-CSIC Campus de la UAB, 08193 Bellaterra, Catalonia, Spain, ² OXOLUTIA SL, Edifici Eureka, Parc de Recerca de la UAB, Campus de la UAB, E-08193, Bellaterra, Catalonia, Spain, ³ University of Girona, Campus Montilivi, Edif. PII, E17071 Girona, Catalonia, Spain

2-MA-O1 11:30 – 11:45 (A810)

Barrier efficiency of sponge-like $\text{La}_2\text{Zr}_2\text{O}_7$ buffer layers for YBCO-coated conductors

L. Molina¹, H. Tan¹, E. Biermans¹, K. J. Batenburg², J. Verbeeck¹, S. Bals¹, G. Van Tendeloo¹

¹ EMAT, University of Antwerp Groenenborgerlaan 171, BE-2020 Antwerp, Belgium, ² Vision Lab, University of Antwerp, Universiteitsplein 1, BE-2020 Wilrijk, Belgium

2-MA-O2 11:45 – 12:00 (A865)

Growth of epitaxial CeO_2 buffer layers by polymer assisted deposition

Albert Calleja¹, Ramona Bianca Mos², Lelia Ciontea², Teresa Puig¹, Xavier Obradors¹

¹ Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Campus de la UAB, E-08193, Bellaterra, Catalonia, Spain, ² Technical University of Cluj, 15, C. Daicoviciu Street, 400020 Cluj-Napoca, Romania

2-MA-O3 12:00 – 12:15 (A896)

Dynamic biaxial straining of YBCO thin films using piezoelectric substrates

P. Pahlke, S. Trommler, R. Hühne, J. Hänisch, M. Kidszun, B. Holzapfel, L. Schultz

IFW Dresden, P.O. Box: 270116, 01171 Dresden, Germany

2-MA-O4 12:15 – 12:30 (A1011)

Increased critical current and reduced current anisotropy in BZO-doped YBCO multilayers and quasi-multilayers

A. Crisan^{1,2}, V.S. Dang¹, P. Mikheenko¹, P. Paturi³, H. Huhtinen³

¹ School of Metallurgy and Materials, University of Birmingham, Edgbaston, Birmingham B15 2TT, U.K., ² National Institute of Materials Physics Bucharest, 077125 Romania, ³ Wihuri National Laboratory, Department of Physics and Astronomy, University of Turku, FI-20014 Finland

2-MA-O5 12:30 – 12:45 (A1117)

Hysteretic magnetic pinning and vortex-antivortex dynamics in High-T_c superconducting/ferromagnetic multilayers

C. Visani, P. J. Metaxas, A. Collaudin, B. Calvet, R. Bernard, J. Briatico, C. Deranlot, K. Bouzehouane and J. E. Villegas

Unité Mixte de Physique CNRS/Thales, 91767 Palaiseau, and Université Paris Sud 11, 91405 Orsay, France

2-MA-O6 12:45 – 13:00 (A624)

Modelling Transport and Magnetic Response in Ferromagnetic-Superconductor Hybrid Systems

A. Sanchez¹, N. Del-Valle¹, C. Navau¹, and D.-X. Chen²

¹ Grup d'Electromagnetisme, Departament de Física, Universitat Autònoma de Barcelona, 08193 Bellaterra, Barcelona, Spain

² Institució Catalana de Recerca i Estudis Avançats (ICREA), Passeig Lluís Companys 23, 08010 Barcelona, Spain

13:00 – 14:00 Lunch Break

14:00 – 16:00 Poster Session

“Critical Currents, Flux Dynamics, Flux Pinning II”

Chairperson: Campbell

2-MA-O7 16:00 – 16:15 (A339)

Electrical performance of technical superconductors with regard to applications

A. Kuhnert^{1,2}, M. P. Oomen¹, T. Arndt¹

¹ Siemens AG, CT T DE HW 4, Günther-Scharowsky-Str. 1, 91058 Erlangen, Germany, ² Physikalisches Institut III, Universität Erlangen-Nürnberg, Erwin-Rommel-Str. 1, 91058 Erlangen, Germany

2-MA-O8 16:15 – 16:30 (A1015)

Strain engineering for improvement in J_c and H_{irr} and H_{c2} in MgB_2

S. X. Dou¹, S. De Silva¹, X. Xu¹, R. Zeng¹, W.X. Li¹, J.H. Kim¹, X.L. Wang¹, M. Rindfleisch² and M. Tomsic²

¹*Institute for Superconducting and Electronic Materials, Innovation Campus, University of Wollongong, Square Way, North Wollongong, NSW 2522, Australia*

²*Hyper Tech Research Inc, Troy, Ohio, USA*

2-MA-O9 16:30 – 16:45 (A947)

Quantitative magneto-optical imaging of current density distribution in micro-patterned superconducting films

Francesco Laviano, Roberto Gerbaldo, Gianluca Ghigo, Laura Gozzelino

Department of Physics, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129 Torino, Italy

2-MA-O10 16:45 – 17:00 (A888)

Ac susceptibility analysis of vortex dynamics in YBCO films with artificial pinning defects

E. Bartolomé¹, A. Palau², T. Puig², A. Llordes², M. Gibert², X. Obradors²

¹*Escola Universitaria Salesiana de Sarrià (associated to University Autònoma de Barcelona), Passeig Sant Joan Bosco 74, 08017-Barcelona, Spain,* ²*Institut de Ciència de Materials de Barcelona-CSIC, Campus UAB, 08193-Bellaterra, Spain*

2-MA-I2 (Invited) 17:00 – 17:30 (A415)

Influence of Cold Densification on the reaction process in malic acid doped MgB_2 wires

C. Senatore^{1,2}, M.S.A. Hossain², M. Bonura¹, R. Flükiger^{1,2}

¹*Department of Condensed Matter Physics, University of Geneva, 1211 Geneva, Switzerland,* ²*Department of Applied Physics, University of Geneva, 1211 Geneva, Switzerland*

2-MA-O11 17:30 – 17:45 (A769)

Neutron irradiation effects in Fe based superconductors

M. Eisterer¹, M. Zehetmayer¹, H.W. Weber¹, J. Jiang², J.D. Weiss², A. Yamamoto², E.E. Hellstrom², D.C. Larbalestier², N.D. Zhigadlo³, J. Karpinski³, E. Bellingeri⁴, M.R. Cimberle⁵, I. Pallecchi⁴, M. Putti⁴, C. Ferdeghini⁴

¹*Atomintstitut, Vienna University of Technology, 1020 Vienna, Austria,*

²*National High Magnetic Field Laboratory, Florida State University,*

Tallahassee, FL 32310, USA, ³*Laboratory for Solid State Physics, ETH*

Zurich, CH-8093 Zurich, Switzerland, ⁴*CNR-SPIN, 16152 Genova, Italy,*

⁵*CNR-IMEM, 16146 Genova, Italy*

2-MA-O12

17:45 – 18:00

(A439)

**Irreversibility lines and anomalous Meissner effect in
 $\text{Ba}(\text{Fe}_{1-x}\text{Co}_x)_2\text{As}_2$ superconducting crystals**

O. F. de Lima, R. L. de Almeida, T. M. Garitezi, C. Adriano, P. F. S. Rosa, and P. G. Pagliuso

Instituto de Física Gleb Wataghin, Unicamp, 13083-859 Campinas, SP, Brasil

Day 2

Orals - Tuesday, September 20

Oral Session Materials B (Kilimanjaro)

“HTS Bulk and Single Crystal II”

Chairperson: Tallon

2-MB-I1 (invited) 11:00 – 11:30 (A832)

Comparative study of (RE)-Ba-Cu-O single grain nano-composite superconductors processed using TSMG and SIG

N. Hari Babu², A. R. Dennis¹, Y. Shi¹ and D. A. Cardwell¹

¹*Bulk Superconductivity Group, Department of Engineering, University of Cambridge, Trumpington Street, Cambridge, CB2 1PZ, UK, ²BCAST, Brunel University, UB8 3PH, UK.*

2-MB-O1 11:30 – 11:45 (A714)

Magnetic properties of the melt-textured (Nd,Eu,Gd)Ba₂Cu₃O_y superconductors doped by Mo, Nb, and Ti nanoparticles.

M. Jirsa¹, M. Muralidhar², M. Ramesh¹

¹*Institute of Physics ASCR, v.v.i., Na Slovance 2, CZ-18221 Praha 8, Czech Republic, ²Applied Superconductivity, Materials Technology Division, Railway Technical Research, Institute (RTRI), 2-8-38, Hikaricho, Kokubuni-shi, Tokyo 185-8540, Japan*

2-MB-O2 11:45 – 12:00 (A220)

A possible explanation for spontaneous nucleation occurred in the Sm-Ba-Cu-O-Ag solution during the SmBCO single domain processing

ke-xi Xu, Peng-xiang Zuo, Bo-wen Lian, Yue Cao, and Shun-bo Hu
Physics Department, Shanghai University, Shanghai 200444, China

2-MB-O3 12:00 – 12:15 (A906)

Effect of the heating rate on the phase transition of single domain and the critical current density of hole TSPMP-YBCO single domain

C P Zhang¹, X Chaud⁴, E Beaugnon^{2,4}, L Zhou^{1,3}

¹*SMRC, Northwest Institute for Non-ferrous Metal Research, Xi'an, China, ²Physical Material Dept., Universite Joseph Fourier, Grenoble, France, ³Material Sci. Eng. Dept, Northwest Polytechnical University, Xi'an, China, ⁴CRETA/CNRS, BP166, 38042 Grenoble Cedex 9, France*

2-MB-O4 12:15 – 12:30 (A885)

Fracture toughness properties of Gd123 superconducting bulks

H. Fujimoto¹, A. Murakami², H. Teshima³, M. Morita³

1) *Railway Technical Research Institute, Kokubunji, Tokyo 185-8540 Japan*, 2) *Department of Mechanical Engineering, Ichinoseki National College of Technology, Takanashi, Hagisho, Ichinoseki 021-8511, Japan*, 3) *Advanced Technology Research Laboratories, Nippon Steel Corp., Futtsu, Chiba 293-8511, Japan*

2-MB-O5 12:30 – 12:45 (A28)

Simulation studies on split-coil magnetisation of (RE)BCO bulk superconductors

Zhihan Xu¹, Richard Lewin², Archie M. Campbell¹, David A. Cardwell¹, Harry Jones²

¹*Bulk Superconductivity Group, Department of Engineering, University of Cambridge, Trumpington Street, Cambridge, CB2 1PZ, UK*, ²*Magnet Development and Applied Superconductivity Group, Department of Physics, University of Oxford, Clarendon Laboratory, Parks Road, Oxford, OX1 3PU, UK*

2-MB-O6 12:45 – 13:00 (A174)

NdBa₂Cu₃O_x nanowires grown in anodized alumina templates by microwave heating

M. R. Koblischka¹, J. Meiser¹, M. Muralidhar², and U. Hartmann¹

¹*Institute of Experimental Physics, Saarland University, P.O.Box 151150, D-66041 Saarbrücken, Germany*, ²*RTRI, Japan*

13:00 – 14:00 Lunch Break

14:00 – 16:00 Poster Session

“Thin Films and Miscellaneous”

Chairperson: Oates

2-MB-I2 (Invited) 16:00 – 16:30 (A67)

Generic buffer layers for epitaxial superconducting Ba(Fe_{1-x}Co_x)₂As₂ thin films

K. Iida, T. Thersleff, S. Haindl, J. Hänisch, F. Kurth, M. Kidszun, S. Trommler, I. Lucas del Pozo, J. Engelmann, R. Hühne, L. Schultz and B. Holzapfel

IFW Dresden, P.O.Box 270116, 01171 Dresden, Germany

2-MB-O7 16:30 – 16:45 (A319)

Grain boundary transport properties and high J_c films on metal substrates of $BaFe_2As_2:Co$

Hidenori Hiramatsu¹, Takayoshi Katase¹, Chris Sheehan², Vladimir Matias², Yoshihiro Ishimaru³, Akira Tsukamoto³, Toshio Kamiya¹, Keiichi Tanabe³, and Hideo Hosono¹

¹Tokyo Institute of Technology, Japan, ²Los Alamos National Laboratory, USA, ³International Superconductivity Technology Center, Japan

2-MB-O8 16:45 – 17:00 (A668)

Vortex channelling at Low Angle Grain Boundaries in Ba-122 thin films.

J. H. Durrell¹, S. Lee², J. Jiang³, D. Abraimov³, C-B Eom², D. Larbales-tier³

1) Department of Engineering, University of Cambridge, UK., 2) College of Engineering, University of Wisconsin, Madison, USA, 3) ASC, NHMFL, Florida State University, Tallahassee, USA.

2-MB-O9 17:00 – 17:15 (A235)

Optimization of composition in YBCO thin films by means of combinatorial Nd:YAG-PLD method

Y. Ichino¹, Y. Yoshida², T. Yoshimura², I. Ono²

¹EcoTopia Science Institute, Nagoya University, Japan, ²Dept. of Energy Engineering and Science, Nagoya University, Japan

2-MB-O10 17:15 – 17:30 (A772)

Similarities and differences of $BaHfO_3$ artificial pinning centers in GdBCO and YBCO thin films deposited by TFA-MOD

M. Erbe¹, T. Freudenberg¹, L. Molina², A. Kirchner¹, S. Kaskel³, L. Schultz¹, B. Holzapfel¹

¹Leibniz Institute for Solid State and Materials Research Dresden, Helmholtzstrasse 20, D- 01069 Dresden, Germany, ²EMAT, University of Antwerp, Groenenborgerlaan 171, BE-2020 Antwerp, Belgium, ³Dept. of Inorganic Chemistry, Dresden University of Technology, Mommsenstraße 6, D-01069 Dresden, Germany

2-MB-O11 17:30 – 17:45 (A195)

Introduction of Controlled Nanosized Defects in YBCO Thin Films

K. Develos-Bagarinao¹, H. Matsui¹, S. C. Wimbush² and J. L. Macmanus-Driscoll²

¹National Institute of Advanced Industrial Science and Technology (AIST), ²Department of Materials Science and Metallurgy, University of Cambridge

2-MB-O12

17:45 – 18:00

(A111)

Enhanced Critical current density found in $(\text{Nd}_x\text{Sm}_x\text{Gd}_{1-2x})\text{Ba}_2\text{Cu}_3\text{O}_{7.5}$ Superconducting films

Xiao-Fen Li, Jean-Claude Grivel

Material research division, Risø national laboratory for sustainable energy, Technical University of Denmark

Day 2

Orals - Tuesday, September 20

Oral Session Large Scale A (Yangtze 1)

“Transformers and Current Limiters”

Chairperson: Xin

2-LA-I1 (Invited) 11:00 – 11:30 (A400)

ENSYSTROB - Components for a Superconducting Fault Current Limiter Based on Coated Conductors

Steffen Elschner^{1,3}, Markus Bludau², Joachim Bock², Stefan Fink¹, Wilfried Goldacker¹, Achim Hobl², Andrej Kudymov¹, Mathias Noe¹

¹ Karlsruhe Institute for Technology, ITeP, Karlsruhe, Germany

² Nexans Superconductors GmbH, Hürth, Germany

³ University of Applied Science, Mannheim, Germany

2-LA-O1 11:30 – 11:45 (A485)

Risk Mitigation in the Development of a Roebel Cable Based 1MVA HTS Transformer

Neil Glasson¹, Mike Staines², Rod Badcock², Logan Ward², Kailash Thakur², Mohinder Pannu³

1. Industrial Research Limited, Christchurch, New Zealand, 2. Industrial Research Limited, Wellington, New Zealand, 3. Wilson Transformer Pty Limited, Melbourne, Australia

2-LA-O2 11:45 – 12:00 (A395)

Detailed Review and Application of the 3-Phase Self-Limiting Transformer with Magnetic Flux Applied

Janos Kosa¹ and Istvan Vajda²

¹ Kecskemet College, Faculty of Mechanical Engineering and Automation, Hungary, ² Budapest University of Technology and Economics, Department of Electric Power Engineering, Budapest, Hungary

2-LA-O3 12:00 – 12:15 (A543)

Current Limitation and Recovery Function for Superconducting Fault Current Limiting Transformer (SFCLT)

N.Hayakawa, T.Kito, J.Himbele, H.Kojima, M.Hanai, H.Okubo

Nagoya University, Nagoya, Japan

2-LA-O4 12:15 – 12:30 (A354)

Design and Technology of the Joint Demonstration Project iSFCL – an Inductive Superconducting Fault Current Limiter

A. Henning¹, F.Mumford⁵, K. Bäuml³, T. Janetschek⁴, A. Usoskin²

¹ Bruker Advanced Supercon GmbH, ² Bruker HTS GmbH, ³ Schneider Electric Sachsenwerk GmbH, ⁴ Stadwerke Augsburg Energie GmbH, ⁵ Alstom Grid Research and Technology.

2-LA-O5 12:30 – 12:45 (A104)

Design and Development of the First Polish Superconducting Fault Current Limiter for MV Distribution Systems

Janusz Kozak¹, Michal Majka¹, Tadeusz Janowski², Slawomir Kozak¹, Grzegorz Wojtasiewicz¹, Beata Kondratowicz-Kucewicz¹

¹ *Electrotechnical Institute in Warsaw, Poland,* ² *Lublin University of Technology, Poland*

2-LA-O6 12:45 – 13:00 (A112)

The Characteristics of Cryoflex™ and Kapton at 77 K in Liquid Nitrogen and Pressurized Gaseous Helium

H.Rodrigo¹, F.Salmhofer¹, G.H.Heller¹, D.G.Crook¹, S.L.Ranner¹, D.Knoll² and D. Willen³

¹*Florida State University, Center for Advanced Power Systems, Tallahassee, FL, USA,* ²*Southwire Company, Carrollton, GA, USA,* ³*nkt cables, Brondby, Denmark*

13:00 – 14:00 Lunch Break

14:00 – 16:00 Poster Session

“HTS Cables”

Chairperson: Tixador

2-LA-I2 (Invited) 16:00 – 16:30 (A23)

First Russian Long Length HTS Power Cable

Volkov E.P.¹, Vysotsky V.S.² and Firsov V.P.³

¹ *Krzhizhanovsky Energy Institute, Moscow, Russia,* ² *Russian Scientific R&D Cable Institute, Moscow, Russia,* ³ *Moscow Aviation Institute (Technical University), Moscow, Russia*

2-LA-O7 16:30 – 16:45 (A1115)

Status of High Temperature Superconductor Cable Projects in the US

Jim Maguire and Jie Yuan

American Superconductor (AMSC), 64 Jackson Road, Devens, MA, US 01434-4020

2-LA-O8 16:45 – 17:00 (A377)

A breakthrough in the development of long-length HTS cables with integrated FCL property

Irina Melnik¹, Alex Geschiere¹, Dag Willén², Oleg Chevtchenko³

¹Alliander, Duiven, the Netherlands, ²nkt cables, Broendby, Denmark, ³TUD, Delft, the Netherlands

2-LA-O9 17:00 – 17:15 (A29)

Design and evaluation of 66 kV-class “3-in-One” HTS cable using REBCO wires

M. Ohya^a, H. Hirota^a, T. Masuda^a, N. Amemiya^b, A. Ishiyama^c, T. Ohkuma^d

a)Sumitomo Electric Industries, Ltd., b)Kyoto University, c)Waseda University, d)ISTEC

2-LA-O10 17:15 – 17:30 (A768)

Development of 275 kV-3 kA HTS Cable in Japan

Yagi Masashi¹, Shinichi Mukoyama¹, Amemiya Naoyuki², Atsushi Ishiyama³, Xudong Wang³, Aoki Yuji⁴, Saito Takashi⁵, Maruyama⁶, Ohkuma Takeshi⁶

¹Furukawa Electric, ²Kyoto University, ³Waseda University, ⁴SWCC, ⁵Fujikura Ltd., ⁶International Superconductivity Technology Center

2-LA-O11 17:30 – 17:45 (A382)

First tests of twisted-pair HTS 1 kA range cables for use in superconducting links

A. Ballarino¹, J.Fleiter¹, G.Willering¹, C.Beduz², Y.Yang²

¹ CERN, ² University of Southampton

2-LA-O12 17:45 – 18:00 (A908)

REBa₂Cu₃O_{7-x} coated conductor cables for electric power transmission and high-field magnet applications

D.C. van der Laan¹, X.F. Lu¹, T.C. Stauffer², L.F. Goodrich², T.J.Haugan³, G.E. Miller⁴, P.D. Noyes⁴ and H.W. Weijers⁴

¹ University of Colorado, Department of Physics, Boulder, CO 80309, USA, and National Institute of Standards and Technology, Boulder, CO 80305, USA, ² National Institute of Standards and Technology, Boulder, CO 80305, USA, ³ Air Force Research Laboratory, Wright-Patterson AFB, OH 45433, USA, ⁴ National High Magnetic Field Laboratory, Tallahassee, FL 32310, USA

Oral Session Large Scale B (Yangtze 2)

“AC Losses, Cables and HTS Coils”

Chairperson: Amemiya

2-LB-I1 (Invited) 11:00 – 11:30 (A153)

Manufacturing and test of 2G-HTS coils for rotating machines: Challenges, conductor requirements, realisation

Marijn P. Oomen, Werner Herkert, Dietmar Bayer, Wolfgang Nick, Tabea Arndt

Siemens AG, Corporate Technology, CT T DE HW4, PO Box 3220, 91050 Erlangen, Germany

2-LB-O1 11:30 – 11:45 (A931)

Measurement of AC Loss in individual turns of an HTS solenoid

Mike Staines, Zhenan Jiang

Industrial Research Ltd., 69 Gracefield Road, PO Box 31310, Lower Hutt 5040, New Zealand

2-LB-O2 11:45 – 12:00 (A1019)

AC losses of YBCO pancake coils

V. Grinenko¹, G. Fuchs¹, K. Nenkov¹, C. Stiehler¹, M. Vojenčiak², T. Reis³, B. Oswald³ and B. Holzapfel¹

¹ *Leibniz Institute for Solid State and Materials Research Dresden, P.O. Box 270116, D-01171 Dresden, Germany,* ² *Institute of Electrical Engineering, Centre of Excellence CENG, Slovak Academy of Sciences, D'ubravská cesta 9, 842 39 Bratislava, Slovakia,* ³ *Oswald Elektromotoren GmbH, Benzstraße 12, 63897, Miltenberg, Germany*

2-LB-O3 12:00 – 12:15 (A587)

AC loss in stacks of pancake coils made of coated conductor: simulations proofed by experiments

E. Pardo, J. Šouc

Institute of Electrical Engineering, Slovak Academy of Sciences, Dubravká 9, 84104 Bratislava, Slovakia

2-LB-O4 12:15 – 12:30 (A560)

Three-dimensional model for numerical electromagnetic field analyses of high T_c superconductor Roebel cables

Masahiro Nii, Naoyuki AMEMIYA, Taketsune NAKAMURA

Department of Electrical Engineering, Kyoto University

2-LB-O5 12:30 – 12:45 (A1028)

Model for optimization of cabling pitches for reduction of inter-strand coupling loss in CICCs

Gabriella Rolando, Ezra van Lanen, Herman ten Kate, Arend Nijhuis
University of Twente, Faculty of Science and Technology, Energy, Materials & Systems Group, P.O. Box 217, 7500 AE Enschede, the Netherlands

2-LB-O6 12:45 – 13:00 (A457)

AC loss reduction of monolayer and multilayer superconducting power transmission cables by rearranging coated conductors with uneven gaps

Quan Li ¹, Amemiya Naoyuki ², Taketsune Nakamura ², Osamu Maruyama ³, Takeshi Ohkuma ³

¹ *University of Cambridge, Cambridge, CB2 1PZ, UK,* ² *Kyoto University, Kyoto, 615-8510, Japan,* ³ *Superconductivity Research Laboratory, ISTEK, Tokyo, 135-0062, Japan.*

13:00 – 14:00 Lunch Break

14:00 – 16:00 Poster Session

“LTS and HTS Magnets”

Chairperson: Pradhan

2-LB-I2 (Invited) 16:00 – 16:30 (A448)

Superconducting High Field Magnets Using Layer-wound ReBCO and Bi2212 Coils

U.P. Trociewitz, M. Dalban-Canassy, D.K. Hilton, J. Jiang, E.E. Hellstrom, P. Noyes, Y. Viouchkov, H.W. Weijers, D.C. Larbalestier,
National High Magnetic Field Laboratory, Tallahassee, FL, USA

2-LB-O7 16:30 – 16:45 (A345)

Development of layer-wound coated conductor coils at Tsukuba Magnet Laboratory

Davide Uglietti, Seong Choi, Shinji Matsumoto, Tsukasa Kiyoshi
National Institute for Materials Science, Sengen 1-2-1, Tsukuba, Ibaraki 305-0047, Japan

2-LB-O8 16:45 – 17:00 (A212)

Optical fiber sensors based on Rayleigh backscattering for monitoring HTS magnets

Melanie Turenne¹, Gene Flanagan¹, Rolland Johnson¹, Justin Schwartz², Frank Hunte²

¹ Muons, Inc., ² NCSU

2-LB-O9 17:00 – 17:15 (A192)

Trapped Field Attenuation Characteristics of HTS Bulk Magnet Exposed to External Traveling-Wave Magnetic Field in an HTSLSM

Jianxun Jin, Luhai Zheng

Center of Applied Superconductivity and Electrical Engineering, University of Electronic Science and Technology of China, Chengdu 611731, China

2-LB-O10 17:15 – 17:30 (A900)

Novel ways of heat removal from highly irradiated superconducting windings in accelerator magnets

Bielert, E.R.*[†], Ten Kate, H.H.J.*[†], Verweij, A.P.*[†]

**University of Twente*, [†]*CERN*

2-LB-O11 17:30 – 17:45 (A450)

Quench calculations and measurements on the FAIR Super-FRS Dipole

P. Szwangruber^{1,6}, E. Floch¹, H. Leibrock¹, X. Yu¹, F. Toral², I. Rodriguez², W. Wu^{3,4}, M. Lizhen³, X. Zhang³, B. Guo^{3,4}, A. Zeller⁵, T. Weiland⁶

1. GSI Helmholtzzentrum für Schwerionenforschung GmbH, Darmstadt, Germany, 2. CIEMAT, Madrid, Spain, 3. Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, China, 4. Graduate University of Chinese Academy of Sciences, Beijing, China, 5. National Superconducting Cyclotron Lab at Michigan State University, E. Lansing, USA, 6. Technische Universität Darmstadt, Institut für Theorie Elektromagnetischer Felder, Darmstadt, Germany

2-LB-O12 17:45 – 18:00 (A754)

Coated Conductor Pancakes for Small Scale High Fields in Surgical Applications

Y. Ge¹, R. Lewin¹, R. Cahill², N.J. Mortensen² and H. Jones¹

¹ University of Oxford, Department of Condensed Matter Physics, Clarendon Laboratory, Oxford OX1 3PU, U.K., ² Department of Colorectal Surgery, John Radcliffe Hospital, Oxford OX39DU, U.K.

Oral Session Wires & Tapes (Everest 1+2)

“Long length CC”

Chairperson: Selvamanickam

2-WT-I1 (Invited) 11:00 – 11:30 (A412)

Wide, large area HTS coated conductors processed via MB-PLD and ABAD

A. Usoskin, L. Kirchhoff, T. Schneider, M. Waschulewski, R. Dietrich, K. Schlenga

Bruker HTS GmbH

2-WT-O1 11:30 – 11:45 (A677)

Advanced development of IBAD/PLD coated conductors at Fujikura

Mitsunori Igarashi, Kazuomi Kakimoto, Satoru Hanyu, Ryo Kikutake, Yasunori Sutoh, Ruji Suzuki, Masanori Daibo, Hiroshi Fuji, Hiroshi Kutami, Yasuhiro Iijima, Takashi Saitoh

Fujikura Ltd., 1440, Mutsuzaki, Sakura, Chiba 285-8550, Japan

2-WT-O2 11:45 – 12:00 (A474)

Fabrication and Performance of HTS films on Simplified Templates for Low-cost Coated Conductors

Viktor Glyantsev¹, Jeong-uk Huh¹, Jeff Dawley¹, Chris Yung¹, Patrick Turner¹, Ward Ruby¹, Gabriel Millos¹, Brian Moeckly¹, Chris Sheehan², Boris Maiorov², Yates Coulter², Vladimir Matias²

¹ *Superconductor Technologies, Inc., Santa Barbara, CA, USA,*

² *Superconductivity Technology Center, Los Alamos National Laboratory, Los Alamos, NM, USA*

2-WT-O3 12:00 – 12:15 (A161)

Working around HTS thickness limitations – towards 1000+ A/cm-class coated conductors

W. Prusseit¹, M. Bauer¹, V. Große¹, R. Semerad¹, G. Sigl¹, Z. Aabdin², M. Dürrschnabel², O. Eibl²

¹ *THEVA Dünnschichttechnik GmbH, Rote-Kreuz-Str. 8, 85737 Ismaning, Germany,* ² *Institute of Applied Physics, Auf der Morgenstelle 10, D-72076 Tübingen, Germany*

2-WT-O4 12:15 – 12:30 (A8)

Key Progress in 2G wire Technology Based On MOD-YBCO/RABiTS™

C.L.H. Thieme, X. Liu, X. Li, S. Sathyamurthy, M. W. Rupich, S. Fleshler, W. Carter, H. Cai, E. R. Podtburg, D. Crotzer, J. Gannon

American Superconductor Corporation, 64 Jackson Road, Devens, MA, USA 01434

2-WT-O5 12:30 – 12:45 (A226)

Continuously processed all-solution Coated Conductors

M. Baecker, M. Falter, O. Brunkahl, M. Steffens, J. Bennewitz, B. Wojtyniak

Zenergy Power GmbH, Heisenbergstr. 16, 53359 Rheinbach, Germany, michael.baecker@zenergypower.com

2-WT-O6 12:45 – 13:00 (A601)

Production of GdBCO coated conductors for a 66 kV-5 kA HTS model cable

Yuki Shingai, Masaya Konishi, Takashi Yamaguchi, Yoshihiro Honda and Kazuya Ohmatsu

Sumitomo Electric Industries, Ltd.

13:00 – 14:00 Lunch Break

14:00 – 16:00 Poster Session

“Substrates /Buffers”

Chairperson: Goldacker

2-WT-O7 16:00 – 16:15 (A572)

Application of IBAD-TiN buffer layers in YBCO coated conductor architectures

R. Hühne, R. Gärtner, J. Hänisch, R. Kaltofen, L. Schultz, B. Holzapfel
IFW Dresden, P.O. Box: 270116, 01171 Dresden, Germany

2-WT-O8 16:15 – 16:30 (A429)

Doped CeO₂ buffer layers by an aqueous sol-gel chemistry for coated conductors

Nigel Van de Velde¹, Tom Bruggeman¹, Oliver Brunkahl² and Isabel Van Driessche¹

¹ *Department of Inorganic and Physical Chemistry-SCRiPTS, Ghent University, Krijgslaan 281 (S3), B9000, Gent, Belgium*

² *Zenergy Power GmbH; Heisenbergstrasse 16, 53359 Rheinbach, Germany*

2-WT-O9 16:30 – 16:45 (A280)

Microstructure of $\text{La}_2\text{Zr}_2\text{O}_7$ thin films deposited by Chemical Solution Deposition on Ni textured substrates for $\text{YBa}_2\text{Cu}_3\text{O}_7$ coated conductors

Petit Sarah^{1,2}, Mikolajczyk Mélissa¹, Pairis Sébastien², Soubeyroux Jean-Louis^{1,2}, Odier Philippe^{1,2}

¹ Institut Néel/CRETA-CNRS, 25 av. des Martyrs, BP166, 38042 Grenoble Cedex, France. ² Institut Néel-CNRS, 25 av. des Martyrs, BP166, 38042 Grenoble Cedex, France.

2-WT-O10 16:45 – 17:00 (A453)

Chemical solution deposition of thick and dense single buffer layers for YBCO coated conductors

Vyshnavi Narayanan¹, Danny Vanpoucke¹, Petra Lommens¹, Els Bruneel¹, Klaartje De Buysser¹, Michael Baecker², Ruben Huehne³ and Isabel Van Driessche¹

¹ SCRiPTS, Department of Inorganic and Physical Chemistry Ghent University, Krijgslaan 281-S3, B-9000 Gent, Belgium, ²Zenergy Power GmbH, Germany, ³IFW Dresden, Helmholtzstrasse 20, 01069 Dresden, Germany

2-WT-O11 17:00 – 17:15 (A617)

All chemical nanostructured coated conductors on ABAD Stainless Steel substrates

V. R. Vlad^{1,2}, A. Pomar¹, A. Calleja^{1,2}, M. de Palau¹, A. Palau¹, P. Abellan¹, F. Sandiumenge¹, T. Puig¹, X. Obradors¹, A. Usoskin³

¹ICMAB-CSIC, Campus de la UAB, 08193, Bellaterra, Spain, ²OXOLUTIA SL, Edifici Eureka, PRUAB, Campus de la UAB, 08193, Bellaterra, Spain, ³European High Temperature Superconductors GmbH & Co. KG, Siemensstr. 88, D-63755 Alzenau, Germany

2-WT-O12 17:15 – 17:30 (A125)

Study of multi-layer $\text{Ce}_{0.8}\text{Gd}_{0.2}\text{O}_{1.9}$ (CGO) thick films deposited on textured NiW substrates by a simple metal-organic deposition technique

Min Liu^a, Hongli Suo^a, Zhao Lv^a, Shuai Ye^a, Yue Zhao^a, Meiling Zhou^a, Dongqi Shi^b and Shixue Dou^b

^aThe College of Materials Science and Engineering, Beijing University of Technology, Beijing 100022, China, ^bInstitute for Superconducting and Electronic Materials, University of Wollongong, NSW 2522, Australia

2-WT-O13 17:30 – 17:45 (A25)

Topography study of Ni-5at.%W metallic substrate and GZO buffer layer for coated conductors after multiple annealings

Anders Chr. Wulff

Materials Research Division, Risø-DTU, Frederiksborgvej 399, 4000 Roskilde, Denmark

2-WT-O14 17:45 – 18:00 (A361)

Surface properties of NiW alloys substrates for YBCO coated conductors

M. Mikolajczyk^a, S. Petit^a, M. Bouttemy^b, J. Vigneron^b, R. Batonnet^c, P. Matera^c, S. Pairis^a, P. Odier^a, J-L. Soubeyrou^a, T. Waeckerle^c

*a) Institut Neel/CRETA/CNRS, 25 Av des Martyrs – BP 166, 38042 Grenoble Cedex 9, France, b) Institut Lavoisier/Centre d'Etude et de Formation en Spectroscopie Electronique de Surface (CEFS₂)/CNRS, 45 avenue des Etats Unis, 78035 Versailles cedex, France
c) APERAM Research center, 58160 Imphy, France*

Poster Session Tuesday, September 20

14:00 – 16:00

Electronics: Devices and Fabrication II

Chairperson: Stolz, Tolpygo

2-EA-P1 (A336)

Projection lithography Niobium based Josephson junction fabrication process

L. Grönberg, A. Timofeev, M. Kiviranta, J. Luomahaara, D. Gunnarsson, M. Prunnila, J. Hassel,

VTT Technical Research Centre of Finland, Espoo, Finland

2-EA-P2 (A350)

Experimental investigation of ultra-low field NMR using a high- T_c dc-SQUID sensor

N. Wang, Y.R. Jin, H. Deng, J. Li, Y.L. Wu, Y.F. Chen, J. Li, H.Y. Tian, and D.N. Zheng

Institute of Physics and Beijing National Laboratory for Condensed Matter Physics, Chinese Academy of Sciences, Beijing 100190, China

2-EA-P3 (A442)

Subgap Leakage in Nb/Al/AIO_x/Nb Josephson Junctions: Which Fabrication Parameters Control It

Sergey K. Tolpygo

HYPRES, Inc. 175 Clearbrook Rd., Elmsford, NY 10523, USA, Department of Physics and Astronomy, Stony Brook University, Stony Brook, NY 11794-3800, USA

2-EA-P4 (A669)

Study on the Exclusion Effect of Magnetic Flux in a Superconducting Thin Film by Numerical Calculation Using the Time-dependent Ginzburg-Landau (TDGL) Equation

Masumi Inoue, Saki Tsutsumi, Naoki Mitamura, Hiroyuki Akaike, and Akira Fujimaki

Department of Quantum Engineering, Nagoya University, Furo-cho, Chikusa-ku, Nagoya, 464-8603, Japan

2-EA-P5 (A704)

Point contact measurements on Nb/PdNi bilayers

P. Romano^{1,2}, A. Polcari¹, C. Cirillo^{2,3} and C. Attanasio^{2,3}

¹ *Dipartimento di Scienze Biologiche, Geologiche ed Ambientali, Università del Sannio, I-82100 Benevento, Italy,* ² *SPIN-CNR Salerno, I-84084 Fisciano, Italy,* ³ *Dipartimento di Fisica 'E.R. Caianiello', Università di Salerno, I-84084 Fisciano, Italy*

2-EA-P6 (A717)

Niobium and Aluminum Josephson Junctions Fabricated with a Damascene Process

Abelaziz Ramzi¹, Serge A. Charlebois¹, Philip Krantz².

¹ *Interdisciplinary Institute for Innovations in Technology (3IT) and Department of electrical and computer engineering, Université de Sherbrooke, Quebec, Canada J1K 2R1,* ² *Microtechnology and Nanoscience, Chalmers Tekniska Högskola, Gothenborg, Suède*

2-EA-P7 (A759)

Towards quantum phase slip devices: superconducting nanowires fabrication by different methods and characterization at low temperature

C. Portesi, M. Bruna, E. Taralli, L.Lolli, M. Rajteri, A. Sosso, E. Monticone

INRIM Istituto Nazionale di Ricerca Metrologica, Strada delle Cacce 91 I-10135 Torino, Italy

2-EA-P8 (A398)

Trimming of high- T_c bicrystal Josephson junctions by ozone and vacuum annealing

I.I. Gundareva^{1,2}, V.V. Pavlovskiy¹, O.Y. Volkov¹, V.N. Gubankov¹, M.V. Lyatti^{1,2}, Y.Y. Divin²

¹ *Kotelnikov Institute of Radio Engineering and Electronics of RAS, Moscow 125009, Russia,* ² *PGI, Forschungszentrum Jülich, D-52425 Jülich, Germany.*

2-EA-P9 (A691)

Approaching the depairing current in YBCO Nanowires

Shahid Nawaz, Thilo Bauch and Floriana Lombardi

Department of Microtechnology and Nanoscience, Chalmers University of Technology, SE-412 96, Kemivägen 9, Göteborg, Sweden

2-EA-P10 (A186)

Gallium-induced thin-film superconductivity in Ge and Si and its possible applications

R. Skrotzki,^{1,2} T. Herrmannsdörfer,¹ V. Heera,¹ J. Fiedler,¹ M. Voel-skow,¹ A. Mücklich,¹ B. Schmidt,¹ W. Skorupa,¹ M. Helm,¹ and J. Wos-nitza¹

¹*Dresden High Magnetic Field Laboratory (HLD) and Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR), P.O. Box 51 01 19, D-01314 Dresden, Germany,*

²*Department of Chemistry and Food Chemistry, TU Dresden, 01062 Dresden, Germany*

2-EA-P11 (A729)

Preparation and characterization of oxygen-depleted YBCO thin films: application to infrared bolometric or pyroelectric detectors in the wide 80-300 K temperature range

Annick F. Dégardin, Aurélie Gensbittel, Olivier Dubrunfaut, Mattia Longhin, Vishal S. Jagtap and Alain J. Kreisler

SUPELEC / LGEP; CNRS / UMR 8507; UPMC Univ Paris 06; Univ Paris-Sud 11 rue Joliot-Curie, 91192 GIF SUR YVETTE Cedex, France

2-EA-P12 (A702)

VTT *ex situ* Tunnel Junction Process Technique Characterized by Josephson Junction Devices

D. Gunnarsson¹, M. Sillanpää², J. Li², J. Hassel¹, J. Pirkkalainen², P. Lähteenmäki², M. Meschke², G. S. Paraoanu², and M. Prunnila¹.

¹*VTT Technical Research Centre of Finland, Espoo, Finland,* ²*Low Temperature Laboratory, Aalto University School of Science, Espoo, Finland*

Electronics: Circuits and Systems II

Chairperson: Joshikawa

2-EA-P13 (A498)

Novel Superconductive Physical Random Number Generator Using Timing Jitter in Single Flux Quantum Circuit

Yuki Yamanashi¹, Tatsuro Sugiura², Nobuyuki Yoshikawa²

¹ *Interdisciplinary Research Center, Yokohama National University,*

² *Department of Electrical and Computer Engineering, Yokohama National University*

2-EA-P14 (A1070)

Nano-watt demonstration of rapid-single-flux-quantum circuits at 20 GHz

A. Kitayama, M. Tanaka, M. Ito, T. Kouketsu and A. Fujimaki

Nagoya University

2-EA-P15 (A576)

Investigation of bias-current-supply methods for serially biased SFQ circuits

K. Ehara¹, Y. Yamanashi¹, N. Yoshikawa¹

¹ *Department of Electrical and Computer Engineering, Yokohama National University*

2-EA-P16 (A593)

Multiplexer for CMOS-to-Josephson interfaces

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2-EA-P17 (A604)

Investigation of Robust CMOS Amplifiers for Josephson-CMOS Hybrid Memories

H. Jin, K. Yaguchi, Y. Yamanashi, N. Yoshikawa

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2-EA-P18 (A76)

Analytic and experimental assessment of Suzuki stacks as high-speed interfaces between superconductor and semiconductor circuits

T. Ortlepp, L. Zheng, S.R. Whiteley, T. Van Duzer

University of California at Berkeley, Department of Electrical Engineering and Computer Science, USA

2-EA-P19 (A470)

Bipolar quantum voltage generator based on zero crossing Shapiro steps in asymmetric 2J-SQUIDs

Masataka Moriya, Naoki Kondo, Yoshinao Mizugaki

The University of Electro-Communications

2-EA-P20 (A897)

Consideration of jitter effects in high level simulations of RSFQ circuits

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2-EA-P21 (A670)

Investigation of maximum frequency for uncorrelated Josephson comparator decisions

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Electronics: Quantum Information Processing I

Chairperson: Shumeiko

2-EA-P22 (A369)

Resonant phase escape in a Bi-2212 surface intrinsic Josephson junction

H. F. Yu, X. B. Zhu, Z. H. Peng, D. J. Cui, H. Deng, Ye Tian, G. H. Chen, D. N. Zheng, X. N. Jing, Li Lu, and S. P. Zhao

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2-EA-P23 (A656)

Effects of 3D Magnetic Field vector in Measurement of Phase Qubits

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2-EA-P24 (A879)

Investigation of the superconducting properties of Nb films covered by PECVD a-Si:H layers for superconducting qubit application.

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2-EA-P25 (A1136)

Investigation of dielectric losses in hydrogenated amorphous silicon (a-Si:H) thin films using superconducting microwave resonators

Bruno^{1,2}, M. Siegel³, S.T. Skacel^{3,4}, A.V. Ustinov⁴, and M.P.Lisitskiy²

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2-EA-P26 (A654)

Implementation of SFQ Microwave Choppers for Controlling Quantum Bits

S. Miura, N. Takeuchi Y. Yamanashi and N. Yoshikawa

Yokohama National University, Japan

Electronics: System Integration and Applications

Chairperson: Spoor

2-EA-P27 (A806)

LABOCA-2 - 300 channel superconducting bolometer camera for APEX

E. Heinz¹, V. Zakosarenko¹, T. May¹, K. Peiselt¹, A. Krüger¹, M. Schulz¹, M. Starkloff¹, S. Anders¹, E. Kreysa², W. Esch², G. Lundershausen², and H.G. Meyer¹

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2-EA-P28 (A622)

Superconducting circuits in the Square Kilometre Array radio telescope

M. H. Volkmann, C. J. Fourie, W. J. Perold, D. B. Davidson, D. I. L. De Villiers and H. C. Reader

Department of Electrical and Electronic Engineering, Stellenbosch University, South Africa

2-EA-P29 (A903)

Operation of YBCO current leads as bias lines to cryocooler-mounted 4 K superconducting electronics

Robert J. Webber, Jean Delmas and Vladimir Dotsenko

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Electronics: SQUIDS II

Chairperson: Tanaka, Lee

2-EA-P30 (A1003)

Low-noise single-layer YBCO dc superconducting interference devices based on step-edge junctions

¹Simon K. H. Lam, ²Robin Cantor, ¹Jeina Lazar, ¹Jia Du, ¹Keith Lesile and ¹Cathy P. Foley

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2-EA-P31 (A613)

Fabrication of superconducting quantum interference device magnetometers on a glass epoxy polyimide resin substrate with copper terminals

Jun Kawai, Miki Kawabata, Daisuke Oyama and Gen Uehara

Applied Electronics Laboratory, Kanazawa Institute of Technology

2-EA-P32 (A514)

The parallel arithmetic method of digital FLL circuit for SQUID magnetometer using CPLD

Koichiro Kobayashi⁽¹⁾, Masahito Yoshizawa⁽¹⁾, Daisuke Oyama⁽²⁾, Yoshinori Uchikawa⁽³⁾

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2-EA-P33 (A996)

Imaging of Conductance Distributions across the Solar Panels Surface using a High- T_c Superconductor SQUID

Toshihiko Kiwa, Satoshi Maeda, Kosuke Miyake, Kenji Sakai, Akira Tsukamoto, Seiji Adachi, Keiichi Tanabe, Akihiko Kandori, Keiji Tsukada

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2-EA-P34 (A57)

A novel Eddy current SQUID NDE optimization method for identification of unknown hidden defects

Sarreshtedari, Farrokh¹; Razmkhah, Sasan¹; Eshraghi, Mohammad J.^{1,2}; Mehrany, Khashayar¹; Kokabi, Hamid³; Banzet, Marko⁴; Schubert, Jürgen⁴; Fardmanesh, Mehdi¹

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2-EA-P35 (A719)

Integration of a cryocooler into a SQUID magnetospinography system for reduction of liquid helium consumption

Yoshiaki Adachi, Daisuke Oyama, Jun Kawai, Hisanao Ogata, and Gen Uehara

Applied Electronics Laboratory, Kanazawa Institute of Technology

2-EA-P36 (A127)

Permanent magnet pre-polarization in low field MRI measurements using SQUID

Chao Liu^{1,2,3}, Yi Zhang^{1,3}, Longqing Qiu^{2,3}, Hui Dong^{2,3}, Hans-Joachim Krause^{1,3}, Xiaoming Xie^{2,3}, Andreas Offenhäuser^{1,3}, Mianheng Jiang^{2,3}

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2-EA-P37 (A273)

High sensitive nuclear magnetic resonance and imaging system using a high-T_c superconducting quantum interference device in microtela magnetic fields

Shu-Hsien Liao^a, Hong-Chang Yang^a, Heng-Er Horng^b, Hsin-Hsien Chen^b, Shieh Yueh Yang^{b,c}, and M.J. Chen^a

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2-EA-P38 (A650)

Multichannel SQUID system for combined MEG and ultra-low-field MRI

J.O. Nieminen¹, P.T. Vesanen¹, K.C.J. Zevenhoven¹, J. Dabek¹, S. Alanko¹, J. Luomahaara², J. Hassel², J.S. Penttilä³, J. Simola⁴, L. Parkkonen⁴, A. Ahonen⁴, F.-H. Lin^{1,5}, and R.J. Ilmoniemi¹

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2-EA-P39 (A1017)

Real-time coil position monitoring system for biomagnetic measurements

Daisuke Oyama, Yoshiaki Adachi, Masanori Higuchi, Jun Kawai, Koichiro Kobayashi*, and Gen Uehara

Applied Electronics Laboratory, Kanazawa Institute of Technology,
** Faculty of Engineering, Iwate University*

2-EA-P40 (A611)

Multi-channel Magnetocardiography System Based on Low-Tc SQUIDs in an Unshielded Environment

Xiangyan Kong¹, Shulin Zhang¹, Yongliang Wang¹, Yangbo Liu¹, Jia Zeng¹, Huiwu Wang¹, Shiqin Jiang² and Xiaoming Xie¹

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2-EA-P41 (A124)

Magnetic nanoparticle characterization using nano-SQUID based on niobium Dayem bridges.*R. Russo¹, C Granata¹, E. Esposito¹, A Vettoliere^{1,2}, D. Peddis^{3,4}, and M. Russo¹**¹Istituto di Cibernetica "E. Caianiello" del CNR, Pozzuoli, Napoli, Italy, ²Università degli studi di Napoli "Federico II", Napoli, Italy, ³ISM-CNR, Area della Ricerca, Monterotondo Scalo, Roma, Italy, ⁴Dipartimento di Scienze Chimiche, Università di Cagliari, Sardegna, Italy*

2-EA-P42 (A732)

NanoSQUIDS for Millikelvin Magnetometry*A. Blois¹, S. Roshko¹, L. Hao², J.C. Gallop², D. Hutson³ and E.J. Romans¹**¹London Centre for Nanotechnology, University College London, UK, ²National Physical Laboratory, Teddington, UK, ³Department of Physics, University of the West of Scotland, UK*

2-EA-P43 (A90)

Noise theory of nano-SQUID based on Josephson junction having a not-sinusoidal current-phase relationship*C Granata¹, A Vettoliere^{1*}, and M. Russo¹**¹Istituto di Cibernetica "E. Caianiello" del CNR, Pozzuoli (Napoli), Italy, *Università degli studi di Napoli "Federico II", Italy*

2-EA-P44 (A233)

High-resolution magnetic field measurement using a STM-SQUID*Norimichi Watanabe¹, Minoru Tachiki^{1,2}, Tadayuki Hayashi^{1,2,3}, Dong-feng He^{1,2}, and Hideo Itozaki^{1,2}**¹Osaka University, 1-3 Machikaneyama, Toyonaka, Osaka 560-8531, Japan, ²National Institute for Materials Science, 1-2-1 Sengen, Tsukuba, Ibaraki 305-0047, Japan, ³Sendai National College of Technology, 4-16-1 Ayashi-Chuo, Aoba-ku, Sendai, Miyagi 989-3128, Japan*

2-EA-P45 (A716)

Novel stable and reliable readout electronics for HTS rf SQUID*Hans-Joachim Krause^{1,3}, Norbert Wolters^{2,3} and Yi Zhang^{1,3}**¹Peter-Grünberg-Institute (PGI-8), Forschungszentrum Jülich, 52425 Jülich, Germany, ²Institute of Complex Systems (ICS), Forschungszentrum Jülich, 52425 Jülich, Germany, ³Jülicher SQUID GmbH (JSQ), 52428 Jülich, Germany*

2-EA-P46 (A860)

dc SQUID – SQIF sensor with high transfer function based on sub-micrometer cross-type Josephson tunnel junctions

T. Schönau, M. Schmelz, V. Zakosarenko, R. Stolz, S. Anders, L. Fritzsich, H.-G. Meyer

Institute of Photonic Technology, Albert-Einstein-Str. 9, D-07745 Jena, Germany

2-EA-P47 (A1074)

VOLTAGE-CURRENT CHARACTERISTICS OF SUPERCONDUCTOR-NORMAL METAL CONTACT JUNCTIONS MEASURED BY A PICOVOLTMETER

Wan-Seop Kim, Mun-Seog Kim, Po Gyu Park and Kyu-Tae Kim

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Electronics: Detectors and Readout Circuits II

Chairperson: Pagano, Villigier

2-EA-P48 (A101)

Design and Development of MMICs amplifiers as cryogenic detector interfaces

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2-EA-P49 (A311)

Suppression of dark counts of superconducting nanowire single-photon detectors caused by thermal fluctuations

Matthias Hofherr¹, Konstantin Ilin¹, Dagmar Rall^{1,4}, Alexei Semenov², Holger Bartolf³, Andreas Engel³, Andreas Schilling³, Heinz-Wilhelm Hübers², Michael Siegel^{1,4}

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2-EA-P50 (A408)

Optimization of High-Quality Ultrathin Superconducting NbN Film on GaAs for Quantum Photonic Applications

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2-EA-P51 (A416)

Superconducting resonators based on ALD deposited TiN

P.C.J.J. Coumou,¹ A. Endo,¹ M.R. Zuiddam,¹ P. Diener,² J.J.A. Baselmans,² P.J. de Visser,¹ E.F.C. Driessen,¹ and T.M. Klapwijk¹

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2-EA-P52 (A418)

Design of an On-Chip Filterbank Spectrometer Based on Superconducting Microresonators for Submillimeter Wave Astronomy

A. Endo,¹ J. J. A. Baselmans,² S. J. C. Yates,² L. Ferrari,² A. M. Baryshev,² A. Neto,³ R. M. J. Janssen,¹ and T. M. Klapwijk¹

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2-EA-P53 (A447)

Relationship between the heat flow and the current through a superconducting tunnel junction

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National Research Nuclear University (Moscow Engineering Physics Institute)

2-EA-P54 (A472)

Timing and speed performance of superconducting nanowire avalanche photodetectors

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2-EA-P55 (A504)

Vortex-induced mechanism of intrinsic dark count generated in superconducting nanowire single-photon detectors

Taro Yamashita¹, Shigehito Miki¹, Kazumasa Makise¹, Wei Qiu¹, Hirota-ka Terai¹, Mikio Fujiwara², Masahide Sasaki², and Zhen Wang¹

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2-EA-P56 (A512)

Single photon detector system based on superconducting for quantum communications

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2-EA-P57 (A527)

Performances of superconducting nanowire single photon detectors at 800 nm wavelength

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2-EA-P58 (A539)

Fabrication and Evaluation of Nano-Antennas for Superconducting Infrared Detectors

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2-EA-P59 (A547)

RF conductivity and surface impedance of a superconductor taking into account the complex superconducting gap energy

Takashi Noguchi, Masato Naruse, and Yutaro Sekimoto

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2-EA-P60 (A584)

Performances of superconducting nanowire single-photon detectors with different NbN thicknesses

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2-EA-P61 (A652)

A Terahertz Detector Utilizing Transmission-line Type Superconducting Tunnel Junctions

Seiichiro Ariyoshi¹, Kenta Takahashi^{1,2}, Takashi Noguchi³, Kensuke Koga^{1,2}, Noboru Furukawa¹, and Chiko Otani^{1,2}

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2-EA-P62 (A659)

NbN superconducting single-photon detector with bilayer structure

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2-EA-P63 (A26)

Non-uniform Absorption of Terahertz Radiation in Superconducting Hot Electron Bolometer Mixers

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2-EA-P64 (A359)

Testing and analysis of bicrystal Josephson junction mixer's conversion efficiency at THz

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2-EA-P65 (A726)

PrBaCuO/YBaCuO/PrBaCuO ultrathin film constrictions: further considerations for hot electron bolometer applications at terahertz frequencies

Alain J. Kreisler, Mario Aurino, Jean-Claude Villégier⁺, Vishal S. Jagtap and Annick F. Dégardin

SUPELEC / LGEP; CNRS / UMR 8507; UPMC Univ Paris 06; Univ Paris-Sud 11. 11 rue Joliot-Curie, 91192 GIF SUR YVETTE Cedex, France, ⁺ CEA-INAC / SPSMS, 17 rue des Martyrs, 38054 GRENOBLE Cedex 09, France

2-EA-P66 (A20)

Frequency response and noise temperature of 2.5 THz spiral antenna coupled NbN HEB Mixers

W. Zhang¹, W. Miao¹, Q. J. Yao¹, Z. H. Lin¹, S. C. Shi¹, J. R. Gao^{2,3}, G.N. Goltsman⁴

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Electronics: Novel Devices and Applications II

Chairperson: Mukhanov

2-EA-P67 (A154)

Parametric Resonance in Coupled Josephson Junctions

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2-EA-P68 (A727)

Terahertz Josephson spectroscopy of high- T_c superconducting resonant system.

V.V. Pavlovskiy¹, O.Y. Volkov¹, V.N. Gubankov¹, I.I. Gundareva^{1,2}, Y.Y. Divin²,

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2-EA-P69 (A1069)

Charge imbalance and energy relaxation of nonequilibrium quasi-particles injected into a superconductor

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2-EA-P70 (A1160)

Theory of cooperative macroscopic quantum tunneling in intrinsic Josephson junctions

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2-EA-P71 (A107)

Nonequilibrium carrier injection effect in Nb/ferromagnetic p -In_{0.96}Mn_{0.04}As/Nb junctions

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2-EA-P72 (A152)

Effect of Microwave Irradiation on Parametric Resonance in Intrinsic Josephson Junctions

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2-EA-P73 (A155)

Diffusion Current in the Intrinsic Josephson Junctions

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2-EA-P74 (A360)

Electron transport and microwave dynamics of hybrid heterostructures with superconducting/magnetic interfaces

K.Y. Constantinian¹, G.A. Ovsyannikov^{1,3}, A.V. Shadrin^{1,3}, Yu.V. Kislinskii¹, A.M. Petrzhek¹, K.E. Lahmanskiy¹, J. Mygind² and D. Winkler³

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2-EA-P75 (A428)

Current-phase relations in Josephson heterostructures with normal and ferromagnetic interlayers

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2-EA-P76 (A467)

DC and AC characterization of the superconductor-ferromagnet multi-terminal devices

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2-EA-P77 (A644)

Precision Sampling Measurements of Low-Frequency Waveforms Using a Josephson Junction Array

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2-EA-P78 (A696)

Radiation power optimization of stacked intrinsic Josephson junctions

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2-EA-P79 (A1092)

Lock-in phenomena in intrinsic Josephson junctions for THz oscillator under the layer parallel magnetic field

Takeshi Hatano and Huabing Wang

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2-EA-P80 (A1151)

How terahertz (THz) emission depends on the junction number in an intrinsic Josephson junction stackM. Y. Li^a, Z. G. Jiang^a, Y. P. Lu^a, J. Yuan^b, S. Guenon^c, B. Gross^c, C. H. Cao^a, W. W. Xu^a, L. Kang^a, J. Chen^a, A. Iishi^b, T. Hatano^b, D. Koelle^c, and R. Kleiner^c, H. B. Wang^b, P. H. Wu^a^a *Research Institute of Superconductor Electronics, Nanjing University, Nanjing 210093, China,* ^b *National Institute for Materials Science, Tsukuba 3050047, Japan,* ^c *Physikalisches Institut Experimentalphysik II and Center for Collective Quantum Phenomena, Universitaet Tuebingen, Auf der Morgenstelle 14, D-72076 Tuebingen, Germany*

2-EA-P81 (A868)

Two Superconducting Gaps and Leggett Mode in MgB₂ by Means of "Break-junction" Technique

Ya.G. Ponomarev, S.A. Kuzmichev, M.G. Mikheev, T.E. Shanygina, S.N. Tchesnokov

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Chairperson: Chaud, Herrman, Gawalek, Eisterer

2-MA-P1 (A303)

Thickness ratio dependence of critical temperature in Mo/Au bilayers.María Parra-Borderías¹, Lourdes Fàbrega², Ivan Fernández-Martínez³, Agustín Camón¹, Oscar Gil², José L. Costa-Krämer³, Raquel González-Arrabal⁴, Javier Sesé⁵, Fernando Briones³.¹*ICMA (CSIC-UZ). C/ Pedro Cerbuna 12, 50009 Zaragoza, SPAIN*²*ICMAB (CSIC). Campus de la UAB, 08193 Bellaterra, SPAIN*³*IMM (CSIC). C/Isaac Newton 8, E-28760 Tres Cantos, SPAIN*⁴*IFN (UPM) C/José Gutiérrez Abascal, 2, 28006 Madrid, SPAIN*⁵*INA (UZ) C/Mariano Esquillor Edif. I+D, 50018 Zaragoza, SPAIN*

2-MA-P2 (A805)

Unconventional Symmetry of the π -gap of MgB_2

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2-MA-P3 (A225)

Direct Observation of Superconducting Gap Broadening in a Niobium Nitride film by Terahertz Time Domain Spectroscopy

Y. Uzawa*, S. Saito**, K. Kuroiwa*, M. Kroug*, Y. Fujii*, M. Takeda***, K. Makise**, Z. Wang**, and I. Hosako**

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2-MA-P4 (A135)

Size and dimensionality effects in superconducting Mo thin films

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2-MA-P5 (A492)

The Suppression of Superconductivity in Epitaxial NbN Ultrathin Films

L. Kang, B. B. Jin, X. Q. Jia, J. Chen, Z. M. Ji, W. W. Xu and P. H. Wu

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2-MA-P6 (A788)

W- based superconducting ultranarrow nanowires grown by Focused-Ion-Beam induced deposition

R. Córdoba¹, J. Sesé¹, M. R. Ibarra^{1,2}, I. Guillamón³, H. Suderow³, S. Vieira³, J. J. Palacios³ and J. M. De Teresa²

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2-MA-P7 (A814)

Wide band microwave study of the mixed state response of Nb thin films

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2-MA-P8 (A204)

Superconducting-type behavior of graphite/Si sandwiches

Yakov Kopelevich, Rafael B. Merlo, and Robson R. da Silva

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2-MA-P9 (A353)

Superconducting properties of Nb thin film deposited by a 'static state' dc sputtering method

Yirong Jin, Xiaohui Song, Lu Zhao, Jie Li, Dianlin Zhang

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Materials: Characterization

Chairperson: Chaud, Herrman, Gawalek, Eisterer

2-MB-P10 (A1169)

Consistence of the shot noise model with voltage noise measurements in YBCO thin film superconductor

M. BGHOUR, A. TAOUFIK, A. LABRAG, A. BOUAADDI, A. RAMZI

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2-MB-P11 (A1142)

Microwave Characterization of MOCVD Deposited YBCO Coated Conductor Tapes; Correlations Between Normal and Superconducting State Surface Resistance

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2-MB-P12 (A466)

Quantitative analysis of quench propagation in 2G RE-123 coated conductors using DSPI measurements

A.B. Nuñez-Chico¹, J. Pelegrín¹, E. Martínez¹, L.A. Angurel¹, N. Andrés², M.P. Arroyo², Y. Zhang³, V. Selvamanickam^{3,4}

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2-MB-P13 (A964)

Variable-temperature critical-current measurement techniques for superconductors

L. F. Goodrich^a, N. Cheggour^{a, b}, T. C. Stauffer^a, B. J. Filla^c, and X. F. Lu^{a, b}

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2-MB-P14 (A760)

Two-axis magnetic field orientation dependence of critical current in full-width REBCO coated conductors

S. C. Hopkins¹, M. Woźniak¹, B. A. Glowacki^{1,2}, Y. Chen³, I. Kesgin⁴ and V. Selvamanickam⁴

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2-MB-P15 (A1155)

Magneto-optical indicator films prepared by metal-organic decomposition method

Takayuki Ishibashi, Terumasa, Kosaka, Masayuki Naganuma and Sanyalak Niratisairak

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2-MB-P16 (A206)

Polarized Neutrons and Low-Energy Muons for Studies of SuperconductivityV. Kozhevnikov^{1,2}, A. Suter³, H. Fritzsche⁴, T. Charlton⁵, V. Gladilin^{1,6}, T. Prokscha³, E. Morenzoni³, A. Volodin¹, M. Van Bael¹, K. Temst¹, C. Van Haesendonck¹, and J. Indekeu¹¹ Katholieke Universiteit Leuven, Leuven, Belgium, ² Tulsa Community College, Tulsa, USA, ³ Paul Scherrer Institute, Switzerland, ⁴ National Research Council Canada, CNRC, Chalk River Labs, Canada, ⁵ ISIS, Rutherford Appleton Laboratory, UK, ⁶ Universiteit Antwerpen, Antwerpen, Belgium

2-MB-P17 (A268)

Continuous I_c examination of HTS tape with magnetic substrate using magnetic circuits: method and apparatusS.-N. Zou¹, C. Gu^{*1}, T.-M. Qu², Z. Han¹¹ Applied Superconductivity Research Center, Department of Physics, Tsinghua University, Beijing 100084, China, ² Key Laboratory for Advanced Materials Processing Technology, Ministry of Education, Beijing 100084, China

2-MB-P18 (A982)

Raman patterning process-probe the 3D structures in the depth of an YBCO thin filmM. Branesco¹, A. Vailionis², I. Ward³, E. Leroy⁴¹ National Institute for Materials Physics, 105 bis Atomistilor st., Bucharest, Romania, ² Stanford University, CA 94305, USA, ³ EAG, 810 Kifer Road, Sunnyvale, CA, USA, ⁴ Horiba Jobin Yvon Inc., Edison, NJ, USA

2-MB-P19 (A915)

In-situ analysis of the growth process of $YBa_2Cu_3O_{7.5}$ superconducting thin films from chemical solutions.

C. F. Sánchez Valdés, X. Granados, T. Puig, X. Obradors.

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2-MB-P20 (A306)

Temperature dependences of the jump voltage in $Bi_2Sr_2CaCu_2O_x$ intrinsic Josephson junctionsT. Kato¹, A. Kawakami², K. Okanoue¹, K. Yasui¹, and K. Hamasaki¹¹ Department of Electrical Engineering, Nagaoka University of Technology, 1603-1 Kamitomioka, Nagaoka, Niigata 940-2188 Japan,² Kansai Advanced Research Center, National Institute of Information and Communications Technology, Kobe 651-2492, Japan.

2-MB-P21 (A309)

Pulse Current Measurement of $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_x$ Intrinsic Josephson junctions

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2-MB-P22 (A312)

HR-TEM-investigation of LZO-buffer layers on Ni/W-substrates

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2-MB-P23 (A920)

Nanostructure of solution derived YBCO-($\text{Y}_2\text{O}_3/\text{BaZrO}_3/\text{Ta}$ -based) Nanocomposite Films by means of Advanced Transmission Electron Microscopy

R. Guzman,¹ J. Gazquez,¹ S. Ye,¹ M. Coll,¹ A. Llordes,¹ F. J. Belarre,¹ A. Palau,¹ S. Ricart,¹ T. Puig,¹ X. Obradors,¹ J. Arbiol^{1,*}

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2-MB-P24 (A1135)

Normal-state Nernst coefficient in $\text{YBa}_2\text{Cu}_3\text{O}_y$ with different types of doping

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2-MB-P25 (A197)

Study of quasiparticle relaxation dynamics in SrFe_2As_2 spin-density wave iron-pnictide materials

L. Stojchevska¹, P. Kusar¹, T. Mertelj¹, V. V. Kabanov¹, X. Lin², G. H. Cao², Z. A. Xu² and D. Mihailovic¹

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2-MB-P26 (A324)

Temperature rise in HTSC and copper tapes in liquid nitrogen by a step-wise current pulse

S.B. Vavilov, P.N. Degtyarenko, I.N. Dul'kin, L.M. Fisher, G.I. Garas'ko, A.V. Kalinov, I.F. Voloshin

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2-MB-P27 (A1130)

Core temperatures of Phase-Slip Centers and Hot Spots in superconducting strips

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2-MB-P28 (A244)

Comparative NMR investigation of CaAlSi, SrAlSi, and BaAlSi

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2-MB-P29 (A256)

In situ X-ray diffraction study of the formation of Fe(Se,Te) from various precursors

Grivel J.-C.

Technical University of Denmark, Risø National Laboratory, Materials Research Division, Frederiksborgvej 399, DK-4000 Roskilde, Denmark

2-MB-P30 (A739)

Observation of Multigap Superconductivity in Fe-based Compounds LaOFeAs and FeSe Using Andreev Reflection Spectroscopy

Ya.G. Ponomarev¹, S.A. Kuzmichev¹, T.E. Shanygina¹, O.S. Volkova¹, A.N. Vasiliev¹, B. Büchner², and Th. Wolf³

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2-MB-P31 (A842)

Optical pump-probe experiments on $\text{Nd}_{1.85}\text{Ce}_{0.15}\text{CuO}_4$ thin film

Giovanni Piero Pepe¹, Carmela Bonavolontà¹, Loredana Parlato¹, Giuseppe Peluso¹, Anita Guarino², Angela Nigro²

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2-MB-P32 (A3)

Effect of Mn substitution on the thermal expansion of $\text{EuBa}_2\text{Cu}_3\text{O}_y$

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2-MB-P33 (A92)

Fabrication and test results of a superconducting property measurement system with 3 T magnet

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2-MB-P34 (A452)

Numerical calculation for determining the $E(J, B)$ characteristic of a superconducting wire from electrical measurements on a coil

J. Leclerc, K. Berger, S. Bendali, B. Douine, J. Lévêque

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2-MB-P35 (A844)

Retrieving the electrical characteristic of high temperature superconductor coated conductors over their critical current using fast current pulses

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2-MB-P36 (A846)

Transport critical current measurements in nanostructured YBCO films grown by chemical solution deposition

V.Rouco, A.Palau, A.Llordés, R.Vlad, F. Martínez, S.Ye, M.Coll, S.Ricart, X.Obradors, T.Puig

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2-MB-P37 (A1001)

THz phonon spectroscopy of Bi-2223 and Bi-2212: evidence for phonon pairing

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2-MB-P38 (A764)

Investigation of superconductor uniformity in CC tapes by magnetic field mapping

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2-MB-P39 (A368)

Magneto-optical Visualization of Magnetization Process in 2G HTSC Tapes Under Applications of Magnetic Field and Current

I.A. Rudnev, Yu.Yu. S"edin, M.A. Osipov, S.V. Pokrovskiy, A.I. Podliyaev

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2-MB-P40 (A1046)

Magneto-optical imaging of columnar YBCO films

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2-MB-P41 (A254)

Microwave properties of FeSe_{1-x}Te_x superconducting thin films

S. Li¹, Y. Wu¹, X. B. Jiang, S. Luo¹, S. Y. Zhou², X.Y. Wang², L. X. Cao², Y. S. He², N. T. Cherpak³, V. N. Skresanov³, A. Barannik³

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2-MB-P42 (A255)

Study of Microwave Properties of Iron-based Single Crystal Superconductor

Y. Wu¹, X. B. Jiang¹, S. M. Li¹, S. Luo¹, S.Y. Zhou², M.W. Ma², F. Zhou², Y.S. He², A.A. Barannik³, V. N. Skresanov³ and N. T. Cherpak³.

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Materials: MgB₂ Bulk

Chairperson: Chaud, Herrman, Gawalek, Eisterer

2-MC-P43 (A767)

A novel process to get amorphous boron, optionally doped, useful for the MgB₂ synthesis.

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2-MC-P44 (A1173)

Grain boundaries effects and ac-Susceptibility measurements in Aluminium doped MgB₂ superconductor

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2-MC-P45 (A300)

Additions with different melting point to MgB₂ samples obtained by Spark Plasma Sintering

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2-MC-P46 (A1040)

PHYSICAL PROPERTIES OF AROMATIC HYDROCARBON ADDED MgB₂ BULKS AND WIRES

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2-MC-P47 (A870)

Magnetic shielding properties of MgB₂-based bulk systems

L. Gozzelino¹, R. Gerbaldo¹, G. Ghigo¹, F. Laviano¹, B. Minetti¹, A. Agostino², E. Bonometti², G. Ieluzzi², M. Truccato³, M. Chiampi⁴, A. Manzin⁵, L. Zilberti⁵

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2-MC-P48 (A776)

Dendritic flux avalanches in MgB₂ thin films - simulations

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2-MC-P49 (A297)

Enhancement of superconductivity in chalcogenide added MgB₂ samples obtained by Spark Plasma Sintering

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2-MC-P50 (A363)

Correlation between phase separation and transport properties in C-CVD MgB₂

Maurizio Paoletta, Dr. E.A. Young

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2-MC-P51 (A578)

Relationship between sintering conditions and critical current properties of ex-situ MgB₂ bulks

Hiroya Tanaka, Akiyasu Yamamoto, Jun-ichi Shimoyama, Hiraku Ogino and Kohji Kishio

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2-MC-P52 (A919)

Boron powder activation for C-doped MgB₂ superconductors

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2-MC-P53 (A1076)

The superconducting properties of water-treated MgB₂ materials

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2-MC-P54 (A1124)

Study of dispersion of glucose in MgB₂ superconductors using ball milling technique

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2-MC-P55 (A839)

A new magnetic flux pump to magnetize MgB₂ superconducting Inserts

E. Perini, A. Figini Albisetti, L. Saglietti, G. Giunchi

2-MC-P56 (A736)

Cancelled

Materials: LTS Bulk

Chairperson: Chaud, Herrman, Gawalek, Eisterer

2-MD-P57 (A745)

AC conductivity of a niobium single crystal in a swept magnetic field

M.I. Tsindlekht¹, V.M. Genkin¹, G.I. Leviev¹, Y. Schlussek¹, G. Masri¹, V.A. Tulin², and V.A. Berezin²

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2-MD-P58 (A936)

New superconductor material of $ZrPt_{0.6}Te_2$ composition

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2-MD-P59 (A555)

Processing of RRR Nb for SRF cavities for optimized structural performance.

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2-MD-P60 (A1157)

Superconducting light elements under high pressure

K. Shimizu, T. Matsuoka, M. Sakata, Y. Nakamoto, T. Ishikawa and T. Kagayama

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2-MD-P61 (A979)

Synthesis, Structure and Physical Properties of the M_xMoO_2 Compound

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2-MD-P62 (A177)

Fabrication and Characterization of Superconducting YNi_2B_2C Nanoparticles

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2-MD-P63 (A968)

Anisotropic conductivity of the LaTiO₃ using the modified Montgomery method

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2-MD-P64 (A537)

Fine structure thermal runaway process in single-crystal V₃Si superconductor as a result of pinning centers response

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2-MD-P65 (A1164)

Single crystal growth and transport properties of topological insulator Cu_xBi₂Se₃

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Materials: MgB₂ Thin Films

Chairperson: Chaud, Herrman, Gawalek, Eisterer

2-ME-P66 (A812)

Response of MgB₂ thin-film microwave resonators to local heating and to vortex penetration

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2-ME-P67 (A128)

Examination of the scaling behavior of critical properties in MgB₂/SiC/Si thin films

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2-ME-P68 (A322)

Creation of artificial pinning centers by ferromagnetic Fe₂O₃ nanoparticles on MgB₂ thin films

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2-ME-P69 (A623)

Noise spectral power density in MgB₂ thin films

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Large Scale: Transformers

Chairperson: Rey, Fleiter, Kudymow, Kitaguchi, Antognazza

2-LA-P1 (A33)

A possible solution to reduce magnetic losses in transformer cores working at liquid nitrogen temperature

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2-LA-P2 (A459)

Laboratory tests of toroidal HTS transformer with cold magnetic core

Radoslaw Jez, Mariusz Stepień, Boguslaw Grzesik

Silesian University of Technology, Gliwice, Poland

2-LA-P3 (A1145)

Cancelled

2-LA-P4 (A106)

Experimental investigation of the 1-phase HTS transformer model

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2-LA-P5 (A137)

Theoretical study on ac loss properties of REBCO superconducting two-strand parallel conductors exposed to a non-uniform magnetic field

Keisuke Kumano, Daisuke Moriwaki, Masataka Iwakuma, Kazuo Funaki; Hidemi Hayashi, Hiroshi Okamoto; Takeshi Ohkuma, Yoshihiro Goshō, Teruo Izumi, Yuh Shiohara

Kyushu university; Kyushu Electric Power Co; ISTECE

2-LA-P6 (A158)

Development of REBCO superconducting transformers with current limiting function

Tomoaki Tsutsumi, Akira Tomioka, Masataka Iwakuma*; Hiroshi Okamoto, Hidemi Hayashi**, Yasuhiro Iijima, Takashi Saito***; Takeshi Okuma, Yoshihiro Goshō, Teruo Izumi, Yuh Shiohara****

Kyushu University **Kyushu Electric Power Co. *Fujikura Ltd. ****ISTECE*

2-LA-P7 (A376)

Novel applications of the active magnetic short circuit with perfect closed superconducting loop made of HTS wire

Janos Kosa

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2-LA-P8 (A843)

Feasibility Study of Superconducting Inductive Power Transfer System

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Large Scale: Cables for Transmission Grid

Chairperson: Rey, Fleiter, Kudymow, Kitaguchi, Antognazza

2-LB-P9 (A6)

Optimal Design of YBCO-Based Cold Dielectric HTS Cable Using PSO Algorithm

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2-LB-P10 (A43)

Overload and High Voltage Tests of Witness Samples of 200 m HTS Power Cable.

Vysotsky V.S.¹, Nosov A.A.¹, Fetisov S.S.¹, Polyakova N.V.¹, Zubko V.V.¹, Yu.G.Shakaryan², A.N.Kiselev², A.Yu. Kovalenko²

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2-LB-P11 (A482)

Experiment of the 200-m superconducting DC transmission power cable in Chubu University

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2-LB-P12 (A801)

Protection Coordination of a HTS Power Cable in South Korea

Byeong-Mo Yang*, Heng-Sang Cho*, Tae-Hoon Kim*, Chang-Ho Jung**, Gil-Su Jang***, Seng-Ryul Lee****

KEPCO KEPRI, PTS**, Korea University***, KERI*****

2-LB-P13 (A800)

Field Test of a 154kV HTS Power Cable in South Korea

Byeong-Mo Yang*, Jin-Woo Park*, Dae-Wong Kim*, Su-Kil Lee**, Hun-Man Jang**, Jeon-Wook Jo***, Ki-Duck Sim***

KEPCO KEPRI, LSC**, KERI****

2-LB-P14 (A711)

Operation Experience and further Development of a High Temperature Super-conducting Power Cable in the Long Island Power Authority Grid

F. Schmidt¹, J. Maguire², S. Bratt³ and T. Welsh⁴

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2-LB-P15 (A1052)

Electrical model of balanced triax HTS AC power cable for the Dutch project

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2-LB-P16 (A1053)

Electrical model of imbalanced HTS AC power cable for the Dutch project

Roy Zuijderduin¹, Oleg Chevtchenko¹, Johan Smit¹, Irina Melnik², Alex Geschiere², Dag Willén³

¹Technical University of Delft (TUD), the Netherlands, ²Alliander, Duiven, the Netherlands, ³nkt cables, Broendby, Denmark

2-LB-P17 (A261)

Overcurrent Tests and Numerical Simulations on 275-kV-Class High-Temperature Superconducting Model Cable

Xudong Wang¹, Atsushi Ishiyama¹, Yagi Masashi², Maruyama Osamu³, Ohkuma Takeshi³

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2-LB-P18 (A113)

Progress and status of 66kV HTS power cable demonstration in Japan

Shoichi Honjo, Tomoo Mimura, Yuji Ichikawa, Yu Noguchi, Takato Masuda, Hiroyasu Yumura, Michihiko Watanabe, Masamitsu Ikeuchi, Hiroharu Yaguchi and Tsukushi Hara

Tokyo Electric Power Company

2-LB-P19 (A289)

Development of REBCO HTS power cables

Osamu Maruyama¹, Takeshi Ohkuma¹, Takato Masuda², Masayoshi Ohya², Shinichi Mukoyama³, Masashi Yagi³, Takashi Saitoh⁴, Yuji Aoki⁵, Naoyuki Amemiya⁶, Atsushi Ishiyama⁷, Naoki Hayakawa⁸

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2-LB-P20 (A1044)

Power cables with new HTS 2G round wires

Christian Eric Bruzek¹, Arnaud Allais¹, Stephane Morice¹, Claus-Friedrich Theune², Sarah Petit³, Melissa Mikolajczyk³, Nathalie Dechoux⁴, Carmen Jimenez⁴, Eirini Sarigiannidou⁴, Laureline Porcar³, Jean-louis Soubeyroux³, Philippe Odier³, Thierry Waeckerle⁵

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Large Scale: HTS Coils

Chairperson: Rey, Fleiter, Kudymow, Kitaguchi, Antognazza

2-LC-P21 (A499)

Solenoid winding using YBCO Roebel cable

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Industrial Research Limited, Wellington, New Zealand

2-LC-P22 (A87)

Development of Magnet Technologies for HTS Insert Coils

R Wesche, D Uglietti, P Bruzzone, B Stepanov, S March, C Marinucci

EPFL-CRPP, 5232 Villigen PSI, Switzerland

2-LC-P23 (A850)

Test of an HTS pancake coil in persistent current mode

Chan Park¹, Woo-Seok Kim², Yungil Kim³, Seyeon Lee³, Sang Ho Park³, Kyeongdal Choi³, and Ji-Kwang Lee⁴

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2-LC-P24 (A616)

Critical currents and AC losses in YBCO coils

A. Friedman, F. Kopansky, Y. Wolfus, Y. Yeshurun

Institute of Superconductivity, Bar-Ilan University, Ramat-Gan, 52900 Israel

2-LC-P25 (A343)

Measurements of losses in coated conductor solenoid coil

Davide Uglietti and Tsukasa Kiyoshi

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2-LC-P26 (A1154)

Reduction of Heat Generation in HTS Windings by using Magnetic Flux Deflector

K. Tsuzuki¹, M. Miki¹, B. Felder¹, Y. Koshiba¹, M. Izumi¹, K. Umemoto², K. Aizawa², T. Yanamoto²

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Large Scale: Fusion Conductors and Magnets

Chairperson: Rey, Fleiter, Kudymow, Kitaguchi, Antognazza

2-LD-P27 (A123)

Manufacture of ITER Feeder Conductor Samples

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2-LD-P28 (A98)

The test results of first ITER CC short sample

H. J. Liu, Y. Wu, Zh. B. Ren, Y. Shi, J. L. Chen, F. Long, M. Yu, L. Qian

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2-LD-P29 (A193)

Study on fabrication of CC central cooling spiral tube

Q.Y.Han,* Y.Wu, H.J.Liu, M.Yu, ZH.B.Ren, H.Jin

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2-LD-P30 (A24)

Mechanical tests on the ITER TF 316LN jacket after compaction

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2-LD-P31 (A173)

Vincenta to Venecia: evolution of the thermohydraulic code for superconducting magnet application

D. Arslanova, A.Belov, I. Gornikel, V. Kalinin, M. Kaparkova, V Kukhtin, N. Shatil, S. Sychevsky, V. Vasiliev

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2-LD-P32 (A1175)

Analysis of ITER TF samples with different cabling pattern based on joint interstrand resistance measurement

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Chairperson: Rey, Fleiter, Kudymow, Kitaguchi, Antognazza

2-LE-P33 (A438)

Comparison of Three Models to Predict Thermal Stability of Nb₃Sn Rutherford CablesW.M. de Rapper¹, A.P. Verweij², B. Bordini², H.H.J. ten Kate²*1) University of Twente, 7500 AE Enschede, The Netherlands,**2) CERN, CH-1211 Genève, Switzerland*

2-LE-P34 (A822)

Magnetic design techniques of double helical coils

S. Farinon, P. Fabbriatore and R. Musenich

2-LE-P35 (A187)

Simulation of electromagnetic and thermal processes in fast-cycling magnets for calculation parameters of stability

V.V. Zubko, S.S. Kozub, L.M. Tkachenko

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Large Scale: HTS Current Leads

Chairperson: Rey, Fleiter, Kudymow, Kitaguchi, Antognazza

2-LE-P36 (A301)

Solid Cryogen-Cooled HTS Current Leads Using 2G HTS CCs with Various Stabilizers

Oh Jun Kwon, Jung-Bin Song, Yoon Hyuck Choi, Young-Gyun Kim and Haigun Lee

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2-LE-P37 (A1005)

HTS Current Leads with Traveling Transition Point

Victor E. Keilin, Vladimir R. Romanovskii

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2-LE-P38 (A540)

Simulation of the prototype of TF-type HTS Current Lead for ITER

Chenglian Liu, Yanfang Bi, Kaizhong Ding, Hansheng Fen, Xiongyi Huang, Guang Shen, Tingzhi Zhou, Qing Ni, Yuntao Song

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2-LE-P39 (A529)

Cold test set-up development of HTS Current Lead for ITER

Qing Ni, Yanfang Bi, Kaizhong Ding, Hansheng Fen, Xiongyi Huang, Chenglian Liu, Guang Shen, Tingzhi Zhou, Jia Tang, Yuntao Song

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2-LE-P40 (A50)

Thermal anchoring of conduction-cooled current leads on the regenerator of pulse tube refrigerator

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Large Scale: HTS Stability, Quench, Critical Current

Chairperson: Rey, Fleiter, Kudymow, Kitaguchi, Antognazza

2-LF-P41 (A302)

The Study on the Thermal/Electrical Stability of Solid Cryogen-Cooled ReBCO CC Racetrack Pancake Coil

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2-LF-P42 (A299)

Quench and Recovery Characteristics of a GdBCO-Coated Conductor Racetrack Pancake Coil with Respect to the Local Hot-Spot Position

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2-LF-P43 (A259)

Quench and Recovery Tests of GdBCO CCs with Various Patterned Stabilizers

Yoon Hyuck Choi, Dong Gyu Yang, Oh Jun Kwon, Young-Gyun Kim and Haigun Lee

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2-LF-P44 (A852)

Estimation of I_c of a YBCO CC by Measurement of Magnetization Loss

Ji-Kwang Lee¹, Woo-Seok Kim², Yungil Kim³, Seyeon Lee³, Sang Ho Park³, Kyeongdal Choi³, and Chan Park⁴

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2-LF-P45 (A236)

Quench Detection and Protection of YBCO Coil for SMES Application

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Large Scale: Modelling

Chairperson: Rey, Fleiter, Kudymow, Kitaguchi, Antognazza

2-LG-P46 (A440)

See: 2-WT-P16 (A835)

2-LG-P47 (A93)

The effect of twisting on superconductor self-field critical current

Antti Stenvall^{1,2} and Francesco Grilli²

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2-LG-P48 (A1134)

Analysis of magnetic remanence calculated in HTS by pulse magnetization process taking into account the temperature effect.

J López¹, R Maynou¹, X Granados², R Torres¹

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2-LG-P49 (A349)

Simulation Setup for Modeling the Thermal, Electric, and Magnetic Behavior of High Temperature Superconductors.

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2-LG-P50 (A648)

Time dependent Ginzburg-Landau equations for modeling vortices dynamics in type II superconductors with defects under a transport current.

K. S. Grishakov¹, P. N. Degtyarenko², N. N. Degtyarenko¹, V. F. Elesin¹, and V. S. Kruglov³

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2-LG-P51 (A911)

Cancelled

2-LG-P52 (A1101)

3D finite element analysis of AC loss and temperature distribution in HTS Tape

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Large Scale: Characterization

Chairperson: Rey, Fleiter, Kudymow, Kitaguchi, Antognazza

2-LH-P53 (A264)

Influence of neutron irradiation on mechanical properties of high temperature superconductors

Y. Kanbayashi¹, T. Aoki¹, X. Wang¹, A. Ishiyama¹, H. Ueda², N. Miyahara³, N. Kashima⁴, S. Nagaya⁴

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2-LH-P54 (A18)

The insulation characteristics of insulation material GFRP for Superconducting Devices

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2-LH-P55 (A129)

Electrical and thermal viewpoints in designing a conduction-cooled specimen holder for short sample testing

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2-LH-P56 (A1024)

A Computer-Based Platform for HTS Characterization Measurement and HTS Device Control

Jianxun Jin, Luhai Zheng

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2-LH-P57 (A22)

Thermal stability of YBCO coated conductor according to Cu stabilizer thickness

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2-LH-P58 (A327)

AC loss in bifilar arrangement of coated conductors with ferromagnetic substrate

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Wires & Tapes: AC-Losses

Chairperson: Gomory, Majoros

2-WT-P1 (A292)

Mitigation of AC Loss via stacking of superconducting tapes

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2-WT-P2 (A136)

AC loss properties of laser-scribed multi-filamentary GdBCO coated conductors with artificial pinning centres

Takuya Hayashi^{*}, Sosuke Nakamura^{*}, Masataka Iwakuma^{*}, Kazuo Funaki^{*}, Akira Ibi^{**}, Yutaka Yamada^{**}, Teruo Izumi^{**}, Yuh Shiohara^{**}, Takashi Saitoh^{***}, Yasuhiro Iijima^{***}

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2-WT-P3 (A939)

Frequency dependent coupling loss in a two strand Roebel loop

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2-WT-P4 (A1010)

Multifilament HTS coated conductors with suppressed ac losses for electrical motor coils

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2-WT-P5 (A58)

Heat Transfer and Mechanical Analysis for AC Loss Measurement Cryostat

Yiran Chen, Weijia Yuan, Yan Yu, Wei Xian, Quan Li, Chaihao Hsu, Wei Wang, Min Zhang, Felix Elefant, Timothy A Coombs

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2-WT-P6 (A138)

Improved modelling and measurement of transport AC loss in superconducting coils

Mark Ainslie

Department of Engineering, University of Cambridge

2-WT-P7 (A165)

Comparison of AC transport current loss in different YBCO coated conductor tapes measured at 4.2 K

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2-WT-P8 (A296)

Simulation of AC loss of HTS coil in a magnetic circuit

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2-WT-P9 (A328)

Ac loss in small cable models constructed from YBCO coated conductors under the simultaneous action of ac transport current and ac magnetic field in phase

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2-WT-P10 (A600)

Improved Poynting's Vector Method: AC Loss Measurement of HTS Tapes Formed into a Short Straight or a Solenoidal Coil

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2-WT-P11 (A975)

Magnetization Loss Measurements on 40 mm Wide Second Generation Superconducting Tapes

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2-WT-P12 (A434)

Comparison between direct and indirect measurements of the transverse resistivity in NbTi and Nb₃Sn strands

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2-WT-P13 (A481)

AC loss in MgB₂ tapes

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2-WT-P14 (A910)

Experimental study of the ac magnetization loss in MgB₂ superconducting wires

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2-WT-P15 (A828)

Experimental techniques for magnetization AC loss investigation

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2-WT-P16 (A835)

Finite element computation of self field ac losses in a HTS coil

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2-WT-P17 (A724)

Numerical and experimental studies of superconductor/ferromagnet heterostructures

Philipp A. C. Krüger, Francesco Grilli, Stefania Farinon

Wires & Tapes: Substrates and Buffers

Chairperson: Van Driesche, Grivel

2-WT-P18 (A230)

Electro polishing process of Hastelloy substrates for coated conductors: influence of electrode voltage and polishing time

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2-WT-P19 (A477)

An advanced technique to prepare the textured Ni-W alloy substrate with high W content used for coated conductors

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2-WT-P20 (A1025)

Reel-to-Reel Deposition of Epitaxial Double-Sided Y₂O₃ Buffer Layers for Coated Conductors

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2-WT-P21 (A115)

Growth of biaxially textured MgO buffer layers by inclined substrate deposition

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2-WT-P22 (A370)

Synthesis of new buffer-materials via environmental friendly CSD method for coated conductor applications

Pollefeyt G., Bruggeman T., Lommens P., De Buysser K. and Van Driessche I

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2-WT-P23 (A443)

Microstructure and surface modification of CeO₂ buffer layer grown on Ni/Ni-W¹V. Mihalache, ¹M. C. Ciongher, ¹C. Negrila, ²N. Stefan¹National Institute of Materials Physics, P. O. Box MG-7, RO-77125, Bucharest-Magurele, Romania, ²National Institute for Laser, Plasma, and Radiation Physics, Atomistilor Street 409, RO-77125, Bucharest-Magurele, Romania

2-WT-P24 (A491)

Cancelled

2-WT-P25 (A816)

Study of buffer layer structures deposition for YBCO coated conductors by using solid state Nd:YAG pulsed laser radiation

F. Rizzo, A. Mancini, A. Angrisani Armenio, A. Augieri, G. Celentano, F. Fabbri, V. Galluzzi, A. Rufoloni, A. Vannozzi

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2-WT-P26 (A824)

Growth and characterization of La₂Zr₂O₇ buffer layers deposited by chemical solution deposition.A. Angrisani Armenio¹, A. Augieri¹, A. Mancini¹, F. Fabbri¹, V. Galluzzi¹, A. Rufoloni¹, A. Vannozzi¹, G. Sotgiu², E. Silva³, E. Bemporad⁴, G. Contini⁵, G. Celentano¹

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2-WT-P27 (A848)

Influence of Pd interlayer thickness on Ni-W substrate oxidation mechanism

A. Mancini, P. Rubino¹, G. Celentano, A. Vannozzi, A. Rufoloni, A. Augieri, F. Rizzo, V. Galluzzi, F. Fabbri, I. Davoli¹, I. Colantoni¹.

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2-WT-P28 (A935)

Epitaxial growth of TiN buffer layer on Ni-W biaxially textured metallic substrate

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2-WT-P29 (A986)

Epitaxially grown LaNiO₃ thin films on SrTiO₃(100) substrates by chemical solution deposition method

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2-WT-P30 (A1032)

MgO-based buffer layer for Cu and Cu-rich substrate

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2-WT-P31 (A1094)

Epitaxially grown RE₃TaO₇/ RE₃NbO₇ thin films by chemical solution deposition method

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Wires & Tapes: Flux Pinning and Characterization

Chairperson: Matsumoto, Palau

2-WT-P32 (A432)

Development and realization methods for the study of local magnetic and transport characteristics of the superconducting tapes

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2-WT-P33 (A62)

Calculation of critical current and flux pinning properties of HTS from thermodynamics, and comparison with experimental data.

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2-WT-P34 (A285)

The Decrease of the Critical Current of Coated Conductors when a Perpendicular Magnetic Field is Applied : a Josephson Effect Point of View

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2-WT-P35 (A501)

Improvement of in-fields I_c characteristics by BMO (Ba-MO₃:M=Metal) doping into PLD-GdBCO coated conductors

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2-WT-P36 (A508)

Influence of multiple angled columnar defects on critical current density and n -value in YBCO thin films

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2-WT-P37 (A513)

Influence of deposition temperature on critical current properties for Nd:YAG-PLD-YBa₂Cu₃O_y thin films with nano-rods

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2-WT-P38 (A1006)

Microstructural Study of YBCO Coated Conductor with Textured Cu Substrate

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2-WT-P39 (A1098)

THE GENERAL STRUCTURE OF THE E-J CHARACTERISTICS AND THE INDEX OF TRANSITION IN LOW TEMPERATURE SUPERCONDUCTORS

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2-WT-P40 (A64)

Experimental study on magnetic phase transition of REBCO superconducting tapes

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2-WT-P41 (A441)

Activation energy distribution of MgB₂ wires

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