8. Scientific Program

Note about the acronyms used to identify the sessions:

The first character (n) of the session codes always refers to the day:
1 = Monday, 2 = Tuesday, 3 = Wednesday, 4 = Thursday.
The last character (m) of the session codes always identifies the growing presentiation number.

Plenary Sessions: nPLm

Talks: nX-YY-Zm

X → M = Morning, A = Afternoon;
YY → EL (Electronic), LS (Large Scale), MA (Materials), WT (Wires and Tapes), WL (joint session Wires and Tapes and Large Scale), SS (Special Session);
Z → I = Invited, O = Oral;

Poster: nP-YYp-m

P → Poster;
YY → EL (Electronic), LS (Large Scale), MA (Materials), WT (Wires and Tapes);
p is the growing number identifying the session.

8.1 Plenary Sessions

Plenary lectures will last 45 minutes with discussion (40 minutes on Thursday morning). All plenary sessions will take place in the Maestrale Room.

Monday September 16th Plenary lecture:

09:15 - 10:00 Devred A.

[1PL01] **Status of ITER Conductor Production**

Tuesday September 17th Plenary lecture:

08:30 - 09:15 Obradors X.

[2PL01] **High current superconductors: overcoming the materials challenges to achieve power applications**

Tuesday September 17th Plenary lecture:

09:15 - 10:00 Romani G.L.

[2PL02] **Impact of Superconducting Devices on Imaging in Neuroscience**

Wednesday September 18th Plenary lecture:

08:30 - 09:15 Hilgenkamp H.

[3PL01] **Let's twist (again); developments related to topology in superconducting electronics**

Wednesday September 18th Plenary lecture:

09:15 - 10:00 Gurevich A.

[3PL02] **Challenges and Opportunities for Applications of Unconventional Superconductors**

Thursday September 19th Plenary lecture:

11:00 - 11:40 Wen H.H.

[4PL01] **Vortex physics and evaluation on the application of the iron based superconductors**

Thursday September 19th Plenary lecture:

11:40 - 12:20 Shimoyama J.I.

[4PL02] **Potentials of iron-based superconductors for practical materials in future**

8.2 Invited talks

Each Invited oral is permitted 30 minutes with discussion. Invited talks will be given within the oral parallel sessions.

Monday September 16th:

10:30 - 11:00 Goltsman G. Room Libeccio
[1M-EL-I1] **Nanowire superconducting single-photon detector optimization for practical applications**

10:30 - 11:00 Bottura L. Room Scirocco
[1M-LS-I1] **Superconductivity for the High Luminosity Upgrade of the LHC**

10:30 - 11:00 Moon S.H. Room Maestrale
[1M-MA-I1] **SuNAM developed new process named RCE-DR: the practical highest throughput process**

10:30 - 11:00 Tomsic M. Room Levante e Ponente
[1M-WT-I1] **The Markets that are opening for MgB_2 superconductors and related applications**

16:15 - 16:45 Granata C. Room Libeccio
[1A-EL-I1] **High sensitivity niobium nano-SQUIDs for nanoscience investigations**

16:15 - 16:45 Hobl A. Room Scirocco
[1A-LS-I1] **SFCL for power grid**

16:15 - 16:45 Izumi T. Room Levante e Ponente
[1A-WT-I1] **Present Status and Future Prospects of R&D on Coated Conductors in Japan**

Tuesday September 17th:

10:30 - 11:00 Mizugaki Y. Room Libeccio
[2M-EL-I1] **Demonstration of a 1000-fold voltage multiplier using double-flux-quantum generation**

16:15 - 16:45 Ortlepp T. Room Libeccio
[2A-EL-I1] **The path towards multi-pixel arrays of superconducting detectors**

16:15 - 16:45 Zehetmayer M. Room Maestrale

[2A-MA-I1] **Probing two-band superconductivity by experiment**

16:15 - 16:45 Ballarino A. Room Scirocco
[2A-WL-I1] **Development of Superconducting Links for the LHC machine**

16:15 - 16:45 Noe M. Room Levante e Ponente
[2A-WT-I1] **From 2G conductors to practical conductors - What needs to be improved?**

Wednesday September 18th:

10:30 - 11:00 Baryshev A. Room Libeccio
[3M-EL-I1] **Superconducting detectors for Millimetron space mission**

10:30 - 11:00 Schwartz J. Room Scirocco
[3M-LS-I1] **High Field Magnets Using High Temperature Superconductors: Progress and Challenges**

10:30 - 11:00 Tarantini C. Room Maestrale
[3M-MA-I1] **Development of very high critical current densities in Ba-122 thin films by self-assembled and artificial pin arrays**

11:00 - 11:30 Bellingeri E. Room Maestrale
[3M-MA-I2] **Tuning superconductivity and pinning mechanisms of Fe(Se,Te) thin films by strain technology**

16:15 - 16:45 Ma Y. Room Maestrale
[3A-MA1-I1] **Recent progress in Fe-based superconducting wires and tapes for high field applications**

16:15 - 16:45 Maiorov B. Room Levante e Ponente
[3A-MA2-I1] **Similarities and differences in the pinning landscape between Fe- and Cu-based High T_c Superconductors**

Thursday September 19th:

08:30 - 09:00 Sirois F. Room Scirocco
[4M-LS-I1] **Potential and limits of numerical modeling for supporting the development of HTS devices**

08:30 - 09:00 Eisterer M. Room Levante e Ponente
[4M-MA1-I1] **Influence of the field orientation on the in-plane critical currents in Ba-122 single crystals**

09:00 - 09:30 Palau A. Room Levante e Ponente

[4M-MA1-I2] **Vortex Pinning and dynamics in CSD YBCO nanocomposites**

08:30 - 09:00 Coll M. Room Maestrale
[4M-MA2-I1] **New strategies of solution processed YBCO nanocomposites for enhanced pinning forces**

08:30 - 09:00 Kametani F. Room Libeccio
[4M-WT-I1] **Where does the current flow in macroscopically untextured Bi2212 round wires?**

8.3 Oral sessions

Each contributed oral is permitted 15 minutes with discussion (3 minutes for questions). The oral sessions will take place in the lecture rooms Libeccio, Scirocco, Maestrale, Levante e Ponente, with the following schedule:

Monday September 16th from **10:30** to **12:45**

Monday September 16th from **16:15** to **18:30**

Tuesday September 17th from **10:30** to **12:45**

Tuesday September 17th from **16:15** to **18:30**

Wednesday September 18th from **10:30** to **12:45**

Wednesday September 18th from **16:15** to **18:30**

Thursday September 19th from **08:30** to **10:15**

8.4 Poster sessions

All poster sessions will take place in Module 7, 3rd floor (main poster hall) and in Module 8, 1st and 2nd floor, with the following schedule:

Monday September 16th from **14:15** to **15:45**

Tuesday September 17th from **14:15** to **15:45**

PLENARY SESSION 1

1PL: Plenary Session I
Monday, September 16 @ 09:15 in Room Maestrale
Chair: *Mathias Noe*

09:15 1PL01
Status of ITER Conductor Production
Devred A.[1]
[1]ITER Organisation for Fusion Energy, Route de Vinon-sur-Verdon, 13115 Saint-Paul-lez-Durance - France

PARALLEL ORAL SESSIONS 1M

1M-EL: Nanowire Detectors
Monday, September 16 @ 10:30 in Room Libeccio
Chair: *Matteo Salvato, Michael Siegel*

10:30 1M-EL-I1
Nanowire superconducting single-photon detector optimization for practical applications
Goltsman G.[1]
[1]Department of Physics, Moscow State Pedagogical University, Moscow - Russian Federation

11:00 1M-EL-O1
Effect of the wire width on the intrinsic detection efficiency of superconducting-nanowire single-photon detectors
Lusche R.[1], Semenov A.[2], Hubers H.W.[3], Ilin K.[4], Siegel M.[4], Korneeva Y.[5], Trifonov A.[5], Korneev A.[5], Goltsman G.[6], Vodolazov D.[7]
[1]German Aerospace Center (DLR) - Germany, [2]Institute of Planetary Research, German Aerospace Centre (DLR) - Germany, [3]TU Berlin, DLR - Germany, [4]Karlsruhe Institute of Technology - Germany, [5]Moscow State Pedagogical University - Russian Federation, [6]Department of Physics, Moscow State Pedagogical University, Moscow - Russian Federation, [7]Institute for Physics of Microstructures, Russian Academy of Sciences - Russian Federation

11:15 1M-EL-O2
Vortices in SNSPD: Magnetic field dependence of dark and photon count rates
Engel A.[1], Inderbitzin K.[1], Britschgi J.[1], Schilling A.[1], Lusche R.[2], Semenov A.[3], Hubers H.W.[4], Ilin K.[5], Siegel M.[5]
[1]University of Zürich - Switzerland, [2]German Aerospace Center

(DLR) - Germany, [3]Institute of Planetary Research, German Aerospace Centre (DLR) - Germany, [4]TU Berlin, DLR - Germany, [5]Karlsruhe Institute of Technology - Germany

11:30 1M-EL-O3

Experimental evidence of critical current enhancement in magnetic field driven superconducting nanowire

Ilin K.[1], Henrich D.[1], Luck Y.[1], Fuchs L.[1], Meckbach J.M.[2], Siegel M.[1]

[1]Karlsruhe Institute of Technology - Germany, [2]Institut für Mikro- und Nanoelektronische Systeme, KIT - Germany

11:45 1M-EL-O4

Membrane-integrated superconducting nanowire single-photon detectors

Najafi F.[1], Mower J.[1], Hu X.[1], Bellei F.[1], Assefa S.[2], Dane A.[1], Kharel P.[3], Ivry Y.[1], Cheong L.L.[1], Sunter K.[1], Englund D.[1], Berggren K.[1]

[1]Massachusetts Institute of Technology - United States, [2]IBM TJ Watson Research Center - United States, [3]Columbia University - United States

12:00 1M-EL-O5

Superconducting nanowires connected in series for photon number resolving functionality

Mattioli F.[1], Jahanmirinejad S.[2], Zhou Z.[2], Gaggero A.[1], Frucci G.[3], Sahin D.[2], Leoni R.[1], Fiore A.[2]

[1]Istituto di Fotonica e Nanotecnologie, CNR, Roma - Italy, [2]Eindhoven University of Technology - Netherlands, [3]COBRA Research Institute, Eindhoven University of Technology - Netherlands

12:15 1M-EL-O6

Superconducting Nanowire Single Photon Detectors with High System Detection Efficiency at Telecom Wavelengths

Verma V.[1], Marsili F.[1], Stern J.[2], Harrington S.[1], Lita A.[1], Gerrits T.[1], Vayshenker I.[1], Baek B.[1], Shaw M.[2], Miller A.[1], Mirin R.[1], Nam S.W.[1]

[1]NIST - United States, [2]NASA Jet Propulsion Laboratory - United States

12:30 1M-EL-O7

64 pixel NbTiN superconducting nanowire single photon detectors with SFQ readout circuit

Miki S.[1], Yamashita T.[1], Terai H.[1], Makise K.[1], Wang Z.[1]

[1]NICT - Japan

1M-LS: Accelerators and Fusion

Monday, September 16 @ 10:30 in Room Scirocco

Chair: *Amalia Ballarino, Pasquale Fabbricatore*

10:30 1M-LS-I1

Superconductivity for the High Luminosity Upgrade of the LHC

Ballarino A.[1], *Bottura L.*[1], Jensen E.[1], Rossi L.[1], Todesco E.[1]

[1]CERN, Technology Department - Switzerland

11:00 1M-LS-O1

Design of Demountable Toroidal Field Magnets for Use in a Compact Modular Fusion Reactor

Mangiarotti F.[1], Goh J.[1], Takayasu M.[1], Bromberg L.[1], Minervini J.[1], Whyte D.[1]

[1]Massachusetts Institute of Technology - United States

11:15 1M-LS-O2

Statistical Analysis of the Nb_3Sn Strand Production for the ITER TF Coils

Vostner A.[1], Jewell M.[2], Sullivan N.[2], Pong I.[3], Bessette D.[1], Devred A.[1], Romano G.[1]

[1]ITER Organisation for Fusion Energy, Route de Vinon-sur-Verdon, 13115 Saint-Paul-lez-Durance - France, [2]The Materials Science Center, Univ. of Wisconsin-Eau Claire, Eau Claire, WI 54702 - United States, [3]Lawrence Berkeley National Laboratory - United States

11:30 1M-LS-O3

Bi-2212 Canted-Cosine-Theta Insert Coils for High-Field Dipole Magnets

Godeke A.[1], Brouwer L.N.[1], Caspi S.[1], Dietderich D.[1], Prestemon S.[1]

[1]Lawrence Berkeley National Laboratory - United States

11:45 1M-LS-O4

Fabrication of the Superconducting Superferric Cyclotron Gas-stopper Magnet at NSCL at Michigan State University

Chouhan S.[1], Bollen G.[2], Green M.A.[2], DeKamp J.[2], Laton D.[2], Magsig C.[2], Morrissey D.[2], Ottarson J.[2], Schwarz S.[2], Zeller A.F.[2]

[1]Facility for Rare Isotope Beam - United States, [2]MSU - United States

12:00 1M-LS-O5

Variable energy acceleration in a single cyclotron

Bromberg L.[1], Radovinsky A.[1], Minervini J.[1], Michael P.[1], Miller C.[1]

[1]Massachusetts Institute of Technology - United States

12:15 1M-LS-O6

Status of the Consolidation of the LHC Superconducting Magnets and Circuits

Tock J.P.[1], Bordry F.[1], Atieh S.[1], Bodart D.[1], Bourcey N.[1], Cruikshank P.[1], Dahlerup-Petersen K.[1], Dalin J.M.[1], Garion C.[1], Musso A.[1], Ostojic R.[1], Perin A.[1], Pojer M.[1], Savary F.[1], Scheuerlein C.[1]

[1]CERN - Switzerland

12:30 1M-LS-O7

Investigation of the cooling conditions for the Fast Ramped Superconducting Magnets of the SIS100 Synchrotron

Bleile A.[1], Fischer E.[1], Khodzhibagiyan H.[2], Mireau A.[1], Schnizer P.[1]

[1]GSI - Germany, [2]JINR - Russian Federation

1M-MA: HTS Films and Multilayers I
Monday, September 16 @ 10:30 in Room Maestrale
Chair: *Giuseppe Balestrino, John H. Durrell*

10:30 1M-MA-I1
SuNAM developed new process named RCE-DR: the practical highest throughput process
Moon S.H.[1]
[1]SuNAM Co., Ltd. - Republic of Korea

11:00 1M-MA-O1
Development of All Chemical Solution Processes for YBCO Coated Conductors
Zhao Y.[1], Tang X.[1], Wu W.[2], Andersen N.H.[1], Han Z.[2], Grivel J.C.[1]
[1]Technical University of Denmark - Denmark, [2]Tsinghua University - China

11:15 1M-MA-O2
Digitally printed superconducting coatings and patterns
Feys J.[1], Ghekiere B.[1], Lommens P.[1], Vermeir P.[2], Hopkins S.C.[3], Van Driessche I.[1]
[1]Ghent University - Belgium, [2]University College Ghent - Belgium, [3]Applied Superconductivity and Cryoscience Group, Dept Materials Sc., Cambridge Univ. - United Kingdom

11:30 1M-MA-O3
Growth of High J_c Superconductor YBCO coated conductors from low-fluorine precursor solution
Pop C.[1], Palmer X.[1], Ricart S.[1], Palau A.[1], Puig T.[1], Obradors X.[1]
[1]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain

11:45 1M-MA-O4
Water-based chemical solution approach for deposition of novel buffer layers in coated conductors
Pollefeyt G.[1], Clerick S.[1], Vermeir P.[2], Huhne R.[3], Lommens P.[1], De Buysser K.[1], Van Driessche I.[1]
[1]Ghent University - Belgium, [2]University College Ghent - Belgium, [3]IFW Dresden - Germany

12:00 1M-MA-O5
Large enhancements in angular pinning in YBCO between 0 and 90 degrees by co-doping with Nb and Ta
Bianchetti M.[1], Ercolano G.[1], MacManus-Driscoll J.[1]
[1]Cambridge University - United Kingdom

12:15 1M-MA-O6
Study of high T_c superconductivity in cuprate/titanate bilayers
Di Castro D.[1], Innocenti D.[1], Tebano A.[1], Aruta C.[2], Balestrino G.[1]
[1]CNR-SPIN and Dip.to di Ingegneria Civile e Ingegneria Informatica, Università

Roma Tor Vergata - Italy, [2]CNR-SPIN, Napoli - Italy

12:30 1M-MA-O7

Superconducting $Sr_{0.85}La_{0.15}CuO_2$ bicrystal grain boundary Josephson junctions

Leca V.[1], Tomaschko J.[2], Wang D.[3], Danila M.[1], Bik W.A.[4], Kleiner R.[2], Koelle D.[2]

[1]IMT Bucharest - Romania, [2]University of Tuebingen - Germany, [3]Karlsruhe Institute for Technology - Germany, [4]AccTec BV Eindhoven - Netherlands

1M-WT: MgB2 Wires

Monday, September 16 @ 10:30 in Room Levante e Ponente

Chair: *Rene Flukiger, Antonio S. Siri*

10:30 1M-WT-I1

The Markets that are opening for MgB_2 superconductors and related applications

Rindfleisch M.[1], *Tomsic M.*[1], Doll D.[1], Thong C.J.[1], Yue J.[1], Wieber T.[1], Sumption M.D.[2], Li G.[2], Yang Y.[2], Susner M.[2], Collings T.[2]

[1]Hypertech Research Inc. - United States, [2]Ohio State University - United States

11:00 1M-WT-O1

Development of ex-situ MgB_2 tapes with improved architectures for magnets applications

Brisigotti S.[1], Tumino A.[1], Grasso G.[1], Montemanni S.[1], Pietranera D.[1], Mazzei F.[1]

[1]Columbus Superconductors S.p.A - Italy

11:15 1M-WT-O2

The enhancement of critical current density of PIT processed MgB_2 tapes by pre-heating of Mg and B mixed powder

Kumakura H.[1], Takahashi M.[1]

[1]National Institute for Materials Science - Japan

11:30 1M-WT-O3

Properties of filamentary MgB_2 wires with variable barriers and metallic sheaths

Kováč P.[1], Hušek I.[1], Melišek T.[1], Kopera L.[1]

[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

11:45 1M-WT-O4

Self-sintering assisted development of high connectivity ex-situ MgB_2 wires

Yamamoto A.[1], Mizutani S.[2], Ito A.[2], Shimoyama J.I.[3], Ogino H.[2], Kishio K.[2], Kodama M.[4], Tanaka K.[4]

[1]The University of Tokyo, JST-PRESTO - Japan, [2]The University of Tokyo - Japan, [3]Department of Applied Chemistry, University of Tokyo - Japan, [4]Hitachi,

Ltd. - Japan

12:00 1M-WT-O5
High density MgB_2 wire fabricated by MgB_4 phase
Motaman A.[1], Hossain M.S.A.[1], Xu X.[1], See K.[1], Kim J.H.[1]
[1]University of Wollongong - Australia

12:15 1M-WT-O6
Intra-wire resistances, current transfer, AC losses and strain dependence of critical current in MgB_2 wires with and without densification
Zhou C.[1], Gao P.[1], Krooshoop H.J.G.[1], Dhallé M.[1], Sumption M.D.[2], Rindfleisch M.[3], Tomsic M.[3], Kulich M.[4], Senatore C.[4], Nijhuis A.[1]
[1]University of Twente - Netherlands, [2]Ohio State University - United States, [3]Hypertech Research Inc. - United States, [4]University of Geneva - Switzerland

12:30 1M-WT-O7
Investigation of copper electroplated MgB_2 cables with different twist pitch made from mono and multifilament wires.
Kario A.[1], Hossain M.S.A.[2], Ringsdorf B.[1], Runtsch B.[1], Jung A.[1], Nast R.[1], Rindfleisch M.[3], Tomsic M.[3], Kim J.H.[4], Dou S.X.[2], Goldacker W.[1]
[1]Karlsruhe Institute of Technology, ITEP - Germany, [2]University of Wollongong - Australia, [3]Hypertech Research Inc. - United States, [4]ISEM, UOW - Australia

POSTER SESSIONS 1P

1P-EL1: Junction and Circuit Fabrication
Monday, September 16 @ 14:15 in Poster Area
Chair: *Johannes Kohlmann, Paul Seidel*

1P-EL1-01
Cryocooler operation of Josephson arrays for ac Voltage standards
Sosso A.[1], De Leo N.[1], Fretto M.[1], Monticone E.[1], Roncaglione L.[1], Rocci R.[1], Lacquaniti V.[1]
[1]Istituto Nazionale di Ricerca Metrologica - Italy

1P-EL1-02
Planar Josephson MoRe - doped Si - MoRe junctions: evidence for a resonant tunneling mechanism
Shaternik V.[1], Shapovalov A.[1], Suvorov A.[1], Seidel P.[2], Schmidt S.[2]
[1]Institute for Metal Physics - Ukraine, [2]Institute of Solid State Physics - Germany

1P-EL1-03
Hybrid superconducting mesa-heterostructure with manganite-ruthenate interlayer
Constantinian K.[1], Ovsyannikov G.[1], Sheyerman A.[1], Shadrin A.[1],

Kislinskii Y.[1], Kalaboukhov A.[2]
[1]IRE RAS - Russian Federation, [2]Chalmers University of Technology - Sweden

1P-EL1-04

Advanced NbN circuit fabrication process for superconducting qubit applications

Terai H.[1], Makise K.[1], Qiu W.[2], Wang Z.[1], Kimura J.[3], Ishikawa T.[3], Yamazaki R.[3], Nakamura Y.[3]
[1]NICT - Japan, [2]National Institute of Informat - Japan, [3]The University of Tokyo - Japan

1P-EL1-05

Spatial modulation of critical current density in niobium based Josephson devices by selective laser annealing

Russo R.[1], Granata C.[1], Petti L.[1], Rippa M.[1], Rombetto S.[1], Ruggiero B.[1], Russo M.[1], Vettoliere A.[1]
[1]Istituto di Cibernetica "E. Caianiello" del Consiglio Nazionale delle Ricerche - Italy

1P-EL1-06

Operation of SFQ logic circuits consisting of NbN/AlN/NbN tunnel junctions

Makise K.[1], Terai H.[1], Yamashita T.[1], Miki S.[1], Wang Z.[1]
[1]NICT - Japan

1P-EL1-07

Niobium and niobium nitride based NIS tunnel junction thermometry and cooling

Chaudhuri S.[1], Nevala M.[1], Halkosaari J.[1], Karvonen J.[1], *Maasilta I.*[1]
[1]University of Jyväskylä - Finland

1P-EL1-08

Fabrication of superconducting tantalum nitride thin films for tunnel junction applications

Chaudhuri S.[1], Chandernagor L.[1], Lahtinen M.[1], Ging M.[1], Maasilta I.[1]
[1]University of Jyväskylä - Finland

1P-EL1-09

Direct Measurement Method for Bulk Dielectric Losses in Amorphous Thin Films utilizing Multiplexed Lumped LC Superconducting Resonators

Skacel S.T.[1], Kaiser C.[2], Bruno A.[3], Rotzinger H.[4], Wunsch S.[1], Jerger M.[4], Lukashenko O.[4], Lisitskiy M.P.[5], Siegel M.[1], Ustinov A.V.[6]
[1]Institut für Mikro- und Nanoelektronische Systeme, KIT; Center for Functional Nanostructures - Germany, [2]Institut für Mikro- und Nanoelektronische Systeme, KIT - Germany, [3]Istituto di Cibernetica "E. Caianiello", CNR; Università degli studi di Napoli Federico II - Italy, [4]Physikalisches Institut, KIT - Germany, [5]Istituto di Cibernetica "E. Caianiello" del Consiglio Nazionale delle Ricerche - Italy, [6]Physikalisches Institut, KIT; Center for Functional Nanostructures (CFN) - Germany

1P-EL1-10

External microwave irradiation on two-stack Josephson junction device of a-axis oriented Y123/Pr123 multilayered thin films

Saini S.[1], Mele P.[2], Kim S.J.[3]

[1]Institute for Sustainable Sciences and Development, Hiroshima University - Japan, [2]Hiroshima University - Japan, [3]Department of Mechatronics Engineering, Jeju National University, South Korea. - Japan

1P-EL1-11

Characteristics of FeSeTe thin film and Josephson junctions

Wu C.H.[1], Chang W.C.[1], Jeng J.T.[2], Wang M.J.[3], Li Y.S.[4], Chang H.H.[3], Wu M.K.[4]

[1]Department of Physics, National Chung-Hsing University - Taiwan, [2]Department of Mechanical Engineering, National Kaohsiung University of Applied Sciences - Taiwan, [3]Institute of Astronomy and Astrophysics, Academia Sinica - Taiwan, [4]Institute of Physics, Academia Sinica - Taiwan

1P-EL1-12

Multi-Layer technology for NbN/AlN/NbN Josephson Junctions

Meckbach J.M.[1], *Merker M.*[1], Ilin K.[2], Siegel M.[2]

[1]Institut für Mikro- und Nanoelektronische Systeme, KIT - Germany, [2]Karlsruhe Institute of Technology - Germany

1P-EL1-13

Fabrication of Niobium Nanobridge Josephson Junctions

Tachiki T.[1], Horiguchi K.[1], Uchida T.[1]

[1]National Defense Academy - Japan

1P-EL1-14

Optimization of electrical and structural parameters of $YBa_2Cu_3O_{7-x}$ thin-film electrodes of bicrystal Josephson junctions with chemical and thermal treatments of substrates

Gundareva I.[1], Divin Y.[1]

[1]Research Centre Jülich - Germany

1P-EL1-15

HTS ion damage Josephson junction technology for SQUID arrays

Ouanani S.[1], Creté D.[1], Lemaitre Y.[1], Mage J.C.[1], Marcilhac B.[1], Kermorvant J.[1], Bergeal N.[2], Feuillet-Palma C.[2], Lesueur J.[2], Mailly D.[3], Ulysse C.[3]

[1]Unité Mixte de Physique CNRS/Thales and Université Paris-Sud - France, [2]LPEM ESPCI-ParisTech CNRS, Paris - France, [3]LPN - France

1P-EL1-16

Deep Sub-Micron Stud-Via Technology for Superconductor VLSI Circuits

Tolpygo S.[1], Bolkhovsky V.[1], Oliver W.[1], Weir T.[1], Gouker M.[1]

[1]MIT Lincoln Laboratory - United States

1P-EL1-17

Improved FLUXONICS Foundry RSFQ technology

Kunert J.[1], Linzen S.[2], Brandel O.[2], Schmelz M.[2], Stolz R.[1], Meyer H.G.[1]
[1]Institute of Photonic Technology - Germany, [2]IPHT Jena - Germany

1P-EL1-18

Parametric resonance in a system of coupled Josephson junctions.

Shukrinov Y.[1]
[1]BLTP, JINR - Russian Federation

1P-EL1-19

High Quality Superconductor-Semiconductor Tunnel Junctions

Gunnarsson D.C.B.[1], Richardson-Bullock J.[2], Prest M.J.[2], Whall T.E.[2], Parker E.H.C.[2], Leadley D.R.[2], Prunnila M.[1]
[1]VTT, Technical Research Centre - Finland, [2]Department of Physics, University of Warwick - United Kingdom

1P-EL1-20

Preparation of NS and NIS Step Edge Junctions on Co-doped Ba-122 Superconductors by Focused Ion Beam.

Satrapinskyy L.[1], Plecenik T.[1], Truchly M.[1], Dechtar I.[1], Sobota R.[1], Gregor M.[1], Iida K.[2], Kurth F.[2], Roch T.[1], Grancic B.[1], Kus P.[1], Plecenik A.[1]
[1]FMFI, Comenius University - Slovakia, [2]IFW Dresden - Germany

1P-EL2: Squid Design and Fabrication

Monday, September 16 @ 14:15 in Poster Area

Chair: *Kim Kiwoong*

1P-EL2-01

Structuring metallic coatings to reduce eddy currents and thermal noise in super insulation

Mayrhofer R.[1], Stipsitz J.[1], Korber R.[2], Stampfl J.[3], Schönhuber P.[3]
[1]RUAG Space GmbH - Austria, [2]Physikalisch-Technische Bundesanstalt - Germany, [3]Vienna University of Technology - Austria

1P-EL2-02

Extending the operating temperature range of ultra-low noise nanoSQUIDs

Hao L.[1], Cox D.[1], Galer S.[1], Gallop J.[1]
[1]National Physical Laboratory - United Kingdom

1P-EL2-03

Niobium nano-SQUIDs based on sub-micron tunnel junction fabricated by 3D Focus Ion Beam sculpting

Fretto M.[1], Enrico E.[1], De Leo N.[1], Boarino L.[1], Lacquaniti V.[1], Granata C.[2], Rombetto S.[2], Russo M.[2], Russo R.[2], Vettoliere A.[2]
[1]Istituto Nazionale di Ricerca Metrologica - Italy, [2]Istituto di Cibernetica "E.

Caianiello" del Consiglio Nazionale delle Ricerche - Italy

1P-EL2-04

Investigation of Helium-Cooled Planar SQUID Magnetometer with Integrated Bootstrap Circuitry

Zeng J.[1], Zhang Y.[2], Liu C.[3], Krause H.J.[2], Xie X.[3], Offenhäusser A.[2]
[1]State Key Laboratory of Functional Materials for Informatics, SIMIT & Juelich Research Center - China, [2]Peter Grünberg Institute (PGI-8), Forschungszentrum Jülich (FZJ), Jülich - Germany, [3]State Key Laboratory of Functional Materials for Informatics, SIMIT - China

1P-EL2-05

Fabrication of HTS-SQUID with an integrated superconducting shield

Tsukamoto A.[1], Manaka R.[2], Adachi S.[1], Oshikubo Y.[1], Tanabe K.[1]
[1]ISTEC-SRL - Japan, [2]ISTEC-SRL/Tokyo Denki Univ. - Japan

1P-EL2-06

Characteristics of underdamped DC SQUID in voltage bias mode

Wang H.[1], Kong X.[1], Zhang G.[1], Liu C.[1], Xie X.[1]
[1]State Key Laboratory of Functional Materials for Informatics, SIMIT - China

1P-EL2-07

Measurement of Inductance Change in a Niobium Pancake Coil

Kim I.S.[1], Kang C.S.[1], Lee S.W.[2], Yu M.J.[2]
[1]Korea Research Institute for Standards and Science - Republic of Korea, [2]Agency for Defense Development - Republic of Korea

1P-EL2-08

Calibration of the magnetic field sensitivity of a compact SQUID magnetometer

Storm J.H.[1], Beyer J.[1], Drung D.[1]
[1]Physikalisch-Technische Bundesanstalt - Germany

1P-EL2-09

Ultra low noise YBCO nanoSQUIDs implementing nanowires

Arzeo M.[1], Arpaia R.[1], Nawaz S.[1], Baghdadi R.[1], Lombardi F.[1], Bauch T.[1]
[1]Chalmers University of Technology - Sweden

1P-EL2-10

Signal Analysis of Common Loop Multi-SQUIDs Fabricated On A Single YBCO Chip

Avci I.[1]
[1]Ege University - Turkey

1P-EL2-11

NanoSQUID Magnetometry of Oxide Systems at Low Temperatures

Romans E.[1], Blois A.[1], Rozhko S.[1], Walker C.[2], Zou B.[2], Petrov P.[2], Alford N.[2], Gallop J.[3], Hao L.[3]

[1]UCL - United Kingdom, [2]Imperial College London - United Kingdom, [3]National Physical Laboratory - United Kingdom

1P-EL3: Microwaves and THz Devices I
Monday, September 16 @ 14:15 in Poster Area
Chair: *Peter Day, Ettore Sarnelli*

1P-EL3-01
Terahertz direct detection characteristics of niobium nitride superconducting tunnel junctions
Wang Z.[1], Liu D.[1], Li S.L.[1], Li J.[1], Shi S.C.[1]
[1]Purple Mountain Observatory - China

1P-EL3-02
Josephson generation of coherent THz stimulated emission on Planar Superconducting Multilayer Lattice (PSML)
Grishin V.[1], Muravey L.[2]
[1]ANU - Australia, [2]MATII-RSTU - Russian Federation

1P-EL3-03
Improvement of Power Handling Capability of Superconducting Filters using 3D-matrix Microstrip Lines
Ohshima S.[1], Takahashi S.[1], Endo M.[1], Saito A.[1]
[1]Yamagata University - Japan

1P-EL3-04
Effectiveness of $BaTiO_3$ dielectric patches on YBCO thin films for MEM switches
Vargas J.[1], Hijazi Y.[1], Noel J.[2], Vlasov Y.[3], Larkins G.[3]
[1]University of Turabo - United States, [2]UTEC - Peru, [3]Florida International University - United States

1P-EL3-05
Evaluation of superconducting pickup coils with high Q for 700 MHz NMR
Oikawa S.[1], Tanaka Y.[1], Yamada T.[1], Kanamaru A.[2], Takahashi M.[3], Saito A.[1], Ohshima S.[1]
[1]Yamagata University - Japan, [2]Yokohama City University - Japan, [3]RIKEN - Japan

1P-EL3-06
Coherent emission of intrinsic Josephson junctions
Grib A.[1], *Seidel P.*[2]
[1]V. N. Karazin National University - Ukraine, [2]Institute of Solid State Physics - Germany

1P-EL3-07
Characteristics of ultra-wideband dual-bandpass high-T_c

superconducting Nd-Ba-Cu-O filters with stepped-impedance open stubs

Lin S.H.[1], Chu C.W.[1], Li S.C.[1], *Wang L.M.*[1]
[1]National Taiwan University - Taiwan

1P-EL3-08

Superconducting Quantum Arrays for Broadband RF Systems

Kornev V.[1], Sharafiev A.[1], Soloviev I.[1], Klenov N.[1], Mukhanov O.[2], *Kolotinskiy N.*[1]
[1]Moscow State University - Russian Federation, [2]HYPRES, Inc., Elmsford, NY 10523 - United States

1P-EL3-09

Multi-pixel arrays with improved predictability of microwave properties

Wunsch S.[1], Groetsch C.[2], Arndt M.[3], Prinz R.[2], Siegel M.[4]
[1]Institut für Mikro- und Nanoelektronische Systeme, KIT; Center for Functional Nanostructures - Germany, [2]Karlsruher Institut für Technologie - Germany, [3]Institut für Mikro- und Nanoelektronische Systeme, KIT - Germany, [4]Karlsruhe Institute of Technology - Germany

1P-EL3-10

Terahertz heterodyne detection with high-T_c superconducting Josephson nano-junctions

Malnou M.[1], Feuillet-Palma C.[1], Luo A.[1], Wolf T.[1], Ulysse C.[2], Febvre P.[3], Lesueur J.[1], Bergeal N.[1]
[1]LPEM ESPCI-ParisTech CNRS, Paris - France, [2]LPN - France, [3]University of Savoie - France

1P-EL3-11

YBCO grain boundary Josephson junction coupled with a slot dipole antenna for terahertz wave detectors

Yamada H.[1], Hayasaka T.[1], Toya G.[1], Nakajima K.[1], Saito A.[1], Ohshima S.[1]
[1]Yamagata University - Japan

1P-EL3-12

Modeling of high-T_c superconducting Josephson nano-junctions for THz heterodyne detection

Malnou M.[1], Wolf T.[1], Feuillet-Palma C.[1], Ulysse C.[2], Febvre P.[3], Lesueur J.[1], Bergeal N.[1]
[1]LPEM ESPCI-ParisTech CNRS, Paris - France, [2]LPN - France, [3]University of Savoie - France

1P-EL3-13

Design and Fabrication of Microwave Kinetic Inductance Detectors using NbN Symmetric Spiral Resonator Array

Hayashi K.[1], Saito A.[1], Ogawa Y.[1], Murata M.[1], Sawada T.[1], Nakajima K.[1], Yamada H.[1], Ariyoshi S.[2], Taino T.[3], Tanoue H.[3], Otani C.[4],

Ohshima S.[1]
[1]Yamagata University - Japan, [2]Nagoya Institute of Technology - Japan, [3]Saitama University - Japan, [4]RIKEN - Japan

1P-EL3-14
High-T_c YBCO detectors with high sensitivity and broad dynamic range for pulsed THz radiation
Raasch J.[1], Thoma P.[1], Scheuring A.[1], Ilin K.[1], Wunsch S.[2], Siegel M.[1], Muller A.S.[1], Smale N.J.[1], Haenisch J.[3], Holzapfel B.[3]
[1]Karlsruhe Institute of Technology - Germany, [2]Institut für Mikro- und Nanoelektronische Systeme, KIT; Center for Functional Nanostructures - Germany, [3]IFW Dresden - Germany

1P-EL3-15
Investigation of nonlinear superconducting microwave resonators including Nb Josephson junctions and SQUID arrays
Khabipov M.[1], Mackrodt B.[1], Dolata R.[1], Scheller T.[2], Zorin A.[1]
[1]Physikalisch-Technische Bundesanstalt - Germany, [2]Physikalisch -Technische Bundesanstalt (PTB) - Germany

1P-EL3-16
High temperature superconducting tunable bandpass and bandstop filters at radio frequencies
Sun L.[1], Wang X.[1], Li N.[1], Wang J.[1], Zhang Q.[1], Li C.[1], Li H.[1], He Y.[1], Bai X.[2], Huang J.[2]
[1]Institute of Physics, Chinese Academy of Sciences - China, [2]Beijing Huarongtianchuang Superconductor Technology Inc. - China

1P-LS1: Power Transmission Lines
Monday, September 16 @ 14:15 in Poster Area
Chair: *Vitaly Vysotsky, M. Watanabe*

1P-LS1-01
Influence of longitudinal temperature distribution on current limiting function of Superconducting Fault Current Limiting Cable (SFCLC)
Kojima H.[1], Osawa T.[1], Hayakawa N.[1], Hanai M.[1], Okubo H.[1]
[1]Nagoya University - Japan

1P-LS1-02
Long period operation in 200 m-class superconducting DC power transmission test facility in Chubu University
Hamabe M.[1], Watanabe H.[1], Sun J.[1], Kawahara T.[1], Yamaguchi S.[1]
[1]Chubu University - Japan

1P-LS1-03
Long Term Operation of Power Grid-connected HTS Cable System
Sohn S.H.[1], Yang H.S.[1], Yim S.W.[1], Lim J.H.[1], Jung S.Y.[1], Han S.C.[1], Jeon

H.J.[1], Jang H.M.[1], Kim Y.H.[1], Hwang S.D.[1]
[1]KEPCO Research Institute - Republic of Korea

1P-LS1-04
NEDO's HTS Technology Research and Development Projects in Power and Energy Fields
Kusunose N.[1], Usui K.[1], Maruuchi T.[1], Mitsui Y.[1]
[1]NEDO - Japan

1P-LS1-05
Numerical analysis of high voltage insulation for current leads of HTS electrical power devices
Lobyntsev V.[1], Bemert S.E.[2], Dozhina G.[3], Naumov A.[1], Shcherbakov V.[1]
[1]NRC Kurchatov Institute, Moscow, 123185 - Russian Federation, [2]R&D Center @ FGC UES, Moscow 115201 - Russian Federation, [3]Moscow State University of Railway Engineering - Russian Federation

1P-LS1-06
Partial Discharge Characteristics in Composite Insulation Systems with PPLP for HTS Cable
Kikuchi Y.[1], Yamashita K.[1], Kumada A.[1], Hidaka K.[1], Tatamidani K.[2], Masuda T.[2]
[1]The University of Tokyo - Japan, [2]Sumitomo Electric Industries Ltd. - Japan

1P-LS1-07
Prospects of long-distance HTS DC power transmission systems
Romashov M.[1], Sytnikov V.[1], Shakarian Y.[1], Ivanov Y.[1]
[1]R&D Center @ FGC UES, Moscow 115201 - Russian Federation

1P-LS1-08
Research and development of superconducting DC cable for railway system applications
Tomita M.[1], Suzuki K.[1], Fukumoto Y.[1], Ishihara A.[1], Akasaka T.[1], Kobayashi Y.[1], Miryala M.[1]
[1]Railway Technical Research Institute - Japan

1P-LS1-09
Research of sample and test technical based on HTS cable termination
Huang X.[1], Zhang H.[1], Qiu M.[1], Di Q.[2], Yang Y.[1], Li S.[1], Shen Z.[3]
[1]CEPRI - China, [2]SGEPRI - China, [3]Beijing Jiaotong University - China

1P-LS1-10
Research of system construction design based on HTS cable termination
Huang X.[1], Di Q.[2], Zhang H.[1], Qiu M.[1], Yang Y.[1], Li S.[1], Shen Z.[3]
[1]CEPRI - China, [2]SGEPRI - China, [3]Beijing Jiaotong University - China

1P-LS1-11

Transient Stability Simulation on Temperatures and Pressures of HTS Power Cable Cooled by Forced Flow sub-cooled Nitrogen

Agatsuma K.[1], Furuse M.[2], Fuchino S.[2], Masuda T.[3], Ohya M.[3], Honjo S.[4], Mimura T.[4], Ichikawa H.[4], Hara T.[4]

[1]Waseda University - Japan, [2]AIST - Japan, [3]SEI - Japan, [4]Tokyo Electric Power Company - Japan

1P-LS1-12

Verification tests of DC HTS Superconducting Cable System and Its Applying into Real Grid

Yang B.[1], Kang J.[1], Jang H.[2]

[1]KEPCO - Republic of Korea, [2]LSC - Republic of Korea

1P-LS1-13

First Model Power Cables Made of Russian 2G HTS Wires and their Test Results

Vysotsky V.[1], Fetisov S.[1], Nosov A.[1], Zubko V.[1], Bykovsky N.[1], Zanegin S.[1], Lee S.[2], Petrykin V.[3], Kalitka V.[4]

[1]Russian Scientific R&D Cable Institute - Russian Federation, [2]SuperOx LLC - Japan, [3]SuperOx - Japan, [4]SuperOx Moscow - Russian Federation

1P-LS2: Power Devices I (motors, generators and smes)

Monday, September 16 @ 14:15 in Poster Area

Chair: *Asger Abrahamsen, Thomas Reis*

1P-LS2-01

Guina R&D Homopolar Motor and Generator Application Studies

Sercombe D.[1], Fuger R.[1], Kells J.[1], Matsekh A.[1], Lissington T.[1], Labes K.[1], Guina A.[1]

[1]GUINA Research & Development Pty Ltd - Australia

1P-LS2-02

Homopolar Motors & Generators - New Approaches by Guina R&D

Fuger R.[1], Matsekh A.[1], Sercombe D.[1], Kells J.[1], Lissington T.[1], Labes K.[1], Guina A.[1]

[1]GUINA Research & Development Pty Ltd - Australia

1P-LS2-03

HTS coils for electrical machines applications: modelling and measurements

Messina G.[1], Celentano G.[1], De Marzi G.[1], Gambardella U.[1]

[1]ENEA - Italy

1P-LS2-04

HTS racetrack coils for electrical machines

Bogdanov I.[1], Dezhin D.[2], Kashtanov E.[1], Kovalev K.[2], *Kozub S.*[1], Shcherbakov P.[1], Shuvalov V.[1], Smirnov V.[1], Sytnik V.[1], Tkachenko L.[1]

[1]Institute for High Energy Physics - Russian Federation, [2]Moscow Aviation Institute - Russian Federation

1P-LS2-05

Numerical calculation of the Flux density for a superconducting motor: a comparative study

Hachama M.[1], Ailam E.H.[1], Benallal M.N.[1], Hocine A.[1]
[1]University of Khemis Miliana - Algeria

1P-LS2-06

Preliminary study on the torque improvement of an axial superconducting motor

Benallal M.N.[1], Ailam E.H.[1], Hocine A.[2], Hachama M.[2]
[1]University of Khemis Miliana - Algeria, [2]Université de Khemis Miliana, Laboratoire de l'Energie et des Systèmes Intelligents LESI - Algeria

1P-LS2-07

Realization and optimization study of an axial superconducting motor

Ailam E.H.[1], Hocine A.[2], Hachama M.[2], Benallal M.N.[1]
[1]University of Khemis Miliana - Algeria, [2]Université de Khemis Miliana, Laboratoire de l'Energie et des Systèmes Intelligents LESI - Algeria

1P-LS2-08

Study of Evaporator With Stainless Pipes for Large Scale HTS Rotating Machines in Helium - Neon gas mixture Thermosyphon cooling

Sato R.[1], Felder B.[1], Miki M.[1], Izumi M.[1], Murase Y.[2], Umemoto K.[2], Yanamoto T.[2]
[1]Tokyo University of Marine Science and Technology - Japan, [2]Kawasaki Heavy Ind - Japan

1P-LS2-09

Synchronous electrical machines with permanent magnets and bulk HTS elements

Kovalev L.[1], Kovalev K.L.[1], Vasich P.[1], Poltavets V.[1]
[1]Moscow Aviation Institute - Russian Federation

1P-LS2-10

Synchronous Generator with HTS-2G field coils for Wind-mills with output power 1 MW

Kovalev K.L.[1], Kovalev L.K.[1], Poltavets V.[1], Samsonovich S.L.[1], Ilyasov R.I.[1], Levin A.V.[2], Surin M.I.[2]
[1]Moscow Aviation Institute - Russian Federation, [2]NRC Kurchatov Institute, Moscow, 123185 - Russian Federation

1P-LS2-11

Synchronous motor with HTS-2G wires

Dezhin D.[1], Kovalev K.L.[1], Verzhbitsky L.[2], Ilyasov R.I.[1], Kozub S.[3]
[1]Moscow Aviation Institute - Russian Federation, [2]Scientific-Research Institute

of Electromechanics - Russian Federation, [3]Institute for High Energy Physics - Russian Federation

1P-LS2-12

Testing of machine wound second generation HTS tape Vacuum Pressure Impregnated coils

Swaffield D.[1], Lewis C.[1], Eugene J.[1], Ingles M.[1], Peach D.[1]
[1]GE Power Conversion - United Kingdom

1P-LS2-13

Study of a flux barrier topology of inductor for superconducting synchronous machine

Al Hassan R.[1], Lubin T.[1], Mezani S.[1], *Leveque J.*[1]
[1]GREEN, University of Lorraine BP 70239 F-54506 Vandoeuvre - France

1P-LS2-14

Application of SMES to Improve Transient Stability of Power System Integrated with Wind Power.

Lee H.[1], Kim J.[1], Lee B.[1]
[1]Korea University - Republic of Korea

1P-LS2-15

LIQHYSMES spectral power distributions of imbalances and implications for the SMES

Sander M.[1], Gehring R.[1], Neumann H.[1]
[1]Karlsruhe Institute of Technology - Germany

1P-LS2-16

Mechanical and thermal distribution in YBCO SMES coils

Zhang H.[1], *Yuan W.*[1], Zhang Z.[1], Zhu J.[2], Zhang M.[3]
[1]University of Bath - United Kingdom, [2]China Electric Power Research Institute - China, [3]Engineering Department, University of Cambridge Cambridge - United Kingdom

1P-LS2-17

Strategy of Inertia Control in Power Systems with High Penetration of Renewables using a Supercoduction Magnetic Enegy Storage (SMES) Unit

Kim J.[1], Lee B.[2]
[1]Korea University - Republic of Korea, [2]Electirical Engieenring - Republic of Korea

1P-LS2-18

Switching Properties of Liquid Nitrogen Cooled IGBTs and 24 kA Demonstration of Current Multiplier by Inductive Storage

Yamada S.[1], Nakamura H.[2], Aso Y.[2]
[1]National Institute for Fusion Science - Japan, [2]The Japan Steel Works, Ltd. - Japan

1P-LS3: High Field, MRI and Innovative Magnets
Monday, September 16 @ 14:15 in Poster Area
Chair: *Kathleen Amm, Pasquale Fabbricatore*

1P-LS3-01

A Conduction Cooled HTS Quadrupolar Superferric Magnet, Design and Construction

Dobrin I.[1], Morega A.[2], Nedelcu A.[1], Morega M.[2], Neamtu J.[1]
[1]INCDIE ICPE-CA - Romania, [2]University Politehnica Bucharest - Romania

1P-LS3-02

Pulse magnetization to HTS bulk using the waveform control pulse magnetization technique

Ida T.[1], Watasaki M.[2], Izumi M.[2]
[1]Hiroshima National College of Maritime Technology - Japan, [2]Tokyo University of Marine Science and Technology - Japan

1P-LS3-03

Experimental study of temporal stabilities of HTS magnets without any electrical joints in a persistent current mode

Kim W.S.[1], Lee S.[1], Kim Y.[1], Park S.H.[1], Lee J.K.[2], Hong G.W.[1], Choi K.[1]
[1]Korea Polytechnic University - Republic of Korea, [2]Woosuk University - Republic of Korea

1P-LS3-04

Reduction of Dependence on Strength of Coated Conductors in High Strength Pancake Coil with Novel Structure

Watanabe T.[1], Hirano N.[1], Naruse M.[1], Kashima N.[1], Nagaya S.[1], Hojo M.[2], Nishikawa M.[2], Tanie Y.[2]
[1]Chubu Electric Power Co., Inc. - Japan, [2]Kyoto University - Japan

1P-LS3-05

Calculation of the critical current of HTS magnet with double coils

Ku M.[1], Kang M.[1], Lee H.[1], Cha G.[1]
[1]Soonchunhyang University - Republic of Korea

1P-LS3-06

Fabrication and characterization of the conduction cooled 2G HTS magnet by no insulation winding for generating 3-T / 203 mm RT bore

Yoon S.[1], Kwon W.[1], Cheon K.[1], Lee H.[1], Moon S.H.[1], Kim Y.[2], Kim S.[2], Lee S.[2], Park S.H.[2], Choi K.[2], *Hong G.W.*[2]
[1]SuNAM Co., Ltd. - Republic of Korea, [2]Korea Polytechnic University - Republic of Korea

1P-LS3-07

Design of Cryogen-Free NbTi Superconducting Magnet for Proton Therapy Cyclotron

Yoshida J.[1], Mikami Y.[1], Yumoto K.[1], Mitsubori H.[1], Hashimoto A.[1],

Watazawa K.[1], Tsutsui H.[1], Uno K.[1], Yajima S.[1]
[1]Sumitomo Electric Industries Ltd. - Japan

1P-LS3-08

Trapped magnetic field between double stacked MgB_2 bulks magnetized by pulsed field

Fujishiro H.[1], Naito T.[1], Ujiie T.[1], Giunchi G.[2], Figini Albisetti A.[2]
[1]Iwate University - Japan, [2]EDISON S.p.A. - Italy

1P-LS3-09

Superconducting Magnets for Space Radiation Shielding

Calvelli V.[1], Battiston R.[2], Burger W.[3], Farinon S.[4], Musenich R.[4]
[1]Università di Genova - Italy, [2]INFN-Perugia and Università di Trento - Italy, [3]Università di Perugia - Italy, [4]INFN-Genova - Italy

1P-LS3-10

High-T_c superconducting Bulk for the application of Lorentz Force Velocimetry

Klaiber M.[1], *Halbedel B.*[1], Werner M.[1], Toepfer H.[1]
[1]University Technology Ilmenau - Germany

1P-LS3-11

Construction and test of a non-insulated insert coil using coated conductor tape

Uglietti D.[1], Wesche R.[2], Bruzzone P.[2]
[1]CRPP - Switzerland, [2]EPFL-CRPP Fusion Technology - Switzerland

1P-LS3-12

High Homogeneous Superconducting Magnet Design for a 3.0 T Actively Shielded MRI with Graded Current Density Technique

Zhipeng N.[1], *Wang Q.*[1]
[1]IEE,CAS - China

1P-LS3-13

HTS RF coil using the HTS coated conductor tape for high field MRI.

Ko R.K.[1], Kim D.H.[1], Sohn M.H.[1], Ha D.W.[1], Jo Y.S.[1], Mun C.W.[2], Kim Y.C.[3]
[1]Korea Electrotechnology Research Institute - Republic of Korea, [2]InJe University - Republic of Korea, [3]Busan National University - Republic of Korea

1P-LS3-14

Optimization of 7 T (300 MHz) YBCO Receiver Coils for in-vivo and ex-vivo MRI of Small Animals; Assessment of Achievable SNR Gain

Wosik J.[1], Bockhorst K.H.[2], Nesteruk K.[3], Ketharnath D.[1], Narayana P.A.[2]
[1]Electrical and Computer Dept. and Texas Ctr. for Superconductivity, University of Houston - United States, [2]University of Texas Health Science Center - United States, [3]Institute of Physics Polish Academy of Sciences - Poland

1P-LS4: Fusion
Monday, September 16 @ 14:15 in Poster Area
Chair: *Arnaud Devred*

1P-LS4-01
Tryout of the vacuum impregnation procedure for the ITER PF1 coil on the VPI mold made of plastic shell
Grigoriev S.[1], Rodin I.[1], Tanchuk V.[1], Korban S.[1], Bursikov A.[1], Pugachev A.[2], Kutsitskiy A.[3]
[1]D.V. Efremov Scientific Research Institute of Electrophysical Apparatus (NIIEFA) - Russian Federation, [2]Forss Consulting Ltd - Russian Federation, [3]Sredne-Nevskiy Shipyard JSC - Russian Federation

1P-LS4-02
NbTi Strands Verification for ITER PF CICC Process Qualification of CNDA
Liu F.[1], Liu H.[1]
[1]ASIPP - China

1P-LS4-03
Testing the Cryogenic System of ST25-HTS
Ma W.[1], Chappell S.[1]
[1]Oxford Instruments - United Kingdom

1P-LS4-04
ST25-HTS
Ball S.[1], Chappell S.[1], Jokinen A.[2], Brzakalik R.[2], Walton R.[2], Sykes A.[3], Kingham D.[3], Gryaznevich M.[3]
[1]Oxford Instruments - United Kingdom, [2]Oxford Instruments Omicron Nanoscience - United Kingdom, [3]Tokamak Solutions - United Kingdom

1P-LS4-05
Characterizing HTS coils for application in compact tokamaks
Jokinen A.[1], Chappell S.[1], Ball S.[1], Yang Y.[2], Young E.[2], Falorio I.[2]
[1]Oxford Instruments - United Kingdom, [2]University of Southampton - United Kingdom

1P-LS4-06
A superconducting magnet feeder system that avoids the risk of Paschen discharge
Taylor T.[1]
[1]AT Scientific LLC - Switzerland

1P-LS4-07
Study on stabilization of helium subcooling system of the LHD helical coils against large disturbance
Hamaguchi S.[1], Imagawa S.[2], Obana T.[2], Yanagi N.[2], Mito T.[2]
[1]National Institute for Fusion - Japan, [2]National Institute for Fusion Science - Japan

1P-MA1: Fe-based Superconductors - Bulk I
Monday, September 16 @ 14:15 in Poster Area
Chair: *Fabian Nitsche, Yoshuhiko Takano*

1P-MA1-01

Exploring the superconducting properties of LnFeAsO (Ln = Pr, Nd, Sm) single crystals through improved high-pressure flux growth

Zhigadlo N.D.[1], Moll P.J.W.[1], Weyeneth S.[2], Katrych S.[1], Rogacki K.[3], Bosma S.[2], Puzniak R.[4], Karpinski J.A.[1], Batlogg B.[1]

[1]Laboratory for Solid State Physics, ETH Zürich, CH-8093 Zürich - Switzerland, [2]Physik-Institut der Universitat Zurich, 8057 Zurich - Switzerland, [3]Institute of Low Temperature and Structure Research, Polish Academy of Sciences, 50-950 Wroclaw - Poland, [4]Institute of Physics, Polish Academy of Sciences, 02-668 Warsaw - Poland

1P-MA1-02

Effects of different chemical doping on the superconducting properties of Sm based ferropnictides

Singh S.J.[1], Shimoyama J.I.[1], Yamamoto A.[2], Ogino H.[1], Kishio K.[1]

[1]Department of Applied Chemistry, University of Tokyo - Japan, [2]The University of Tokyo, JST-PRESTO - Japan

1P-MA1-03

Vortex pinning by intrinsic correlated defects in $Fe_{1-y}Se_xTe_{1-x}$

Amigó M.L.[1], Ale Crivillero M.V.[2], Franco D.G.[3], Badía Majós A.[4], Guimpel J.[1], Nieva G.[1]

[1]CAB, CONICET-CNEA, Instituto Balseiro - Argentina, [2]CAB, CNEA, Instituto Balseiro - Argentina, [3]INFIQC, Depto. de Fisicoquímica. FCQ, UNC, CAB, CONICET-CNEA - Argentina, [4]Universidad de Zaragoza, CSIC - Spain

1P-MA1-04

Improvements of the 11 Fe(Se,Te) iron-based superconductor

Sala A.[1], Palenzona A.[2], Bernini C.[2], Caglieris F.[3], Cimberle M.R.[2], Ferdeghini C.[2], Lamura G.[2], Martinelli A.[2], Pani M.[4], Higashikawa K.[5], Kiss T.[5], Putti M.[3]

[1]Dipartimento di Fisica, Università degli Studi di Genova - Italy, [2]CNR-SPIN, Genova - Italy, [3]Physics Department, University of Genova - Italy, [4]Chemistry and Industrial Chemistry Dept., University of Genova - Italy, [5]Department of Electrical Engineering, Kyushu University, Fukuoka - Japan

1P-MA1-05

MOKE at different temperature in thin film of $Fe/Ba(Fe_{1-x}As_x)_2Co$

Valentino M.[1], Bonavolontà C.[1], De Lisio C.[2], Parlato L.[3], Pepe G.P.[2]

[1]CNR-SPIN, Napoli - Italy, [2]CNR-SPIN and Department of Physical Science, Università Federico II, Napoli - Italy, [3]University of Naples Federico II - Italy

1P-MA1-06

Anomalous field-dependence of Seebeck and Nernst effects in

LaFeAsO

Caglieris F.[1], Lamura G.[2], Pallecchi I.[2], Jost A.[3], Braggio A.[2], Provino A.[4], Manfrinetti P.[4], Siri A.S.[5], Putti M.[1]

[1]Physics Department, University of Genova - Italy, [2]CNR-SPIN, Genova - Italy, [3]High Field Magnet Laboratory, IMM, Radboud University Nijmegen - Netherlands, [4]CNR-SPIN, DCCI - Italy, [5]Dipartimento di Fisica, Università degli Studi di Genova - Italy

1P-MA1-07

Failure of a pure interband Eliashberg model in the description of the phenomenology of LiFeAs

Ummarino G.A.[1], *Galasso S.*[1], Sanna A.[2]

[1]Politecnico di Torino - Italy, [2]Max-Planck-Institut für Mikrostrukturphysik - Germany

1P-MA1-08

Upper Critical Field Anisotropy in Ca_{1-xx22}Single Crystals

Zhou W.[1], Shi Z.X.[1], Yi D.[1], Yue S.[1], Feifei Y.[1], Jincheng Z.[1]

[1]Southeast University - China

1P-MA1-09

Influence of starting materials on superconducting properties of polycrystalline SmFeAs(O, F)

Yuan F.F.[1], Shi Z.X.[1], Ding Y.[1], Zhou W.[1]

[1]Southeast University - China

1P-MA1-10

High Resolution microstructural analysis of phase separation phenomena in Fe-based superconductors

Speller S.[1], Britton T.B.[2], Mousavi T.[1], Grovenor C.[1]

[1]Oxford University - United Kingdom, [2]Imperial College - United Kingdom

1P-MA1-11

Study on the Fe(Se,Te) phase diagram in selenium enriched polycrystalline samples

Sala A.[1], Palenzona A.[2], Bernini C.[2], Caglieris F.[3], Cimberle M.R.[2], Ferdeghini C.[2], Lamura G.[2], Martinelli A.[2], Pani M.[4], Higashikawa K.[5], Kiss T.[5], Putti M.[3]

[1]Dipartimento di Fisica, Università degli Studi di Genova - Italy, [2]CNR-SPIN, Genova - Italy, [3]Physics Department, University of Genova - Italy, [4]Chemistry and Industrial Chemistry Dept., University of Genova - Italy, [5]Department of Electrical Engineering, Kyushu University, Fukuoka - Japan

1P-MA1-12

New Synthetic Route and Synthetic Optimization of Ba_{1-xx22}

Wiesenmayer E.[1], Johrendt D.[1]

[1]LMU Munich - Germany

1P-MA1-13

Epitaxial growth and microstructure of $Fe_y(Se_xTe_{1-x})$

superconducting thin films
Mousavi T.[1], Speller S.[1], Hesjedal T.[1], Grovenor C.[1]
[1]Oxford University - United Kingdom

1P-MA1-14
Peak effect in Ba_{1-xx22} studied with ac-susceptibility measurement
Pissas M.[1], Ma Y.[2], Wang C.[2]
[1]IAMPPNM NCSR - Greece, [2]Key Laboratory of Applied Superconductivity, Institute of Electrical Engineering, CAS - China

1P-MA1-15
Transport critical currents of $Ba_{1-x}K_xFe_2As_2$superconducting wires prepared by the *in-situ* and *ex-situ* powder-in-tube met
Ishida S.[1], Taira H.[2], Kihou K.[1], Lee C.H.[1], Matsuzaki K.[1], Yamasaki H.[3], Mawatari Y.[1], Kito H.[1], Takeshita N.[1], Nishio T.[4], Iyo A.[1], Eisaki H.[5], Yoshida Y.[1]
[1]AIST - Japan, [2]AIST, Tokyo Univ. of Science - Japan, [3]National Institute of Industrial Science and Technology - Japan, [4]Department of Physics, Tokyo University of Science - Japan, [5]Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and - Japan

1P-MA2: Transport and Magnetic Properties
Monday, September 16 @ 14:15 in Poster Area
Chair: *Gaia Grimaldi, Alexander Zaitsev*

1P-MA2-01
Andreev states and Josephson current in multi-band superconductors
Nappi C.[1], De Nicola S.[2], Adamo M.[1], Sarnelli E.[1]
[1]Istituto di Cibernetica "E. Caianiello" del Consiglio Nazionale delle Ricerche - Italy, [2]CNR-INO - Italy

1P-MA2-02
Characterization of structures with a complex disposition of YBCO coated conductors for magnetic shielding applications
Wera L.[1], Fagnard J.F.[1], Levin G.[2], Vanderheyden B.[3], Vanderbemden P.[3]
[1]SUPRATECS, University of Liege - Belgium, [2]Aerospace Systems, Air Force Research Laboratory, Wright-Patterson AFB - United States, [3]SUPRATECS, Dept. of Electrical Engineering (B28), University of Liège - Belgium

1P-MA2-03
Coexistence of superconductivity and antiferromagnetism in $Eu_{0.73}Ca_{0.27}(Fe_{0.87}Co_{0.13})_2As_2$
Tran L.M.[1], Bukowski Z.[1], Zaleski A.J.[1]
[1]ILT&SR, PAS - Poland

1P-MA2-04
Critical current density in practical superconductors

Pan A.V.[1], Golovchanskiy I.[1], Fedoseev S.[1], Wells F.[1], Shcherbakova O.[1]
[1]University of Wollongong - Australia

1P-MA2-05

Decay of the axial magnetization of GdBCO pellets subjected to small transverse alternating magnetic fields.

Fagnard J.F.[1], Kirsch S.[2], Teshima H.[3], Morita M.[3], Vanderheyden B.[2], Vanderbemden P.[2]
[1]SUPRATECS, University of Liege - Belgium, [2]SUPRATECS, Dept. of Electrical Engineering (B28), University of Liège - Belgium, [3]Nippon Steel & Sumitomo Metal Corporation, Futtsu, Chiba 293-8511 - Japan

1P-MA2-06

Unexpected three-dimensional, linear behavior of the upper-critical field line Hc2(T) for the parallel magnetic field configuration in thin niobium films deposited on rough ZnO substrates

Stamopoulos D.[1], Zeibekis M.[1]
[1]National Center for Scientific Research 'Demokritos' - Greece

1P-MA2-07

Effects of Mn doping on upper critical field in $GdBa_2(Cu_{1-x}M_x)_3O_y$ HTSC system

Rao A.[1]
[1]Department of Physics - India

1P-MA2-08

Filamentary superconductivity across the phase diagram of $Ba(Fe,Co)_2As_2$

Xiao H.[1], Hu T.[2], He S.K.[1], Shen B.[1], Zhang W.J.[3], Xu B.[1], He K.F.[1], Han J.[1], Sigh Y.P.[4], Wen H.H.[5], Qiu X.G.[1], Panagopoulos C.[6], Almasan C.C.[4]
[1]Institute of Physics, CAS - China, [2]Kent State University, USA and Shanghai Institue of Microsystem and Information Technology - China, [3]Institute of Physics - China, [4]Kent State University - United States, [5]Department of Physics, Nanjing University - China, [6]Nanyang Technological University, University of Crete and FORTH - Singapore

1P-MA2-09

Flux-cutting and flux-transport effects in type-II supercondctors of arbitrary shape

Cortes R.[1], Perez F.[1]
[1]IFUAP - Mexico

1P-MA2-10

Fundamental study in the development of HTS NMR probe

Watanabe M.[1], Sato S.[1], Sato K.[1], Ichikawa K.[1], Honma T.[1], Saito A.[1], *Oshima S.*[1]
[1]Yamagata University - Japan

1P-MA2-11

Influence of the spreading resistance on the conductance spectrum of planar hybrid thin film SNS' junctions based on iron pnictides

Doring S.[1], Schmidt S.[2], Gottwals S.[2], Schmidl F.[3], Tympel V.[2], Monch I.[4], Kurth F.[4], Iida K.[4], Holzapfel B.[4], Seidel P.[3]

[1]Institute of Solid State Physics, Jena - Germany, [2]FSU Jena - Germany, [3]Institute of Solid State Physics - Germany, [4]IFW Dresden - Germany

1P-MA2-12

Magnetic hysteresis cycle and remnant field distribution of bulk high temperature superconductor / ferromagnet hybrids

Philippe M.[1], Fagnard J.F.[1], Dennis A.[2], Shi Y.[2], Cardwell D.A.[2], Vanderheyden B.[3], Vanderbemden P.[3]

[1]SUPRATECS, University of Liege - Belgium, [2]Department of Engineering, University of Cambridge - United Kingdom, [3]SUPRATECS, Dept. of Electrical Engineering (B28), University of Liège - Belgium

1P-MA2-13

Magnetic pinning effects of ferromagnetic nano-particle arrays on $YBa_2Cu_3O_{7-x}$ thin films

Petrisor Jr T.[1], Mos R.B.[1], Nasui M.[1], Gabor M.[1], Augieri A.[2], Celentano G.[2], Tiusan C.[1], Petrisor T.[1]

[1]Technical University of Cluj-Napoca - Romania, [2]ENEA - Italy

1P-MA2-14

Magnetic shielding properties of a bulk high-T_c superconducting hollow cylinder subjected to an inhomogeneous magnetic field

Vanderbemden P.[1], Hogan K.[2], Wera L.[2], Vanderheyden B.[2], Fagnard J.F.[2]

[1]SUPRATECS, Dept. of Electrical Engineering (B28), University of Liège - Belgium, [2]SUPRATECS, University of Liege - Belgium

1P-MA2-15

Magnetic shielding properties of superimposed MgB_2/iron systems

Gozzelino L.[1], Gerbaldo R.[1], Ghigo G.[1], Laviano F.[2], Agostino A.[3], Bonometti E.[3]

[1]Politecnico di Torino, Dipartimento di Scienza Applicata e Tecnologia - Italy, [2]Dipartimento di Scienza Applicata e Tecnologia, Politecnico di Torino - Italy, [3]Department of Chemistry, University of Study of Turin - Italy

1P-MA2-16

Numerical modelling of the magneto-thermal effects of a transverse AC magnetic field on the axial magnetization of a bulk superconducting cylinder

Kirsch S.[1], Fagnard J.F.[2], Vanderbemden P.[1], Vanderheyden B.[1]

[1]SUPRATECS, Dept. of Electrical Engineering (B28), University of Liège - Belgium, [2]University of Liege - Belgium

1P-MA2-17

Unusual magnetic reordering of the Pr subsystem in the

$PrBa_2Cu_3O_{6+x}$ compounds
Lahoubi M.[1]
[1]Badji-Mokhtar-Annaba University, Department of Physics, Annaba - Algeria

1P-MA2-18
Temperature-dependent electric noise level in different iron-based superconductors
Barone C.[1], Lippi F.[1], Pagano S.[1], Bellingeri E.[2], Ferdeghini C.[2], Adamo M.[3], Sarnelli E.[3], Kurth F.[4], Holzapfel B.[4], Iida K.[5]
[1]Dipartimento di Fisica "E.R. Caianiello" and CNR-SPIN Salerno, Università di Salerno - Italy, [2]CNR-SPIN, Genova - Italy, [3]Istituto di Cibernetica "E. Caianiello" del Consiglio Nazionale delle Ricerche - Italy, [4]Leibniz-Institut für Festkörper- und Werkstoffforschung (IFW) Dresden - Germany, [5]Leibniz Institute for Solid State and Materials Research, Dresden - Germany

1P-MA2-19
Uniaxial Pressure Effects in Single Crystals of $BaFe_2As_2$-based Superconductors
Yamaichi S.[1], Katagiri T.[1], Sasagawa T.[1]
[1]Tokyo Institute of Technology - Japan

1P-MA2-20
Transition metal doping effects on the transport and magnetic properties of SmFeAsO
Cui Y.[1], Chen Y.[1], Pan M.[1], Zhao Y.[2]
[1]Southwest Jiaotong University - China, [2]Southwest Jiaotong University - Australia

1P-MA3: Pinning and Flux Dynamics I
Monday, September 16 @ 14:15 in Poster Area
Chair: *Paolo Mele, Tatiana Prikhna*

1P-MA3-01
Accurate identification of the pinning mechanism and the creep mode in YBCO films
Kalenyuk A.[1], Kasatkin A.[1], Rebikov A.[1], *Tretiatchenko C.*[1]
[1]Institute for Metal Physics - Ukraine

1P-MA3-02
Anomalous peak effect in inhomogeneous superconductors
Liu G.[1], *Shi Z.X.*[1]
[1]Southeast University - China

1P-MA3-03
Anomalous temperature dependence of critical current densities for TiO_2 doped sintered $GdBa_2Cu_3O_y$ superconductors
Miura O.[1], Otsu Y.[1], Kita R.[2]
[1]Tokyo Met. Univ. - Japan, [2]Shizuoka Univ. - Japan

1P-MA3-04

Behavior of the flux-flow resistivity in mesoscopic superconductors

Sánchez-Lotero P.N.[1], Aguiar J.A.[1], Domínguez D.[2]

[1]Programa de Pós-Graduação CCEN and Departamento de Física, UFPE - Brazil, [2]Centro Atómico Bariloche, San Carlos de Bariloche, Río Negro - Argentina

1P-MA3-05

Quasi-one-dimensional flux pinning behavior in clean cobalt doped Ba-122 thin films

Seeböck W.[1], Mishev V.[1], Eisterer M.[1], Iida K.[2], Kurth F.[2], Haenisch J.[3], Holzapfel B.[3]

[1]Atominstitut, Vienna University of Technology - Austria, [2]Leibniz Institute for Solid State and Materials Research, Dresden - Germany, [3]IFW Dresden - Germany

1P-MA3-06

Realization of arbitrary pinning patterns in high temperature superconducting $YBa_2Cu_3O_{7-\delta}$ thin films

Katzer C.[1], Stahl C.[2], Michalowski P.[1], Treiber S.[2], Westerhausen M.[1], Diener R.[1], Schmidl F.[1], Seidel P.[1], Schütz G.[2], Albrecht J.[3]

[1]University of Jena - Germany, [2]Max-Planck-Institute for Intelligent Systems - Germany, [3]Aalen University - Germany

1P-MA3-07

Stability of a vortex pinned at linear defect

Tretiatchenko C.[1], Kasatkin A.[1]

[1]Institute for Metal Physics - Ukraine

1P-MA3-08

Stability of phase-slip state in wide current-carrying superconducting film: resistive domains and phase-slip lines

Kulikovskiy A.[1], Bielska-Lewandowska H.[2]

[1]A.M.Prokhorov General Physics Institute of RAS, Tarusa Department - Russian Federation, [2]Institute of Physics PAS - Poland

1P-MA3-09

The dependence of resistively measured B_{c2} and B_{irr} on BZO concentration in YBCO thin films

Malmivirta M.[1], Palonen H.[1], Huhtinen H.[1], Paturi P.[1]

[1]University of Turku - Finland

1P-MA3-10

The effect of BCO dopant concentration on magnetically obtained B_{irr} and B_{c2} in YBCO thin films depositedon STO substrates

Huhtinen H.[1], Palonen H.[1], Malmivirta M.[1], Jha R.[2], Awana V.P.S.[2], Paturi P.[1]

[1]University of Turku - Finland, [2]National Physical Laboratory (CSIR) - India

1P-MA3-11

The effect of BZO dopant concentration on magnetically obtained

B_{irr} and B_{c2} in YBCO thin films deposited on STO substrates
Paturi P.[1], Malmivirta M.[1], Palonen H.[1], Huhtinen H.[1]
[1]University of Turku - Finland

1P-MA3-12
The effect of neutron irradiation on interpreting the inter- and intra-granular currents in fine-grain potassium doped Ba122 polycrystals with high global current density
Hecher J.[1], Hager H.[2], Eisterer M.[1], Weiss J.[3], Jiang J.[3], Kametani F.[3], Tarantini C.[3], Hellstrom E.[3], Larbalestier D.[3]
[1]Atominstitut, Vienna University of Technology - Austria, [2]Vienna University of Technology, Atominstitut - Austria, [3]Applied Superconductivity Center, NHMFL, Florida State University - United States

1P-MA3-13
Vortex anti-pinning by a superconducting defect
Higuera Agudelo S.J.[1], Barba Ortega J.J.[1], Aguiar J.A.[2]
[1]Universidad Nacional de Colombia - Colombia, [2]Universidade Federal de Pernambuco - Brazil

1P-MA3-14
The contribution of Cu-O chains to low-temperature J_c in $YBa_2Cu_3O_{7-d}$
Talantsev E.[1], Strickland N.[1], Wimbush S.[1], D'Souza P.[1], Long N.[1], Storey J.[1], Ryan M.[1], *Tallon J.*[1]
[1]Callaghan Innovation - New Zealand

1P-MA3-15
Grain size and in-grain J_c in coated conductors
Pardo E.[1], Skarba M.[2], Konopka P.[2], Pekarcikova M.[2], Janovec J.[2], Gomöry F.[1]
[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia, [2]Slovak University of Technology in Bratislava - Slovakia

1P-MA4: Fe-based Superconductors Thin Films and Multilayers
Monday, September 16 @ 14:15 in Poster Area
Chair: *Emilio Bellingeri, Kazumasa Iida*

1P-MA4-01
Versatile fluoride substrates for Fe-based superconducting thin films
Kurth F.[1], Reich E.[2], Hanisch J.[2], Ichinose A.[3], Tsukada I.[4], Huhne R.[2], Trommler S.[2], Engelmann J.[2], Schultz L.[2], Holzapfel B.[2], Iida K.[1]
[1]Leibniz Institute for Solid State and Materials Research, Dresden - Germany, [2]IFW Dresden - Germany, [3]CRIEPI - Japan, [4]Central Research Institute of Electric Power Industry - Japan

1P-MA4-02
Thermodynamic scaling in $FeSe_{0.5}Te_{0.45}$ Single Crystal
Zaq K.A.[1], Salem A.[2]

[1]KFUPM - Saudi Arabia, [2]King Fahd University of petroleum and Minerals - Saudi Arabia

1P-MA4-03

Excess Fe concentration dependence of anisotropy of superconductivity in Fe_d $Te_{0.6}$ $Se_{0.4}$

Hamada K.[1], *Mizuguchi Y.*[1], Miura O.[2]
[1]Tokyo Metropolitan University - Japan, [2]Tokyo Met. Univ. - Japan

1P-MA4-04

Surface degradation of Fe-based superconductors and its influence on superconducting transport properties

Plecenik T.[1], Sobota R.[1], Truchly M.[1], Gregor M.[1], Satrapinskyy L.[1], Roch T.[1], Kurth F.[2], Iida K.[2], Durina P.[1], Kus P.[1], Plecenik A.[1]
[1]FMFI, Comenius University - Slovakia, [2]IFW Dresden - Germany

1P-MA4-05

Extraordinary Microwave Response of $FeSe_{0.3}Te_{0.7}$ Thin film

Cherpak N.T.[1], Barannik A.[1], He Y.[2], Cao L.[3], Wu Y.[4], Kharchenko M.[1], Porch A.[5], Luo S.[4]
[1]IRE NAS of Ukraine, Kharkiv - Ukraine, [2]Institute of Physics, Chinese Academy of Sciences - China, [3]IOP CAS, Beijing 100190 - China, [4]University of Science and Technology Beijing, Beijing 100083 - China, [5]Cardiff University - United Kingdom

1P-MA4-06

Microstructures of Fe(Te,Se), Co-doped $BaFe_2As_2$, and SmFeAs(O,F) superconducting thin films on CaF_2 substrates.

Ichinose A.[1], Tsukada I.[2], Nabeshima F.[3], Imai Y.[3], Maeda A.[3], Kurth F.[4], Holzapfel B.[5], Iida K.[4], Ueda S.[6], Naito M.[6]
[1]CRIEPI - Japan, [2]Central Research Institute of Electric Power Industry - Japan, [3]University of Tokyo - Japan, [4]Leibniz Institute for Solid State and Materials Research, Dresden - Germany, [5]IFW Dresden - Germany, [6]Tokyo University of Agriculture and Technology - Japan

1P-MA4-07

Vortex structure and magnetic properties of $BaFe_2(As_{1-x}P_x)_2$ single crystals

Vinnikov L.[1], *Friedman A.*[2], Troshina A.[1], Felner I.[3], Yeshurun Y.[2]
[1]Institute of Solid State Physics - Russian Federation, [2]Bar-Ilan University - Israel, [3]The Hebrew University - Israel

1P-MA4-08

Fabrication and physical characterization of electrochemically deposited FeSe

Frucci G.[1], Moreno M.[2], Besi Vetrella U.[3], *Corato V.*[3], Pozio A.[2], Appetecchi G.B.[2], De Marzi G.[4]
[1]Eindhoven University of Technology - Netherlands, [2]ENEA, UTRINN-IFC - Italy, [3]EURATOM-ENEA - Italy, [4]ENEA - Italy

1P-MA4-09

Influence of phosphorus content on anisotropy and critical current density in $BaFe_2(As_{1-x}P_x)_2$ films

Miura M.[1], Shimode T.[2], Adachi S.[3], Nakao K.[2], Chikumoto N.[2], Tanabe K.[2]

[1]Graduate school of Science and Technology, SEIKEI University - Japan, [2]Superconductivity Research Laboratory-ISTEC, 1-10-13 Shinonome, Koto-ku, Tokyo 135-0062 - Japan, [3]Superconductivity Research Laboratory-ISTEC, Koto-ku, Tokyo 135-0062 - Japan

1P-MA4-10

Carrier doping mechanism in $FeSe_{1-x}Te_x$thin films by chemical substitution and lattice strain

Tsukada I.[1], Nabeshima F.[2], Ichinose A.[3], Komiya S.[1], Hanawa M.[1], Imai Y.[2], Maeda A.[2]

[1]Central Research Institute of Electric Power Industry - Japan, [2]University of Tokyo - Japan, [3]CRIEPI - Japan

1P-MA4-11

Iron isotope effect in the iron arsenide superconductor $(Ca_{0.4}Na_{0.6})Fe_2As_2$

Tsuge Y.[1], *Nishio T.*[1], Iyo A.[2], Tanaka Y.[2], Eisaki H.[3]

[1]Department of Physics, Tokyo University of Science - Japan, [2]National Institute of Advanced Industrial Science and Technology - Japan, [3]Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and - Japan

1P-MA4-12

Transport behaviors of superconducting FeTe and $FeSe_{0.4}Te_{0.6}$ thin films

Zhang Y.Z.[1]

[1]NLSC, Institute of Physic, CAS - China

1P-MA4-13

Structure of superconducting gap function of Fe based superconductors investigated by the combination of the penetration depth measurement and the flux flow resistivity measurement

Maeda A.[1], Takahashi H.[1], Okada T.[1], Nabeshima F.[1], Imai Y.[1]

[1]University of Tokyo - Japan

1P-MA4-14

Femtosecond spectroscopy in a nearly optimally doped superconducting $FeSe_xTe_{1-x}$ and $Ba(Fe_{1-x}Co_x)_2As_2$/Fe thin films

Bonavolontà C.[1], Valentino M.[1], Parlato L.[2], De Lisio C.[3], Pepe G.P.[4], Iida K.[5], Kurth F.[5], Putti M.[6], Ferdeghini C.[6], Bellingeri E.[6], Pallecchi I.[6], Ummarino G.A.[7], Laviano F.[7]

[1]CNR-SPIN, Napoli - Italy, [2]University of Naples Federico II - Italy, [3]CNR-SPIN Napoli and Dipartimento di Fisica Università "Federico II" di Napoli - Italy, [4]CNR-SPIN and Department of Physical Science, Università Federico II, Napoli - Italy, [5]IFW Dresden, P. O. Box 270116, 01171 Dresden - Germany,

[6]CNR-SPIN, Genova - Italy, [7]Dipartimento di Fisica, Politecnico di Torino, and CNISM - Italy

1P-MA4-15

Growth of a smooth CaF_2 layer on NdFeAsO thin film

Sumiya N.[1], Kawaguchi T.[1], Tabuchi M.[2], Ujihara T.[3], Ikuta H.[1]

[1]Department of Crystalline Materials Science, Nagoya University - Japan, [2]Synchrotron Radiation Research Center, Nagoya University - Japan, [3]Department of Materials Science and Engineering, Nagoya University - Japan

1P-MA4-16

Bicrystalline Grain Boundary Junctions of Ba-122 Thin Films

Schmidt S.[1], Doring S.[2], Schmidl F.[1], Kurth F.[3], Iida K.[3], Holzapfel B.[4], Seidel P.[1]

[1]Institute of Solid State Physics - Germany, [2]Institute of Solid State Physics, Jena - Germany, [3]Leibniz Institute for Solid State and Materials Research, Dresden - Germany, [4]IFW Dresden - Germany

1P-MA4-17

Influence of strain on superconducting properties in thin iron-based superconductor films

Huhne R.[1], Trommler S.[1], Molatta S.[1], Richter S.[1], Hanisch J.[1], Iida K.[1], Reich E.[1], Schulze M.[1], Wurmehl S.[1], Buchner B.[1], Schultz L.[1], Holzapfel B.[1]

[1]IFW Dresden - Germany

1P-MA4-18

Low temperature scanning tunneling microscopy investigation of FeTe and $FeSe_{0.5}Te_{0.5}$ thin films

Gerbi A.[1], Buzio R.[1], Bellingeri E.[1], Kawale S.[1], Braccini V.[1], Marrè D.[2], Siri A.S.[2], Palenzona A.[3], Ferdeghini C.[1]

[1]CNR-SPIN, Genova - Italy, [2]Dipartimento di Fisica, Università degli Studi di Genova - Italy, [3]Dipartimento di Chimica, Università degli Studi di Genova - Italy

1P-MA4-19

Magnetic and Transport Properties of $FeSe_{1.2}$ Alloys

Onar K.[1], Balci Y.[1], Yakinci Z.D.[1], Altin S.[2], Yakinci M.E.[2]

[1]İnönü Üniversitesi, SHMYO - Turkey, [2]İnönü Üniversitesi, Fen Edebiyat Fakültesi, Fizik Bölümü, 44 - Turkey

1P-MA4-20

Pulsed laser deposition of iron based chalcogenide thin films

Kawale S.[1], Braccini V.[1], Bellingeri E.[1], Gerbi A.[1], Buzio R.[1], Putti M.[1], Ferdeghini C.[1]

[1]CNR-SPIN, Genova - Italy

1P-WT1: MgB2

Monday, September 16 @ 14:15 in Poster Area

1P-WT1-01

Effect of magnetic nanoparticle doping on MgB_2 superconductor

Novosel N.[1], Galic S.[1], Pajic D.[1], Zadro K.[1], *Babić E.*[2]

[1]Department of Physics, Faculty of Science, University of Zagreb - Croatia, [2]Faculty of Science - Croatia

1P-WT1-02

J_c-B-T surface and irreversibility field in CNT doped MgB_2 tapes and wires

Jerčinović M.[1], Kušević I.[2], *Babić E.*[3], Kim J.H.[4]

[1]Rudjer Boskovic Institute - Croatia, [2]IGH Institute - Croatia, [3]Faculty of Science - Croatia, [4]University of Wollongong - Australia

1P-WT1-03

High performance of MgB_2 conductors in production scale obtained by new hot high isostatic pressure toroid type chamber

Morawski A.[1], Cetner T.[2], Zaleski A.J.[3], Gajda D.[4], Rindfleisch M.[5], Tomsic M.[5], Czujko T.[6], Diduszko R.[7], Przysłupski P.[8]

[1]Institute of High Pressure Physics PAS - Poland, [2]Inst. of High Pressure Physics - Poland, [3]ILT&SR, PAS - Poland, [4]International Laboratory of High Magnetic Fields and Low Temperatures - Poland, [5]Hypertech Research Inc. - United States, [6]Military University of Technology, Dept Adv Mat & Technol, Warsaw - Poland, [7]Institute of Tele- and Radiotechnic, Warsaw - Poland, [8]Institute of Physics Polish Academy of Sciences - Poland

1P-WT1-04

The critical current density of MgB_2 wires after Hot Isostatic Pressure (HIP) treatment measured at 20 K

Gajda D.[1], Zaleski A.J.[2], Morawski A.[3], Nenkov K.[4], Haßler W.[4], Cetner T.[3], Tomsic M.[5], Rindfleisch M.[5], Przysłupski P.[6]

[1]International Laboratory of HMF and LT - Poland, [2]ILT&SR, PAS - Poland, [3]Institute of High Pressure Physics PAS - Poland, [4]Institute for Solid State and Materials Research Dresden - Germany, [5]Hypertech Research Inc. - United States, [6]Institute of Physics, Polish Academy of Science - Poland

1P-WT1-05

Contribution for MgB_2 wires made by internal Mg diffusion

Hušek I.[1], *Kováč P.*[1], Melišek T.[1], Pachla W.[2]

[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia, [2]IHP of PAS - Poland

1P-WT1-06

Improvement of critical current properties of internal Mg diffusion (IMD)-processed MgB_2 wires

Ye S.[1], Song M.[2], Matsumoto A.[2], Zhang Y.[2], Togano K.[2], Takeguchi M.[2], Teranishi R.[3], Kiyoshi T.[2], Kumakura H.[2]

[1]NIMS - Japan, [2]National Institute for Materials Science - Japan, [3]Kyushu University - Japan

1P-WT1-07

Does MgB_2 need carbon for enhancing critical current? Microscopic role of carbon on MgB_2 wire

Kim J.H.[1]
[1]University of Wollongong - Australia

1P-WT1-08

Influence of powder preparation route on superconducting properties of MgB_2 wires

Sobrero C.E.[1], Malachevsky M.T.[2], Oliber E.[1], Gennari F.C.[3], Serquis A.C.[3]
[1]CNEA - Argentina, [2]CNEA-CONICET - Argentina, [3]CONICET - Argentina

1P-WT1-09

Effect of boron particle size on microstructure and superconducting properties of in-situ Cu addition MgB_2 multifilamentary wire

Hishinuma Y.[1], Kikuchi A.[2], Shimada Y.[3], Hata S.[3], Takeuchi T.[2], Yamada S.[1], Sagara A.[1]
[1]NIFS - Japan, [2]NIMS - Japan, [3]Kyushu University - Japan

1P-WT1-10

Comparison of critical current density and pinning behaviour of mono-core MgB_2 wires prepared by different methods

Brunner B.[1], Windbichler A.[2], *Reissner M.*[2], Kováč P.[3], Hušek I.[3]
[1]Institute of Solid State Physic, Vienna University of Technology - Austria, [2]Institute of Solid State Physics, Vienna University of Technology - Austria, [3]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

1P-WT1-11

Influence of precursor stoichiometry on the properties of MgB_2 Wires

Haßler W.[1], Rodig C.[1], Scheiter J.[1], Damm C.[1], Schubert M.[1], Nenkov K.[1], Holzapfel B.[2], Aubele A.[3], Sailer B.[3], Schlenga K.[3]
[1]Institute for Solid State and Materials Research Dresden - Germany, [2]IFW Dresden - Germany, [3]Bruker EAS GmbH Hanau - Germany

1P-WT1-12

Superconducting properties of modified PIT MgB_2 tapes by cubic anvil hot pressing with Sc addition

Kishimoto K.[1], Miura O.[1]
[1]Tokyo Metropolitan University - Japan

1P-WT1-13

Effect of oleic acid doping on the superconducting properties of MgB_2 wires

Martinez E.[1], Navarro R.[2], Andrés J.M.[3]
[1]CSIC - Spain, [2]ICMA (CSIC-University of Zaragoza) - Spain, [3]Instituto de Carboquímica (CSIC) - Spain

1P-WT1-14

Improvement of flux pinning and properties of MgB_2 wires through addition of diborides and carbon sources

Rodrigues Jr. D.[1], Silva L.[2], Antunes L.H.[2], Melo E.[2]

[1]EEL/USP - Brazil, [2]University of Sao Paulo - Brazil

1P-WT1-15

TEM and EELS studies of crystalline boron powder for superior MgB_2 superconducting wires

Kim J.H.[1], Heo Y.U.[2], Oh S.J.[3], Choi S.[4], Maeda M.[5], Motaman A.[1], Hossain M.S.A.[1], Dou S.X.[1]

[1]University of Wollongong - Australia, [2]Pohang University of Science and Technology - Republic of Korea, [3]National Fusion Research Institute - Republic of Korea, [4]Korea Basic Science Institute - Republic of Korea, [5]Nihon University - Japan

1P-WT1-16

Heat treatment study of MgB_2/Ag wires prepared by powder-in-tube (PIT) method

Leyva Molina W.M.[1], Bustamante A.[2], González J.C.[3]

[1]UNMSM - Peru, [2]Laboratorio de Cerámicos y Nanomateriales, Facultad de Ciencias Físicas, UNMSM - Peru, [3]Grupo de Investigación de Superficies, Intercaras y Láminas Delgadas, ICMS-CSIC - Spain

1P-WT1-17

Analysis of transport and mechanical properties of in-situ wires using MgB_4 as precursor

Nardelli D.[1], Matera D.[2], Vignolo M.[3], Piccardo R.[1], Palenzona A.[4], Siri A.S.[2], Grasso G.[1], Tropeano M.[1], Cubeda V.[1]

[1]Columbus Superconductors S.p.A - Italy, [2]Dipartimento di Fisica, Università degli Studi di Genova - Italy, [3]SPIN-CNR - Italy, [4]Università di Genova, Dipartimento di Chimica - Italy

1P-WT1-18

Effect Of Boron Powder Purity on Superconducting Properties of MgB_2/Fe Mono-Wire Core

Safran S.[1], Simşek E.[2], Gencer A.[1]

[1]Ankara University Center of Excellence for Superconductivity Research - Turkey, [2]Ankara University - Turkey

1P-WT1-19

Development of ex-situ MgB_2 round wires for the LHC superconducting link project

Cubeda V.[1], Tropeano M.[1], Nardelli D.[1], Piccardo R.[1], Bordini B.[2], Ballarino A.[2], Grasso G.[1]

[1]Columbus Superconductors S.p.A - Italy, [2]CERN, Technology Department - Switzerland

1P-WT1-20

The Effect of Heat-Treatment on the Superconducting Properties of

Organic Compound-Doped MgB_2/Fe Wires

Agıl H.[1], Safran S.[1], Cicek O.[1], Yetiş H.[1], Akdoğan M.[1], Gencer A.[1]
[1]Ankara University Center of Excellence for Superconductivity Research - Turkey

1P-WT1-21

On the Effects of Various C Additions in Fe sheathed MgB_2 Wires

Gencer A.[1], Agıl H.[1], Ertekin E.[1], Cicek O.[1], Safran S.[1], Akdoğan M.[1], Yetiş H.[1]
[1]Ankara University Center of Excellence for Superconductivity Research - Turkey

1P-WT2: LTS

Monday, September 16 @ 14:15 in Poster Area

Chair: *Matteo Alessandrini, Sun Xiaguang*

1P-WT2-01

Atom probe tomography as a tool for investigating segregation effects in a bronze-route Nb_3Sn superconducting wire

Ramos Sandim M.J.[1], Tytko D.[2], Kostka A.[2], Choi P.P.[2], Awaji S.[3], Watanabe K.[3], Raabe D.[2]
[1]University of Sao Paulo - Brazil, [2]Max-Planck-Institut fur Eisenforschung - Germany, [3]High Field Laboratory for Superconducting Materials, IMR, Tohoku University - Japan

1P-WT2-02

Influence on hysteresis loss for internal-tin Nb_3Sn multifilamentary strand

Ke Z.[1]
[1]WST - China

1P-WT2-03

Precision of metrology in the Durham reference laboratory for measuring the Nb_3Sn strands for the ITER Tokamak

Raine M.[1], Hampshire D.P.[1]
[1]Durham University - United Kingdom

1P-WT2-04

Tube Type Nb_3Sn Conductor and its Application

Peng X.[1], Gladysz D.[1], Rindfleisch M.[1], Sumption M.D.[2]
[1]Hypertech Research Inc. - United States, [2]Ohio State University - United States

1P-WT2-05

Progress in qualification of NbTi Superconducting Wire above 4.2 K for ITER Project

Li J.[1], Liu X.[1], Feng Y.[1], Liu W.[1], Yan L.[1], Gao H.[1], Hou J.[1], Liu J.[1], Du S.[1], Zhang P.[1], Liu S.[2]
[1]Western Superconducting Technologies Co., Ltd. - China, [2]China International

1P-WT2-06

Improved NbTi superconducting strand performance for higher magnetic fields

Liu W.[1], Li J.[1], Yan L.[1], Hou J.[1], Li Y.[1]
[1]Western Superconducting Technologies Co., Ltd. - China

1P-WT2-07

Possible degradation of Internal Tin Nb_3Sn unreacted strands due to heating during the welding on the outer jacket of the ITER conductor.

Seiler E.[1], Bordini B.[1], Ballarino A.[1], Savary F.[1], Dalexandro N.[1], Devred A.[2], Vostner A.[2]
[1]CERN - Switzerland, [2]ITER-IO - France

1P-WT2-08

Texture in the Nb_3Sn phase of state-of-the-art multifilament superconducting wires

Scheuerlein C.[1], Arnau G.[1], Alknes P.[1], Jimenenz N.[1], Bordini B.[2], Ballarino A.[2], Di Michiel M.[3]
[1]CERN - Switzerland, [2]CERN, Technology Department - Switzerland, [3]ESRF - France

1P-WT2-09

Development of ITER Conductors in China

Wu Y.[1], *Qin J.*[2]
[1]Institute of Plaama Physics, CAS - China, [2]Chinese Academy of Sciences - China

1P-WT3: Coated Conductors I

Monday, September 16 @ 14:15 in Poster Area
Chair: *Matias Vladimir*

1P-WT3-01

Turn-Key High Power PLD of Coated Conductors

Delmdahl R.[1], Greer J.[2]
[1]Coherent GmbH - Germany, [2]PVD Products, Inc. - United States

1P-WT3-02

Concentration effects on $La_2Zr_2O_7$ buffer layers on Ni5W metallic substrates

Soubeyroux J.L.[1], Muguerra H.[1], Pairis S.[1]
[1]CNRS/Institut Néel - France

1P-WT3-03

Influence of Surface Roughness on Crystal Orientation of Ni/Cu/Stainless Steel Clad Substrate for YBCO Superconductive

Wire

Okayama H.[1], Kurokawa T.[1], Koushiro T.[1], Nanbu K.[1], Nagaishi T.[2], Ohki K.[2], Honda G.[2]

[1]Toyo Kohan Co.,Ltd. - Japan, [2]Sumitomo Electric Industries Ltd. - Japan

1P-WT3-04

Improvement of Crystal Orientation of Buffer Layers on Ni/Cu/Stainless Steel Clad Substrate for Superconductive Wire

Hashimoto Y.[1], Kurokawa T.[1], Koushiro T.[1], Nanbu K.[1], Okayama H.[1], Honda G.[2], Ohki K.[2], Nagaishi T.[2]

[1]Toyo Kohan Co.,Ltd. - Japan, [2]Sumitomo Electric Industries Ltd. - Japan

1P-WT3-05

Effect of Gadolinium substitutions in $La_2Zr_2O_7$ films grown on textured NiW5% substrate by chemical solution deposition

Muguerra H.[1], Soubeyroux J.L.[1]

[1]CNRS/Institut Néel - France

1P-WT3-06

Ni9.5W alloy as substrates for coated conductors using the RABiTS approach

Gaitzsch U.[1], Rodig C.[2], Freudenberger J.[1], Haenisch J.[1], Huhne R.[1], Holzapfel B.[1], Schultz L.[1]

[1]IFW Dresden - Germany, [2]Institute for Solid State and Materials Research Dresden - Germany

1P-WT3-07

Structural inhomogeneities in (RE)BCO layer

Skarba M.[1], Pekarcikova M.[1], Konopka P.[1], Janovec J.[1]

[1]Slovak University of Technology in Bratislava - Slovakia

1P-WT3-08

Development of the paramagnetic RABiTS tapes for coated conductors

Vorobieva A.[1], Abdyukhanov I.[1], *Rakov D.*[1], Samusevich V.[1], Nikolaev A.[1], Borisov A.[1], Belotelova Y.[1], Drobyshev V.[1], Potapenko M.[1], Golovchanov E.[1], Kryukova L.[1], Polikarpova M.[1], Pantsyrny V.[1], Shikov A.[2], Shavkin S.[2], Gur`ev V.[2]

[1]Bochvar Institute of Inorganic Materials (VNIINM) - Russian Federation, [2]National Research Centre "Kurchatov Institute" - Russian Federation

1P-WT3-09

Microwave Characterization of Normal and Superconducting States of MOCVD Made YBCO Tapes; Development of a Quality Control Tool

Wosik J.[1], Krupka J.[2], Ketharnath D.[1], Galstyan E.[3], Selvamanickam V.[3]

[1]Electrical and Computer Dept. and Texas Ctr. for Superconductivity, University of Houston - United States, [2]Dept. of Electronic and Information Technology, Warsaw University of Technology - Poland, [3]Mechanical Eng. Dept. and Texas Ctr. for Superconductivity, University of Houston - United

States

1P-WT3-10

Superconductivity and microstructural properties of YBCO thin films rapidly prepared by polyethylene glycol assisted TFA-MOD method

Feng F.[1], Wu W.[1], Shi K.[1], Huang R.[1], Qu T.[1], Xiao S.[1], Wang X.[1], Han Z.[2]

[1]Tsinghua University - China, [2]Applied Superconductivity Research Center, Tsinghua Uni. Beijing - China

1P-WT3-11

Operation and experience of a 2 km coated conductor REEL-to-REEL copper pulse plating facility

Floegel-Delor U.[1], Riedel T.[1], Rothfeld R.[1], Schirrmeister P.[1], Wippich D.[1], Goebel B.[1], Werfel F.[1], Usoskin A.[2], Rutt A.[2]

[1]Adelwitz Technologiezentrum GmbH (ATZ) - Germany, [2]Bruker HTS GmbH - Germany

1P-WT3-12

Effects of YSZ Buffer Layer Surface Morphology on Superconducting Performance of YBCO films Deposited by Pulsed Laser Deposition on NiW Tapes

Xiao G.[1], Liu L.[1], Xu D.[1], Zhu P.[1], Wang Y.[2], Wu X.[1], Luo Q.[1], Li Y.[2]

[1]Department of Physics, Shanghai Jiao Tong University - China, [2]Shanghai Jiao Tong University - China

1P-WT3-13

Study of crystal orientation in (RE)BCO-based HTS tapes

Pekarcikova M.[1], Skarba M.[1], Konopka P.[1], Janovec J.[1]

[1]Slovak University of Technology in Bratislava - Slovakia

1P-WT3-14

Effects of Laser Repetition Rate on the Structural and Superconducting Properties of YBCO films Deposited by PLD on NiW Tapes

Liu L.[1], Xiao G.[2], Wang Y.[2], Xu D.[2], Li Y.[2]

[1]Department of Physics, Shanghai Jiao Tong University - China, [2]Shanghai Jiao Tong University - China

1P-WT3-15

Pulsed laser deposition of thick $BaZrO_3$ and $BaHfO_3$ doped $YBa_2Cu_3O_{7-d}$ films on highly alloyed textured Ni-W tapes

Sieger M.[1], Haenisch J.[1], Reich E.[1], Gaitzsch U.[1], Rodig C.[2], Knoth K.[3], Schultz L.[1], Holzapfel B.[1], Huhne R.[1]

[1]IFW Dresden - Germany, [2]Institute for Solid State and Materials Research Dresden - Germany, [3]evico GmbH, Dresden - Germany

1P-WT3-16

The role of Pd over layer thickness on PLD YBCO coated conductor properties

Mancini A.[1], Rizzo F.[1], Fabbri F.[1], Vannozzi A.[1], Rufoloni A.[1], Augieri A.[1], Angrisani Armenio A.[1], Galluzzi V.[1], Celentano G.[1]
[1]ENEA - Italy

1P-WT3-17
Investigation of mechanical properties of (RE)BCO base coated conductors
Konopka P.[1], Čaplovič L.[1], Skarba M.[1], Pekarcikova M.[1], Solovyov M.[2], Janovec J.[1]
[1]Slovak University of Technology in Bratislava - Slovakia, [2]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

1P-WT3-18
Critical current and microwave properties of YBCO films deposited on different metallic templates
Celentano G.[1], Angrisani Armenio A.[1], Augieri A.[1], Fabbri F.[1], Mancini A.[1], *Rizzo F.*[1], Rufoloni A.[1], Vannozzi A.[1], Bemporad E.[2], Pompeo N.[2], Torokhtii K.[2], Sotgiu G.[2], Silva E.[2]
[1]ENEA - Italy, [2]Dipartimento di Ingegneria, Università Roma Tre - Italy

PARALLEL ORAL SESSIONS 1A

1A-EL: Junctions and Squids - in memory of Antonio Barone
Monday, September 16 @ 16:15 in Room Libeccio
Chair: *Thomas Ortlepp, Giovanni Piero Pepe*

16:15 1A-EL-I1
High sensitivity niobium nano-SQUIDs for nanoscience investigations
Granata C.[1], Russo R.[1], Esposito E.[1], Vettoliere A.[1], Peddis D.[2], Musinu A.[3], Fretto M.[4], Enrico E.[4], De Leo N.[4]
[1]Istituto di Cibernetica "E. Caianiello" del Consiglio Nazionale delle Ricerche - Italy, [2]Istituto di Struttura della Materia del CNR, Monterotondo Scalo, Roma - Italy, [3]Università di Cagliari-Dipartimento Scienze Fisiche - Italy, [4]Istituto Nazionale di Ricerca Metrologica, Torino - Italy

16:45 1A-EL-O1
Grain boundary engineering with gold nanoparticles
Schmidl F.[1], Katzer C.[2], Michalowski P.[2], Koch S.[2], Tympel V.[2]
[1]Institute of Solid State Physics - Germany, [2]Friedrich-Schiller-University Jena - Germany

17:00 1A-EL-O2
SNS-like Josephson junction series arrays for AC quantum voltage standards
Kohlmann J.[1], Scheller T.[1], Kieler O.[1], Muller F.[1], Wendisch R.[1], Egeling B.[1], Palafox L.[1], Behr R.[1]
[1]PTB - Germany

17:15 1A-EL-O3

Ramp-edge junctions between superconducting electron-doped Nd_2CuO_4 and hole-doped $La_{1.85}Sr_{0.15}CuO_4$

Hoek M.[1], Coneri F.[1], Leusink D.[1], Eerkes P.[1], Hilgenkamp H.[2]
[1]MESA+ and University of Twente - Netherlands, [2]MESA+ and University of Twente and Leiden University - Netherlands

17:30 1A-EL-O4

Bose-Einstein Condensation in Josephson Junctions Arrays: Experimental Results

Ottaviani I.[1], Lucci M.[1], Merlo V.[1], Cirillo M.[2], Menditto R.[3], Lorenzo M.[1]
[1]Dipartimento di Fisica, Università Tor Vergata - Italy, [2]Dipartimento di Fisica, Università Tor Vergata & CNR-SPIN - Italy, [3]Physics Department, Tubingen University - Germany

17:45 1A-EL-O5

Influence of d-wave pairing on electrical properties of d_0-d_0 submicron Y-Ba-Cu-O bicrystal grain boundary junctions

Sarnelli E.[1], Adamo M.[2], De Nicola S.[3], Cibella S.[4], Leoni R.[4], Nappi C.[1]
[1]CNR-ICIB, CNR-SPIN - Italy, [2]Istituto di Cibernetica "E. Caianiello" del Consiglio Nazionale delle Ricerche - Italy, [3]CNR-INO - Italy, [4]Istituto di Fotonica e Nanotecnologie, CNR - Italy

18:00 1A-EL-O6

Graphoepitaxial high-T_c SQUIDs

Faley M.[1], Meertens D.[1], Poppe U.[2], Dunin-Borkowski R.[1]
[1]PGI-5, FZJ - Germany, [2]Research Centre Jülich - Germany

18:15 1A-EL-O7

High critical Temperature Superconductor nanodevices:Quantum tools for basic research and ultrasensitive magnetic flux detectors

Nawaz S.[1], Arpaia R.[1], *Arzeo M.*[1], Lombardi F.[1], Bauch T.[1]
[1]Chalmers University of Technology - Sweden

1A-LS: Electrical Power Grid I

Monday, September 16 @ 16:15 in Room Scirocco
Chair: *Xavier Granados, Pascal Tixador*

16:15 1A-LS-I1

SFCL for power grid

Hobl A.[1], Elschner S.[2], Bock J.[3]
[1]Nexans SuperConductors - Germany, [2]Hochschule Mannheim - Germany, [3]Nexans SuperConductors GmbH - Germany

16:45 1A-LS-O1

The first Italian Superconducting Fault Current Limiter: Results of the field testing experience after one year operation

Martini L.[1], Bocchi M.[1], Ascade M.[1], Valzasina A.[1], Rossi V.[1], Ravetta C.[2], Angeli G.[1]
[1]Ricerca sul Sistema Energetico - RSE S.p.A. - Italy, [2]A2A Reti Elettriche S.p.A. - Italy

17:00 1A-LS-O2

Grid operation of a 220kV/300MVA superconductive fault current limiter

Xin Y.[1], Liu L.[2], Sun Y.[1], Cui J.[1], Hong H.[1], Zhu X.[2], Gao Y.[3], Gong W.[1], Xiong Z.[1]
[1]Innopower Superconductor Cable Co. - China, [2]Tianjin Electric Power Corporation - China, [3]Tianjin Machinery & Electric Industry Holding Group Company Co. - China

17:15 1A-LS-O3

Conduction cooling and fast recovery in MgB_2 based DC Resistive SFCL

Morandi A.[1], Brisigotti S.[2], Grasso G.[2], Marabotto R.[3]
[1]University of Bologna - Italy, [2]Columbus Superconductors S.p.A - Italy, [3]ASG Superconductors - Italy

17:30 1A-LS-O4

Strengthening future electricity grid of the Netherlands by integration of HTS transmission cables

Zuijderduin R.[1], Chevtchenko O.[1], Smit J.[1], Aanhaanen G.[2]
[1]Technical University of Delft - Netherlands, [2]TenneT - Netherlands

17:45 1A-LS-O5

Russian projects for hybrid energy transfer with liquid hydrogen and superconductivity

Vysotsky V.[1], Fetisov S.[1], Blagov E.[2], Firsov V.[3], Nosov A.[1], Bykovsky N.[1], Svalov G.[1], Kostyuk V.[4], Antyukhov I.[3]
[1]Russian Scientific R&D Cable Institute - Russian Federation, [2]Institute of Nanotechnology for Microelectronics, Russian Academy of Sciences - Russian Federation, [3]Moscow Aviation Institute - Technical University - Russian Federation, [4]Russian Academy of Science - Russian Federation

18:00 1A-LS-O6

Experimental setup of a superconducting power transmission cable for AC-loss investigations under controlled current distribution

Elschner S.[1], Douine B.[2], Demencik E.[3], Grilli F.[3], Goldacker W.[4], Kudymow A.[5], Vojenčiak M.[3], Zermeno V.[5], Stemmle M.[6], Noe M.[5]
[1]Hochschule Mannheim - Germany, [2]GREEN, University of Nancy, BP 239, F-54506 Vandoeuvre-les-Nancy - France, [3]Karlsruhe Institute of Technology - Germany, [4]Karlsruhe Institute of Technology, ITEP - Germany, [5]Karlsruher Institut für Technologie, Institut für Technische Physik - Germany, [6]Nexans Deutschland GmbH - Germany

18:15 1A-LS-O7

Characteristics of HTS cable system on real grid operation

Watanabe M.[1], Ohya M.[1], Yumura H.[1], Masuda T.[1], Nakamura N.[2], Ono R.[2], Yaguchi H.[2], Machida A.[2], Ichikawa H.[3], Mimura T.[3], Honjo S.[3], Hara T.[3]
[1]Sumitomo Electric Industries Ltd. - Japan, [2]Mayekawa MFG. Co.,Ltd. - Japan, [3]Tokyo Electric Power Company - Japan

1A-MA: Properties and Novel Materials
Monday, September 16 @ 16:15 in Room Maestrale
Chair: *Alberto Martinelli, Jeff Tallon*

16:15 1A-MA-O1
Physical properties of BiS_2-based layered superconductors
Mizuguchi Y.[1], Omachi A.[1], Miura O.[2], Takano Y.[3]
[1]Tokyo Metropolitan University - Japan, [2]Tokyo Met. Univ. - Japan, [3]NIMS - Japan

16:30 1A-MA-O2
Superconducting proximity effect in hybrid Al junctions with Bi_2Te_3 topological insulator barrier
Charpentier S.[1], Galletti L.[2], Ekström M.[1], Song Y.[1], Fulöp A.[1], Tafuri F.[2], Wang S.[1], Bauch T.[1], Lombardi F.[1]
[1]Chalmers University of Technology - Sweden, [2]Università degli studi di Napoli Federico II - Italy

16:45 1A-MA-O3
Magnetic energy concentration and transmission at distance with superconducting metamaterial hybrids
Prat-Camps J.[1], *Navau C.*[2], Sanchez A.[2]
[1]UAB - Spain, [2]Grup d'electromagnetisme, Departament de Física, Universitat Autonoma de Barcelona - Spain

17:00 1A-MA-O4
Controlling the anisotropic properties of MgB_2 by charge doping and band scattering
Rogacki K.[1], Oganisian K.[2], Zhigadlo N.D.[3], Karpinski J.A.[3]
[1]International Laboratory of High Magnetic Fields and Low Temperatures, 53-421 Wroclaw - Poland, [2]Institute of Low Temperature and Structure Research, Polish Academy of Sciences, 50-950 Wroclaw - Poland, [3]Laboratory for Solid State Physics, ETH Zürich, CH-8093 Zürich - Switzerland

17:15 1A-MA-O5
Detection and interpretation of the photoconductivity effect in mixed-phase BSCCO crystals
Truccato M.[1], Imbraguglio D.[2], Agostino A.[3], Cagliero S.[4], Pagliero A.[5], Motzkau H.[6], Rydh A.[6]
[1]Department of Physics, University of Study of Turin - Italy, [2]Istituto Nazionale di Ricerca Metrologica - Italy, [3]Department of Chemistry, University of Study of Turin - Italy, [4]University of Torino - Italy, [5]Physics Department, University of Study of Turin - Italy, [6]Stockholm University - Sweden

17:30 1A-MA-O6

Electric transport properties of superconducting FeSe thin films in magnetic field

Zaitsev A.[1], Schneider R.[1], Fuchs D.[1], Hott R.[1]
[1]Karlsruhe Institute of Technology - Germany

17:45 1A-MA-O7

Composition dependent strain sensitivity of critical temperature and - field in specially prepared binary Nb-Sn thin films

Mentink M.[1], Dietderich D.[1], Godeke A.[1], Hellman F.[2], Ten Kate H.[3]
[1]Lawrence Berkeley National Laboratory - United States, [2]UC Berkeley - United States, [3]University of Twente / CERN - Netherlands Antilles

18:00 1A-MA-O8

Transport and optical properties of epitaxial $Nd_{1.85}Ce_{0.15}CuO_4$ thin films

Guarino A.[1], Leo A.[1], Grimaldi G.[2], Pace S.[1], Parlato L.[3], De Lisio C.[3], Bonavolontà C.[3], Valentino M.[3], Pepe G.P.[4], Vecchione A.[2], Nigro A.[1]
[1]CNR-SPIN and Dipartimento di Fisica "E.R. Caianiello", Università degli Studi, Salerno - Italy, [2]CNR-SPIN, Salerno - Italy, [3]CNR-SPIN Napoli and Dipartimento di Fisica Università "Federico II" di Napoli - Italy, [4]CNR-SPIN and Department of Physical Science, Università Federico II, Napoli - Italy

18:15 1A-MA-O9

Design and testing of superconducting/ferromagnetic structures with dedicated magnetic properties

Gomöry F.[1], Solovyov M.[1], Souc J.[1], Vojenčiak M.[1]
[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

1A-WT: Coated Conductors I

Monday, September 16 @ 16:15 in Room Levante e Ponente
Chair: *Marco Bianchetti, Takanobu Kiss*

16:15 1A-WT-I1

Present Status and Future Prospects of R&D on Coated Conductors in Japan

Izumi T.[1], Shiohara Y.[1]
[1]SRL-ISTEC - Japan

16:45 1A-WT-O1

Solution Deposition Planarization for IBAD-MgO Textured Coated Conductors

Matias V.[1], Olson K.[1], Sheehan C.[1], Nothnagel E.[2], Bourget L.[2], Greer J.[2]
[1]iBeam Materials, Inc. - United States, [2]PVD Products, Inc. - United States

17:00 1A-WT-O2

High-rate pyrolysis and low-pressure crystallization of (YDy)BaCuO

films derived by modified metalorganic deposition

Cai C.[1], Liu Z.Y.[2], Guo Y.[1], Bai C.[1]

[1]Research Center for Superconductors and Applied Technologies, Shanghai University - China, [2]Shanghai University - China

17:15 1A-WT-O3

MgO-based buffer layer architecture for low cost coated conductor manufacturing process on cube textured metallic substrates

Celentano G.[1], Angrisani Armenio A.[1], Augieri A.[1], Fabbri F.[1], Mancini A.[1], Rizzo F.[1], Rufoloni A.[1], Vannozzi A.[1]

[1]ENEA - Italy

17:30 1A-WT-O4

Inkjet printing of multifilamentary YBCO for low AC loss coated conductors

Hopkins S.C.[1], Joseph D.[2], Mitchell-Williams T.B.[2], Calleja A.[3], Vlad V.R.[3], Vilardell M.[3], Ricart S.[4], Granados X.[4], Puig T.[4], Obradors X.[4], Usoskin A.[5], Glowacki B.A.[2]

[1]Applied Superconductivity and Cryoscience Group, Dept Materials Sc., Cambridge Univ. - United Kingdom, [2]Department of Material Science and Metallurgy, University of Cambridge - United Kingdom, [3]OXOLUTIA SL, Edif. Eureka, Parc de Recerca de la UAB, Campus de la UAB - Spain, [4]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain, [5]Bruker HTS GmbH - Germany

17:45 1A-WT-O5

Inkjet printing multi-deposition of YBCO for ABAD-textured high thickness CCs

Vlad V.R.[1], Calleja A.[2], Vilardell M.[1], Palmer X.[2], Aklalouch M.[1], Ortigosa R.[1], Bartolomé E.[3], Palau A.[2], Granados X.[2], Ricart S.[2], Obradors X.[2], Puig T.[2], Usoskin A.[4]

[1]OXOLUTIA SL, Edif. Eureka, Parc de Recerca de la UAB, Campus de la UAB - Spain, [2]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain, [3]Escola Universitària Salesiana de Sarrià, Passeig Sant Joan Bosco, 74, 08011, Barcelona - Spain, [4]Bruker HTS GmbH - Germany

18:00 1A-WT-O6

On the use of copper-based substrates for YBCO coated conductors

Vannozzi A.[1], Angrisani Armenio A.[1], Augieri A.[1], Fabbri F.[1], Mancini A.[1], Rizzo F.[1], Rufoloni A.[1], Celentano G.[1], Padilla J.A.[2], Xuriguera E.[3]

[1]ENEA - Italy, [2]Department of Materials Science and Metallurgical Engineering, Universitat de Barcelona - Spain, [3]Department of Materials Science and Metallurgical Engineering, Universitat de Barcelona and La Farga - Spain

18:15 1A-WT-O7

Highly alloyed cube textured NiW tapes in long lengths as low ac-loss substrates for high Ic coated conductors

Knoth K.[1], de Haas O.[1], Brunkahl O.[2], Baecker M.[2]

[1]evico GmbH, Dresden - Germany, [2]Deutsche Nanoschicht GmbH, Heisenbergs. 16,53359 Rheinbach - Germany

PLENARY SESSION 2

2PL: Plenary Session II
Tuesday, September 17 @ 08:30 in Room Maestrale
Chair: *Gianni Grasso (2PL01), Ruggero Vaglio (2PL02)*

08:30 2PL01
High current superconductors: overcoming the materials challenges to achieve power applications
Obradors X.[1]
[1]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain

09:15 2PL02
Impact of Superconducting Devices on Imaging in Neuroscience
Romani G.L.[1]
[1]Università degli Studi di Chieti - Italy

PARALLEL ORAL SESSIONS 2M

2M-EL: Digital and Quantum Circuits and Systems
Tuesday, September 17 @ 10:30 in Room Libeccio
Chair: *Roberto Cristiano, Noboyuki Yoshikawa*

10:30 2M-EL-I1
Demonstration of a 1000-fold voltage multiplier using double-flux-quantum generation
Mizugaki Y.[1], Sato Y.[1], Shimada H.[1], Maezawa M.[2]
[1]UEC Tokyo - Japan, [2]AIST - Japan

11:00 2M-EL-O1
Design and Test of Asynchronous eSFQ Circuits
Vernik I.[1], Kaplan S.[1], Volkmann M.[2], Dotsenko A.[1], Fourie C.[2], *Mukhanov O.*[1]
[1]HYPRES, Inc., Elmsford, NY 10523 - United States, [2]Department of Electrical and Electronic Engineering, University of Stellenbosch - South Africa

11:15 2M-EL-O2
Full-gate verification of SFQ circuit layouts with InductEx
Fourie C.[1], Volkmann M.[1]
[1]Department of Electrical and Electronic Engineering, University of Stellenbosch - South Africa

11:30 2M-EL-O3

Purely reversible quantum-flux-parametron logic

Takeuchi N.[1], Yamanashi Y.[1], Yoshikawa N.[1]
[1]Yokohama National University - Japan

11:45 2M-EL-O4

Microampere Gray Zone Width with Enlarged Operating Margin in Quasi-One-Junction SQUID Comparators

Miyajima S.[1], Fujimaki A.[1], Ortlepp T.[2], Toepfer H.[2], *Tanaka M.*[1]
[1]Department of Quantum Engineering, Nagoya University - Japan, [2]Ilmenau University of Technology - Germany

12:00 2M-EL-O5

Quasiparticle mediated population inversion and enhanced charge sensitivity in a strongly driven Cooper-pair box

de Graaf S.[1], Leppäkangas J.[1], Adamyan A.[1], Danilov A.[1], Lindström T.[2], Fogelström M.[1], Bauch T.[1], Johansson G.[1], Kubatkin S.[1]
[1]Chalmers University of Technology - Sweden, [2]National Physical Laboratory - United Kingdom

12:15 2M-EL-O6

Observation of 65GHz coherent oscillation in a superconducting flux qubit manipulated by pulses

Chiarello F.[1], Castellano M.G.[1], Cosmelli C.[2], Torrioli G.[1]
[1]Istituto di Fotonica e Nanotecnologie, CNR - Italy, [2]Physics Dept., Univ. Roma "La Sapienza" - Italy

12:30 2M-EL-O7

Vibration Isolated Subwatt GM Refrigerator System Customized for Large-Scale Superconducting Electronics Chip

Ishida T.[1], Narukami Y.[1], Yoshioka N.[1], Fujimaki A.[2]
[1]Osaka Prefecture University - Japan, [2]Department of Quantum Engineering, Nagoya University - Japan

2M-LS: Electrical Power Grid II

Tuesday, September 17 @ 10:30 in Room Scirocco
Chair: *Luciano Martini, Antonio Morandi*

10:30 2M-LS-O1

Temperature and background field dependence of a compact MgB_2 solenoid coil

Young E.[1], Falorio I.[1], Beduz C.[1], Yang Y.[1]
[1]University of Southampton - United Kingdom

10:45 2M-LS-O2

Commissioning testing of a 1 MVA superconducting transformer featuring 2G HTS Roebel cable.

Glasson N.[1], Staines M.[1], Allpress N.[1]

[1]Callaghan Innovation - New Zealand

11:00 2M-LS-O3

Testing of a High Temperature Superconducting Hydroelectric Generator

Lewis C.[1], Mupambireyi U.[1], Eugene J.[1], Swaffield D.[1], Ingles M.[1], Peach D.[1], Rao M.[1]

[1]GE Power Conversion - United Kingdom

11:15 2M-LS-O4

Synchronous HTS Motor based on Trapped Magnetic Flux in Magnetized YBCO Tape Stacks.

Granados X.[1], Lopez J.[2], Maynou R.[2], Obradors X.[3]

[1]Institute of Materials Science of Barcelona-CSIC - Spain, [2]UPC - Barcelona Tech - Spain, [3]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain

11:30 2M-LS-O5

Superconducting light generator for large offshore wind turbines

Apiñániz S.[1], Arlaban T.[2], Manzanas R.[3], Tropeano M.[4], Funke R.[5], Kováč P.[6], Yang Y.[7], Neuman H.[8], Duluc X.[9], *Sanz S.*[1]

[1]Fundacion Tecnalia Research & Innovation - Spain, [2]Acciona WindPower - Spain, [3]Acciona Energía - Spain, [4]Columbus Superconductors S.p.A - Italy, [5]Oerlikon-Leybold Vacuum - Germany, [6]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia, [7]University of Southampton - United Kingdom, [8]Karlsruher Institut für Technologie - Germany, [9]D2M Engineering - France

11:45 2M-LS-O6

Superconducting HighTorquemotor SuTor

Reis T.[1], Oswald B.[1], Oswald J.[1], de Waele A.T.A.M.[1], Maier T.[1], Berberich E.[1], Kowalski T.[2], Teigelkötter J.[2]

[1]Oswald GmbH - Germany, [2]University of applied sciences Aschaffenburg - Germany

12:00 2M-LS-O7

Electromagnetic Gearboxes and Converters Using Homopolar Machine Technology

Kells J.[1], Guina A.[1], Matsekh A.[1], *Fuger R.*[1], Sercombe D.[1], Labes K.[1], Lissington T.[1]

[1]GUINA Research & Development Pty Ltd - Australia

12:15 2M-LS-O8

Development and test for a prototype 2 kW synchronous generator with HTS armature windings

Qu T.[1], Gu C.[2], Song P.[2], Yu X.[1], Han Z.[2]

[1]Department of Mechanical Engineering, Tsinghua University - China, [2]Applied Superconductivity Research Center, Tsinghua Uni. Beijing - China

12:30 2M-LS-O9

An all superconducting flux pumped machine

Coombs T.[1], Baghdadi M.[2], Spaven F.[2], Matsuda K.[3]

[1]EPEC Superconductivity Group, Cambridge University Engineering Department - United Kingdom, [2]Cambridge University - United Kingdom, [3]Magnifye Ltd - United Kingdom

2M-MA: HTS - Bulk

Tuesday, September 17 @ 10:30 in Room Maestrale

Chair: *David Cardwell, Ludwig Schultz*

10:30 2M-MA-O1

Overdoped Cuprates with High-Temperature Superconducting Transitions

Marezio M.[1], Chmaissem O.[2], Bougerol C.[3], Karppinen M.[4], Yamauchi H.[4], Geballe T.H.[5]

[1]CRETA/CNRS - France, [2]NIU/ANL - United States, [3]CNRS/CEA - France, [4]Aalto University - Finland, [5]Stanford University - United States

10:45 2M-MA-O2

Chemically-induced structural modulation in whiskers based THz devices

Agostino A.[1], Bonometti E.[1], Pascale L.[1], Gervasio G.[1], Operti L.[1], Truccato M.[2], Pagliero A.[3]

[1]Department of Chemistry, University of Study of Turin - Italy, [2]Department of Physics, University of Study of Turin - Italy, [3]Physics Department, University of Study of Turin - Italy

11:00 2M-MA-O3

The role of polarisability in understanding, designing and optimising HTS Superconductors

Tallon J.[1], Mallett B.[1], Chong S.[1]

[1]Callaghan Innovation - New Zealand

11:15 2M-MA-O4

High Field Performance of GdBaCuO Bulk Superconductors

Durrell J.[1], Shi Y.[2], Dennis A.[2], Ainslie M.D.[2], Cardwell D.A.[2]

[1]University of Cambridge - United Kingdom, [2]Department of Engineering, University of Cambridge - United Kingdom

11:30 2M-MA-O5

Flux pinning properties of Gd-Ba-Cu-O grains processed by modified top-seeded melt growth

Zhou D.[1], Hara S.[1], Noudem J.[2], Izumi M.[1]

[1]Tokyo University of Marine Science and Technology - Japan, [2]CRISMAT - France

11:45 2M-MA-O6

Grain boundaries in multi-seeded YBCO single grains

Shi Y.[1], Durrell J.[1], Dennis A.[1], Cardwell D.A.[1]
[1]Department of Engineering, University of Cambridge - United Kingdom

12:00 2M-MA-O7

The continuous growth of large size SmBCO bulk by accelerated cooling rate

Peng B.[1], Cheng L.[1], Zhuang Y.[1], Xu H.[2], *Yao X.*[1]
[1]Department of Physics, Shanghai Jiao Tong University - China, [2]Department of Physics - China

12:15 2M-MA-O8

Photostimulated Solid State Synthesis of High-Temperature Superconductors

Shengelaya A.[1], Daraselia D.[2], Japaridze D.[2], Jibuti Z.[2], Muller A.[3]
[1]Department of Physics, Tbilisi State University - Georgia, [2]Tbilisi State University - Georgia, [3]Physik-Institut der Universitat Zurich, 8057 Zurich - Switzerland

12:30 2M-MA-O9

Superconducting properties of $(Bi,Pb)_2Sr_2Ca_2Cu_3O_{10+y}$ prepared by spark plasma sintering

Govea-Alcaide E.[1], Machado I.[2], Vicente N.[2], *Jardim R.*[3]
[1]Departamento de Ciencias Básicas, Universidad de Granma, Cuba - Cuba, [2]Departamento de Engenharia Mecatronica e Sistemas Mecanicos, Universidade de Sao Paulo, Brazil - Brazil, [3]Instituto de Física, Universidade de Sao Paulo - Brazil

2M-WT: Coated Conductors II

Tuesday, September 17 @ 10:30 in Room Levante e Ponente

Chair: *Giuseppe Celentano, Wilfried Goldacker*

10:30 2M-WT-O1

All-Solution Coated Conductors for Energy Applications

Baecker M.[1], Falter M.[1], Wojtyniak B.[1], Brunkahl O.[1], Mosiadz M.[1], Feenstra R.[1]
[1]Deutsche Nanoschicht GmbH, Heisenbergs. 16,53359 Rheinbach - Germany

10:45 2M-WT-O2

Development of Low-Cost 2G HTS Coated Conductors at STI

Huh J.[1], Cao J.[1], Qiu X.[1], Chase J.[1], Turner P.[1], Murphy B.[1], Rodriguez J.[1], Gliantsev V.[1], Pfeiffer K.[1]
[1]STI - United States

11:00 2M-WT-O3

Optimisation of composite superconducting bulks made from (RE)BCO coated conductor stacks for high field permanent magnets

Patel A.[1], Hopkins S.C.[1], Glowacki B.A.[2]
[1]Applied Superconductivity and Cryoscience Group, Dept Materials Sc., Cambridge Univ. - United Kingdom, [2]Department of Material Science and

Metallurgy, University of Cambridge - United Kingdom

11:15 2M-WT-O4

Multi-Beam Pulsed-Laser-Deposition processing of large area HTS coated conductors

Usoskin A.[1], Rutt A.[1], Bubelis T.[1], Kirchhoff L.[1], Dietrich R.[1]
[1]Bruker HTS GmbH - Germany

11:30 2M-WT-O5

Status of AMSC Amperium® 2G Wire

DeMoranville K.[1], *Fleshler S.*[1], Li X.[1], Podtburg E.[1], Rupich M.[1], Sathyamurthy S.[1], Thieme C.[1], Tucker D.[1], Gannon J.J.[1]
[1]AMSC - United States

11:45 2M-WT-O6

Development and Production of Second Generation High T_c Superconducting Tapes in SuperOx and First Tests of Model Devices

Lee S.[1], Petrykin V.[2], Samoilenkov S.[3], Kaul A.[3], Vavilov A.[3], Vysotsky V.[4], Fetisov S.[4]
[1]SuperOx LLC - Japan, [2]SuperOx - Japan, [3]SuperOx - Russian Federation, [4]Russian Cable R&D Institute (VNIIKP) - Russian Federation

12:00 2M-WT-O7

Fabrication of long REBCO coated conductors with high superconducting critical current performance by pulsed laser deposition process

Li Y.[1], Liu L.[2], Xiao G.[1]
[1]Shanghai Jiao Tong University - China, [2]Department of Physics, Shanghai Jiao Tong University - China

12:15 2M-WT-O8

2G HTS Wire for Demanding Applications and Continuous Improvement Plans

Hazelton D.[1], Zhang Y.[1], Fukushima T.[1], McClure R.[1], Knoll A.[1], Sakamoto H.[1]
[1]SuperPower, Inc. - United States

12:30 2M-WT-O9

Development of 2G-HTS Roebel cable winding technology and manufacture and test of a small racetrack test coil

Nick W.[1], Oomen M.[2]
[1]Siemens AG, CT RTC ENC - Germany, [2]Siemens AG, CT RTC ENC SUC-DE - Germany

POSTER SESSIONS 2P

2P-EL1: Biomedical Squid Applications

Tuesday, September 17 @ 14:15 in Poster Area

2P-EL1-01

Highly sensitive AC magnetometer made of cooled pickup coil for use in magnetic nanoparticle imaging

Enpuku K.[1], Haku S.[1], Morishige T.[1], Miyazaki T.[1], Matsuo M.[1], Yoshida T.[1]

[1]Kyushu University - Japan

2P-EL1-02

Multi-channel SQUID system for ultra-low field MRI in urban unshielded environment

Liu C.[1], Dong H.[1], Qiu L.[1], Chang B.[1], Zhang Y.[2], Krause H.J.[2], Offenhäusser A.[2], Xie X.[1]

[1]State Key Laboratory of Functional Materials for Informatics, SIMIT - China, [2]Peter Grünberg Institute (PGI-8), Forschungszentrum Jülich (FZJ), Jülich - Germany

2P-EL1-03

High-T_c SQUID detected ultra-low field NMR and MRI

Liao S.H.[1], Chen H.H.[1], Deng Y.S.[1], Wang M.W.[1], Chen K.L.[2], Liu C.W.[3], Liu C.I.[3], Yang H.C.[2], Horng H.E.[1], Chieh J.J.[4]

[1]National Taiwan Normal University - Taiwan, [2]Kun Shan University - Taiwan, [3]National Taiwan University - Taiwan, [4]National Taiwan Normal University Hospital - Taiwan

2P-EL1-04

SQUID Applications in the In Vivo Imaging of Magnetic Nanoparticles on Animal Torso

Chieh J.J.[1], Huang K.W.[2], Horng H.E.[3], Yang S.Y.[4], Yang H.C.[5], Hong C.Y.[6]

[1]National Taiwan Normal University Hospital - Taiwan, [2]National Taiwan University Hospital - Taiwan, [3]National Taiwan Normal University - Taiwan, [4]MagQu Corp. - Taiwan, [5]Kun Shan University - Taiwan, [6]Graduate Institute of Biomedical Engineering, National Chung Hsing University - Taiwan

2P-EL1-05

SQUID Applications in Metabolism and Toxicity Study of Magnetic Nano-particles in animals

Horng H.E.[1], Chieh J.J.[2], Tseng W.K.[3], Wu C.C.[4], Yang S.Y.[5], Yang H.C.[6], Hong C.Y.[7]

[1]National Taiwan Normal University - Taiwan, [2]National Taiwan Normal University Hospital - Taiwan, [3]E-Da Hospital - Taiwan, [4]Departments of Internal Medicine and Primary Care Medicine, College of Medicine, National Taiwan Uni - Taiwan, [5]MagQu Corp. - Taiwan, [6]Kun Shan University - Taiwan, [7]Graduate Institute of Biomedical Engineering, National Chung Hsing University - Taiwan

2P-EL1-06

Ultra-low-field Nuclear magnetic resonance and magnetic

resonance imaging by using high-T_c SQUID

Yang H.C.[1], Liao S.H.[2], Liu C.W.[3], Chen H.H.[2], Horng H.E.[2], Chieh J.J.[4]
[1]Kun Shan University - Taiwan, [2]National Taiwan Normal University - Taiwan, [3]National Taiwan University - Taiwan, [4]National Taiwan Normal University Hospital - Taiwan

2P-EL1-07

A SQUID gradiometer module with large junction shunt resistors

Qiu Y.[1], Zhang G.[1], Liu C.[1], Zhang S.[1], Li H.[1], Wang Y.[1], Xu X.[1], Zhang C.[1], Kong X.[1], Zhang Y.[2], Xie X.[1]
[1]State Key Laboratory of Functional Materials for Informatics, SIMIT - China, [2]Peter Grünberg Institute (PGI-8), Forschungszentrum Jülich (FZJ), Jülich - Germany

2P-EL1-08

MCG Measurement in unshielded environment using a SQUID bootstrap circuit gradiometer

Zhang S.[1], Li H.[1], Qiu Y.[1], Zhang G.[1], Wang Y.[1], Kong X.[1]
[1]State Key Laboratory of Functional Materials for Informatics, SIMIT - China

2P-EL1-09

High-T_c dc-SQUID based ULF-NMR and T1-Contrast Imaging

Jin Y.[1], Deng H.[1], Wang N.[1], Jiang F.[1], Tian Y.[1], Chen G.[1], Li J.[1], Gao M.[2], *Zheng D.*[3]
[1]Institute of Physics, Chinese Academy of Sciences - China, [2]Institute of Chemistry, Chinese Academy of Sciences - China, [3]Institute of Physics, CAS - China

2P-EL1-10

A movable SQUID-based nuclear magnetic resonance system to discriminate rat's liver tumor in magnetically unshielded environment

Chen H.H.[1], Yang H.C.[2], Horng H.E.[1], Liao S.H.[1], Yang S.Y.[3], Huang K.W.[4], Wang L.M.[5]
[1]National Taiwan Normal University - Taiwan, [2]Kun Shan University - Taiwan, [3]MagQu Corp. - Taiwan, [4]National Taiwan University Hospital - Taiwan, [5]National Taiwan University - Taiwan

2P-EL1-11

Application of superconducting pre-polarization coils in μT-NMR

Hwang S.M.[1], Yu K.K.[1], Lee S.J.[1], Kang C.S.[1], Lee Y.H.[1], Kim K.[1]
[1]Korea Research Institute for Standards and Science - Republic of Korea

2P-EL1-12

Ultra-low-noise magnet amplifier for ultra-low-field MRI sequences

Zevenhoven K.C.J.[1], Alanko S.[1]
[1]Aalto University BECS - Finland

2P-EL1-13

A simplified spinal cord phantom for the evaluation of the SQUID

magnetospinography

Adachi Y.[1], Oyama D.[1], Somchai N.[2], Kawabata S.[3], Uehara G.[1]
[1]Kanazawa Institute of Technology - Japan, [2]Osaka University - Japan, [3]Tokyo Medical and Dental University - Japan

2P-EL1-14

High-temperature superconductivity sensor of magnetic field for biomedical applications

Ichkitidze L.[1]
[1]National Research University "MIET" Biomedical Systems dep., MIET, pas. 4806, bld. 5, Zelenograd - Russian Federation

2P-EL1-15

Investigation of Magnetic Interference Induced via Gradient Field Coils for Ultra-Low Field MRI Systems

Oyama D.[1], Hatta J.[2], Miyamoto M.[1], Adachi Y.[1], Higuchi M.[1], Kawai J.[1], Fujihira J.I.[3], Tsuyuguchi N.[4], Uehara G.[1]
[1]Kanazawa Institute of Technology - Japan, [2]Toyohashi University of Technology - Japan, [3]FEDLIC - Japan, [4]Osaka City University - Japan

2P-EL1-16

Sensitivity improvement of high-T_c SQUID-based ultra-low field nuclear magnetic resonance system by 2cm x 2cm flip-chip wash-type SQUID magnetometer and planar superconducting flux transformer

Chen K.L.[1], Chen T.Y.[2], Chen H.H.[2], Liao S.H.[2], Wang L.M.[3], Horng H.E.[2], Yang H.C.[1]
[1]Kun Shan University - Taiwan, [2]National Taiwan Normal University - Taiwan, [3]National Taiwan University - Taiwan

2P-EL1-17

High-temperature superconductivity magnetic field transformer with micro- and nano-sized branches

Ichkitidze L.[1]
[1]National Research University "MIET" Biomedical Systems dep., MIET, pas. 4806, bld. 5, Zelenograd - Russian Federation

2P-EL2: Digital and Quantum Circuits and Systems

Tuesday, September 17 @ 14:15 in Poster Area
Chair: *Oleg Mukhanov*

2P-EL2-01

Integrated Quantum Voltage Noise Source for Johnson Noise Thermometry

Maezawa M.[1], Yamada T.[2], Urano C.[3]
[1]AIST - Japan, [2]NERI/AIST - Japan, [3]NMIJ/AIST - Japan

2P-EL2-02

A Method to Provide Bias Current for Large-Scale SFQ Circuitsusing Locally Isolated Ground Planes

Peng X.[1], Suzuki H.[2], Yamanashi Y.[1], Yoshikawa N.[1]

[1]Yokohama National University - Japan, [2]International superconductivity technology center (ISTEC) - Japan

2P-EL2-03

Study on the vortex exclusion to the moat in superconducting films by numerical analysis

Inoue M.[1], Mizoguchi S.[1], Fujimaki A.[1]

[1]Department of Quantum Engineering, Nagoya University - Japan

2P-EL2-04

Design of Low-Voltage RSFQ Microprocessor Prototypes

Tanaka M.[1], Hayakawa Y.[1], Takata K.[1], Fujimaki A.[1]

[1]Department of Quantum Engineering, Nagoya University - Japan

2P-EL2-05

Improving the Square-Kilometre Array with Superconductor Electronics

Volkmann M.[1], Fourie C.[1], de Villiers D.[1], Davidson D.[1], Perold W.[1], Ortlepp T.[2]

[1]Department of Electrical and Electronic Engineering, University of Stellenbosch - South Africa, [2]CiS Research Institute - Germany

2P-EL2-06

Operation of RSFQ circuits with microwave signal injection

Collot R.[1], Febvre P.[1], Robert T.[2], Kunert J.[3], Stolz R.[3], Meyer H.G.[3]

[1]University of Savoie - France, [2]Centre National d'Etudes Spatiales - France, [3]Institute of Photonic Technology - Germany

2P-EL2-07

Extraction of the Timing Parameters of RSFQ Cells for Potential New Generation Simulation Tools

Celik M.E.[1], Bozbey A.[1]

[1]TOBB ETU - Turkey

2P-EL2-08

Design of an RSFQ based Kogge-Stone adder by using custom optimized gates and wiring

Ozer M.[1], Bozbey A.[1], Tukel Y.[1], Celik M.E.[1]

[1]TOBB ETU - Turkey

2P-EL2-09

Fully Automated Measurement of RSFQ Logic Circuits Using LabVIEW

Cavlan E.[1], Tukel Y.[1], Bozbey A.[1], Miyajima S.[2], Fujimaki A.[2]

[1]TOBB ETU - Turkey, [2]Department of Quantum Engineering, Nagoya University - Japan

2P-EL2-10

Stripline Design of Passive Transmission Lines for RSFQ Circuits

Tukel Y.[1], Bozbey A.[1], Tunc C.A.[2]

[1]TOBB ETU - Turkey, [2]Ankara Research and Technology Laboratory (ARTLab) - Turkey

2P-EL2-11

Measurement of quality factor and dielectric loss in superconducting microwave resonator integrated with epitaxial NbN/AlN/NbN qubit circuit

Qiu W.[1], Terai H.[2], Wang Z.[2], Nakamura Y.[3]

[1]National Institute of Informat - Japan, [2]NICT - Japan, [3]The University of Tokyo - Japan

2P-EL2-12

Sub-Hz noise in superconducting microresonators

Lindström T.[1], Burnett J.[2], Wisby I.[2], Oxborrow M.[3], Meeson P.[4], Shaikhaidarov R.[4], Gurtovoi V.[5], Antonov V.[4], de Graaf S.[6], Danilov A.[6], Kubatkin S.[6], Harada Y.[7], Sekine Y.[7], Tzalenchuk A.Y.[1]

[1]National Physical Laboratory - United Kingdom, [2]National Physical Laboratory & Royal Holloway - United Kingdom, [3]Imperial College - United Kingdom, [4]Royal Holloway - United Kingdom, [5]IPMT-HPM - Russian Federation, [6]Chalmers University of Technology - Sweden, [7]NTT Basic Research - Japan

2P-EL2-13

Superconducting thin film micro-resonators for operation in strong magnetic and electric fields.

de Graaf S.[1], Danilov A.[1], Adamyan A.[1], Bauch T.[1], Kubatkin S.[1]

[1]Chalmers University of Technology - Sweden

2P-EL3: Detectors I

Tuesday, September 17 @ 14:15 in Poster Area

Chair: *Konstantin Ilin, Orlando Quaranta*

2P-EL3-01

Modeling the superconductor-based magnetic traps for ultra-cold atoms

Sokolovsky V.[1], Prigozhin L.[1], Dumke R.[2]

[1]Ben-Gurion University of the Negev - Israel, [2]Nanyang Technological University - Singapore

2P-EL3-02

Quantum Non-Locality vs. Quasi-Local Measurements in the Conditions of the Aharonov-Bohm Effect

Gulian A.[1]

[1]Chapman University - United States

2P-EL3-03

High Linearity Voltage Response Parallel-Array Cell

Kornev V.[1], *Kolotinskiy N.*[1], Skripka V.[1], Sharafiev A.[1], Soloviev I.[1], Mukhanov O.[2]

[1]Moscow State University - Russian Federation, [2]HYPRES, Inc., Elmsford, NY 10523 - United States

2P-EL3-04

Bi-SQUID Noise Characteristics

Sharafiev A.[1], Kornev V.[1], Soloviev I.[1], Mukhanov O.[2], *Kolotinskiy N.*[1]

[1]Moscow State University - Russian Federation, [2]HYPRES, Inc., Elmsford, NY 10523 - United States

2P-EL3-05

Superconducting nanowire single-photon detector base on the new optic cavity

Gu M.[1], Kang L.[1], Zhang L.[1], Jia X.[1], Tu X.[1], Jia T.[1], Yang X.[1], Zhao L.[1]

[1]Nanjing University - China

2P-EL3-06

Experimental Investigation of Hybrid Superconductor-Ferromagnet Multi-Terminal Devices

Prokopenko G.[1], *Nevirkovets I.*[2], Mukhanov O.[1], Chernyashevskyy O.[2], Ketterson J.[2]

[1]HYPRES, Inc., Elmsford, NY 10523 - United States, [2]Northwestern University, Department of Physics & Astronomy, Evanston IL 60201 - United States

2P-EL3-07

Transient dynamics in driven long Josephson junctions

Guarcello C.[1], Valenti D.[1], Spagnolo B.[1]

[1]Dipartimento di Fisica e Chimica, Università di Palermo e CNISM - Italy

2P-EL3-08

Mega-pixel Neutron Radiography with High Spatial Resolution by Current-Biased Kinetic Inductance Detectors of Nb with 10B Converter

Ishida T.[1], Yoshioka N.[1], Narukami Y.[1], Yagi I.[1], Kodama Y.[1], Shishido H.[1], Miyajima S.[2], Fujimaki A.[2]

[1]Osaka Prefecture University - Japan, [2]Department of Quantum Engineering, Nagoya University - Japan

2P-EL3-09

Detection of X-ray photons by Niobium Josephson tunnel junction with trapped Abrikosov vortices

Lisitskiy M.P.[1], Camerlingo C.[1]

[1]Istituto di Cibernetica "E. Caianiello" del Consiglio Nazionale delle Ricerche - Italy

2P-EL3-10

Cooling method dependence of current-voltage characteristics for

large sized intrinsic Josephson junctions in $Bi_2Sr_2CaCu_2O_{8+\delta}$

Kato T.[1], Nishikata T.[1], Kotaki Y.[1], Suematsu H.[1], Yasui K.[1], Kawakami A.[2]

[1]Nagaoka University of Tech - Japan, [2]NICT - Japan

2P-EL3-11

Theoretical Description of Novel Element for Josephson Spintronics

Bakurskiy S.[1], Klenov N.[2], Soloviev I.[1], Bol'ginov V.[3], Ryazanov V.[3], Vernik I.[4], Mukhanov O.[4], Kupriyanov M.[1], Golubov A.[5]

[1]SINP MSU - Russian Federation, [2]Faculty of Physics, MSU - Russian Federation, [3]Institute of Solid State Physics, RAS - Russian Federation, [4]HYPRES, Inc., Elmsford, NY 10523 - United States, [5]Faculty of Science and Technology and MESA+ Institute for Nanotechnology, University of Twente - Netherlands

2P-EL3-12

Vortex Flipping in Superconductor-Ferromagnet Spin Valve Structures

Patino E.[1], Aprili M.[2], Blamire M.[3], Maeno Y.[4]

[1]Universidad de los Andes - Colombia, [2]Université Paris-Sud - France, [3]University of Cambridge - United Kingdom, [4]Kyoto University - Japan

2P-EL3-13

Fabrication of Nanoscale Superconducting Single-photon Detectors

Gaudio R.[1], Sahin D.[1], Zhou Z.[1], Renema J.J.[2], de Dood M.J.A.[2], van Exter M.P.[2], Fiore A.[1]

[1]Eindhoven University of Technology - Netherlands, [2]University of Leiden, Leiden - Netherlands

2P-EL3-14

High-T_c micro and nano-constriction modelling: hot spot approach for DC characteristics and HEB THz mixer performance

Ladret R.[1], Kreisler A.[2], Degardin A.[1]

[1]UPMC Univ Paris 06 - France, [2]SUPELEC - LGEP - France

2P-EL3-15

"Spaghetti" Design for Gravitational Wave Superconducting Antenna

Gulian A.[1], Foreman J.[2], Nikoghosyan V.[1], Sica L.[1], Nussinov S.[3], Tollaksen J.[1]

[1]Chapman University - United States, [2]Foreman Associates - United States, [3]Tel-Aviv University - Israel

2P-EL3-16

Time-dependent Ginzburg-Landau simulation on the detection mechanism of superconducting strip photon/ion detectors

Mawatari Y.[1], Asai H.[1], Kashiwaya S.[1]

[1]AIST - Japan

2P-EL3-17

Bolometric Response of Superconducting YBCO Microbridges Coated with Amorphous YBCO Absorber Layer at NIR Region

Dikici O.[1], Avci I.[1]
[1]Ege University - Turkey

2P-EL3-18

Time-tagged multiplexing of SNSPDs for multi-pixel arrays

Hofherr M.[1], Toussaint J.[2], Arndt M.[3], Ilin K.[1], May T.[2], Meyer H.G.[4], Siegel M.[1]
[1]Karlsruhe Institute of Technology - Germany, [2]IPHT Jena - Germany, [3]Institut für Mikro- und Nanoelektronische Systeme, KIT - Germany, [4]Institute of Photonic Technology - Germany

2P-EL3-19

Johnson Noise Thermometry Measurement at the Triple Point Temperature of Water Using a Josephson Arbitrary Waveform Synthesizer

Yamada T.[1], Urano C.[2], Horie T.[3], Yamazawa K.[2], Yamamori H.[1], Kaneko N.[2], Fukuyama Y.[2], Maruyama M.[2], Domae A.[2], Tamba J.[2], Kiryu S.[3]
[1]NERI/AIST - Japan, [2]NMIJ/AIST - Japan, [3]Tokyo City Univ. - Japan

2P-EL3-20

Cryogenic time domain multiplexer based on SQUID arrays and superconducting/normal conducting switches

Beev N.[1], Kiviranta M.[2], van der Kuur J.[3], Bruijn M.[3], Brandel O.[4], Linzen S.[4], Fritzsch L.[4], Ahoranta J.[5], Penttilä J.[6], Roschier L.[6]
[1]VTT, Technical Research Centre - Finland, [2]VTT - Finland, [3]SRON - Netherlands, [4]IPHT Jena - Germany, [5]University of Helsinki - Finland, [6]Aivon Oy - Finland

2P-EL3-21

Improved NbN Ultrathin Films on Silicon Substrates for Superconducting Nanowire Single Photon Detectors

Jia X.[1], Kang L.[1], Gu M.[1], Yang X.[1], Tu X.[1], Wu P.[1]
[1]Nanjing University - China

2P-LS1: Fault Current Limiters I

Tuesday, September 17 @ 14:15 in Poster Area

Chair: *Arnaud Badel, Ying Xin*

2P-LS1-01

A methodology for fast initial design of magnetic shielding inductive fault current limiters

Murta Pina J.[1]
[1]CTS/UNINOVA - Portugal

2P-LS1-02

Analysis of the effects of different types of faults in three-phase superconducting inductive fault current limiters

Ferreira R.[1], *Murta Pina J.*[2], Vilhena N.[1], Arsenio P.[1], Gonçalves Pronto A.[2]

[1]Faculdade de Ciencias e Tecnologia, Universidade Nova de Lisboa - Portugal, [2]CTS/UNINOVA - Portugal

2P-LS1-03

Analysis on Bus Voltage Sag according to Application Locations of a SFCL with a Distributed Generation in a Power Distribution System

Kim J.[1], Moon J.[2], Kim J.[1]

[1]Soongsil Univ. - Republic of Korea, [2]Korea National University of Transportation - Republic of Korea

2P-LS1-04

Cooling Property Improvement of YBCO Superconducting Tape with Cooling Fins in Liquid Nitrogen

Shirai Y.[1], Fujisaka H.[1], Asano T.[1], Shiotsu M.[1], Isojima S.[2], Noguchi K.[3]

[1]Kyoto University - Japan, [2]Sumitomo Electric Industries Ltd. - Japan, [3]Nisshin Electric Co. - Japan

2P-LS1-05

Design and Test of an Air Coil Superconducting Fault Current Limiter Demonstrator

Nackel O.[1], Noe M.[2]

[1]Karlsruhe Institute of Technology - Germany, [2]Karlsruher Institut für Technologie, Institut für Technische Physik - Germany

2P-LS1-06

Design considerations in MgB_2 coils for use in saturated-core Fault Current Limiters

Knott J.[1], Moscrop J.[1], Dou S.X.[1]

[1]University of Wollongong - Australia

2P-LS1-07

ECCOFLOW

Hobl A.[1], Goldacker W.[2], Dutoit B.[3], Martini L.[4], Petermann A.[5], Tixador P.[6]

[1]Nexans SuperConductors - Germany, [2]Karlsruhe Institute of Technology, ITEP - Germany, [3]EPFL - Switzerland, [4]Ricerca sul Sistema Energetico - RSE S.p.A. - Italy, [5]Westnetz GmbH - Germany, [6]CNRS - France

2P-LS1-08

Design of a 12-kV, 200-A, 3-Phase Resistive type Superconducting Fault Current Limiter Using YBCO Coated Conductors

Kedia S.[1], Dixit M.[1], Kulkarni S.[1], Andrews L.[1]

[1]Crompton Greaves Limited - India

2P-LS1-09

Development and Test of a Superconducting Fault Current Limiter; acting time and its recovery conditions

Baldan C.[1], Shigue C.[2], Lamas J.[3], Ruppert E.[4]
[1]EEL/USP and FEG/UNESP - Brazil, [2]EEL/USP - Brazil, [3]Ghent University - Belgium, [4]FEEC/Unicamp - Brazil

2P-LS1-10

Development of Fault Current Limiters with Superconducting Devices and Saturated Iron Core

Fajoni F.[1], Baldan C.[2], Shigue C.[3], Ruppert E.[1]
[1]FEEC/Unicamp - Brazil, [2]EEL/USP and FEG/UNESP - Brazil, [3]EEL/USP - Brazil

2P-LS1-11

Effect on fault current limiting performance of YBCO thin-film wire with different stabilization layer and diameter of spiral former

Du H.I.[1], Heo S.O.[1], Han B.S.[1]
[1]Chonbuk National University - Republic of Korea

2P-LS1-12

Discharge Mechanisms in Liquid Nitrogen with thermally induced Gas Bubbles

Blaz M.[1], Kurrat M.[1]
[1]University of Braunschweig - Germany

2P-LS2: Energy Systems (power transmission lines and energy applications)

Tuesday, September 17 @ 14:15 in Poster Area
Chair: *Steffen Elschner, Paul Grant*

2P-LS2-01

A Novel Electrical Insulating Material for 275 kV High-Voltage HTS Cable with Low Dielectric Loss

Hayakawa N.[1], Nishimachi S.[1], Maruyama O.[2], Ohkuma T.[2], Liu J.[3], Yagi M.[3]
[1]Nagoya University - Japan, [2]ISTEC-SRL - Japan, [3]Furukawa Electric Co., Ltd. - Japan

2P-LS2-02

Characteristic Analysis of DC Electric Railway Systems with Superconducting Power Cables Connecting Power Substations

Ohsaki H.[1], Matsushita N.[1], Koseki T.[1], Tomita M.[2]
[1]The University of Tokyo - Japan, [2]Railway Technical Research Institute - Japan

2P-LS2-03

DC and Impulse Insulating Characteristics of HTS Cable and Cable Joint

Kim W.J.[1], Kim S.H.[1], Kim H.J.[2], Cho J.W.[2], Ryoo H.S.[2], Kim Y.G.[3], Lee

H.[3]
[1]Gyeongsang National University and ERI - Republic of Korea, [2]Korea Electrotechnology Research Institute - Republic of Korea, [3]Korea University - Republic of Korea

2P-LS2-04
Electrical and Thermal Properties of 275-kV-Class ReBCO Superconducting Cable
Wang X.[1], Ishiyama A.[1], Yagi M.[2], Maruyama O.[3], Ohkuma T.[3]
[1]Waseda university - Japan, [2]Furukawa Electric Co., Ltd. - Japan, [3]ISTEC-SRL - Japan

2P-LS2-05
HTS DC Transmission Line for Megalopolis Grid Development
Kopylov S.[1], Sytnikov V.[1], Bemert S.E.[1], Ivanov Y.[1], Krivetskiy I.V.[1], Romashov M.[1], Shakarian Y.[1], Keilin V.E.[2], Shikov A.[2], Patrikeev V.M.[2], Lobyntsev V.[2]
[1]R&D Center @ FGC UES, Moscow 115201 - Russian Federation, [2]NRC Kurchatov Institute, Moscow, 123185 - Russian Federation

2P-LS2-06
AmpaCity
Stemmle M.[1], Merschel F.[2], Noe M.[3], Hobl A.[4]
[1]Nexans Deutschland GmbH - Germany, [2]RWE Deutschland AG - Germany, [3]Karlsruher Institut für Technologie, Institut für Technische Physik - Germany, [4]Nexans SuperConductors - Germany

2P-LS2-07
Demonstration of 20-kN load and 3000-rpm rotation with superconducting magnetic bearing using superconducting coil and bulk superconductors
Arai Y.[1], Yoshizawa K.[1], Nagashima K.[1]
[1]Railway Technical Research Institute - Japan

2P-LS2-08
Development and implementation of an HTS cable model in dynamic simulations of grid faults
Del-Rosario-Calaf G.[1], Lloberas-Valls J.[1], Sumper A.[1], Granados X.[2]
[1]IREC - Spain, [2]Institute of Materials Science of Barcelona-CSIC - Spain

2P-LS2-09
Development of a prototype superconducting fault current limiter-magnetic energy storage system for wind power generation
Guo W.[1], Xiao L.[1], Dai S.[1]
[1]IEE,CAS - China

2P-LS2-10
Dual use of future natural gas pipeline rights-of-way for the transport of electricity via HTSC cables
Grant P.[1]

[1]W2AGZ Technologies - United States

2P-LS2-11

Homopolar Generators for Direct Drive Wind Turbines

Matsekh A.[1], Sercombe D.[1], Guina A.[1], Kells J.[1], Labes K.[1], Lissington T.[1], Fuger R.[1]

[1]GUINA Research & Development Pty Ltd - Australia

2P-LS2-12

Investigation of the Dielectric Strength of Syntactic Foam at 77 K under DC Stress

Winkel D.[1], Schnettler A.[1]

[1]RWTH University Aachen - Germany

2P-LS2-13

Thermal insulation based on diffraction effect

Ivanov Y.[1], Romashov M.[1], Karakashyan Z.[2]

[1]R&D Center @ FGC UES, Moscow 115201 - Russian Federation, [2]RD&PE Poliplen - Russian Federation

2P-LS3: Magnetic Levitation Bearings and Other Applications

Tuesday, September 17 @ 14:15 in Poster Area

Chair: *Efrem Diez Jimenez, Mykola Solovyov*

2P-LS3-01

5 MJ flywheel based on bulk HTS magnetic suspension

Poltavets V.[1], *Kovalev K.L.*[1], Ilyasov R.I.[1], Glazunov A.I.[2], Maevsky V.A.[3], Verzbitsky L.G.[4], Akhmadyshev V.B.[5]

[1]Moscow Aviation Institute - Russian Federation, [2]JSC "Centrotech - SPb" - Russian Federation, [3]JSC "Gorizont" - Russian Federation, [4]JSC "NIIEM" - Russian Federation, [5]JSC "VPO" Tochmash" - Russian Federation

2P-LS3-02

Influence of magnetic non-uniformity existing in a rigid rotor supported by a superconducting magnetic bearing on its whirling

Kamada S.[1], Amano R.[1], Sugiura T.[1]

[1]Keio University - Japan

2P-LS3-03

Numerical Evaluation of Radial Forces in Switched Reluctance Machine Flywheel using HTS Bearing

Racz A.[1], Vajda I.[1]

[1]Budapest University of Tech. - Hungary

2P-LS3-04

LN2-free Superconducting Magnetic Bearings continuous cooled by cryocoolers for industrial applications and urban transportation systems

Kuehn L.[1], Guenther K.[1], de Haas O.[1], Arndt J.[2], Kade A.[2], Kuhn M.[2], Schmidt D.[2], Schneider M.[2], Klier J.[2]
[1]evico GmbH, Dresden - Germany, [2]Institut für Luft- und Kältetechnik gemeinnützige Gesellschaft mbH - Germany

2P-LS3-05

Force and Torque Measurements of a Linear Superconducting Magnetic Bearing

Dias D.H.N.[1], *Sotelo G.*[1], Costa F.[2], de Andrade Jr R.[2], Stephan R.M.[2]
[1]Fluminense Federal University - Brazil, [2]Federal University of Rio de Janeiro - Brazil

2P-LS3-06

High Efficiency Magnetic Levitation Bearing Using 2G HTS Tapes

Kalitka V.[1], *Samoilenkov S.*[1], Kaul A.[2]
[1]SuperOx - Russian Federation, [2]SuperOx; Department of Chemistry, Moscow State University - Russian Federation

2P-LS3-07

Vibration Reduction Using Autoparametric Resonance in a High-T_c Superconducting Levitation System

Yamasaki H.[1], *Takazakura T.*[1], Sakaguchi R.[1], Sugiura T.[1]
[1]Keio University - Japan

2P-LS3-08

MagLev Cobra: Test Facilities and Operational Experiments

Sotelo G.[1], *Dias D.H.N.*[1], de Oliveira R.A.H.[2], Ferreira A.C.[2], de Andrade Jr R.[2], Stephan R.M.[2]
[1]Fluminense Federal University - Brazil, [2]Federal University of Rio de Janeiro - Brazil

2P-LS3-09

The study of relaxation characteristics of the stack of HTS tapes for use in levitation systems and trapped flux magnets.

Pokrovskiy S.[1], Rudnev I.[1], Mineev N.[1], Sotnikova A.[1]
[1]National Research Nuclear University "MEPHI" - Russian Federation

2P-LS3-10

Linear actuator for ultraprecise positioning based on superconducting levitation

Diez-Jimenez E.[1], Valiente-Blanco I.[1], Sanchez-Garcia-Casarrubio J.[1], Perez-Diaz J.L.[1]
[1]Universidad Carlos III de Madrid - Spain

2P-LS3-11

Mechanical characterization of journal superconducting magnetic bearings: stiffness, hysteresis and force relaxation

Valiente-Blanco I.[1], *Diez-Jimenez E.*[1], Cristache C.[1], Pato N.[2], Perez-Diaz J.L.[1]
[1]Universidad Carlos III de Madrid - Spain, [2]Faculdade de Ciencias da

Universidade de Lisboa - Portugal

2P-LS3-12

Next Generation of HTS Magnetic Application: HTS Bulk and Coil Interaction

Werfel F.[1], Floegel-Delor U.[1], Rothfeld R.[1], Riedel T.[1], Schirrmeister P.[1], Wippich D.[1], Goebel B.[1]
[1]Adelwitz Technologiezentrum GmbH (ATZ) - Germany

2P-LS3-13

Development of Medical Protein Separation System by High Gradient Magnetic Separation using Cryocooler-cooled LTS Magnet

Kamioka Y.[1], Ueda H.[2], Kajikawa K.[3], Fuchino S.[4], Furuse M.[4], Agatsuma K.[4], Iitsuka T.[1], Nakamura S.[1]
[1]NETS Corporation - Japan, [2]Osaka University - Japan, [3]Kyushu University - Japan, [4]AIST - Japan

2P-LS3-14

Industrial-scale purification of kaolin using a conduction-cooled superconducting high-gradient magnetic separator

Jackson D.[1], *Beharrell P.*[1], Spagna S.[1]
[1]Quantum Design, Inc. - United States

2P-LS3-15

VATESTA - A new measurement setup for power and energy applications.

Gehring R.[1], Goldacker W.[2], Walter W.[3], Scheller H.[3], Amend J.[3], Zoller H.[3]
[1]Karlsruhe Institute of Technology - Germany, [2]Karlsruhe Institute of Technology, ITEP - Germany, [3]Babcock Noell GmbH - Germany

2P-LS3-16

Feasibility study about a highly effective and large scale magnetic refrigeration system using a high temperature superconducting magnet

Hirano N.[1], Watanabe T.[1], Nagaya S.[1], Takahashi H.[2], Takahashi M.[2]
[1]Chubu Electric Power Co., Inc. - Japan, [2]Takenaka Corporation - Japan

2P-LS4: Current Leads

Tuesday, September 17 @ 14:15 in Poster Area
Chair: *Tom Taylor, Rainer Wesche*

2P-LS4-01

Operational experience in the use of 18 kA HTS current leads for EDIPO

Wesche R.[1], March S.[1], Bruzzone P.[1]
[1]EPFL-CRPP Fusion Technology - Switzerland

2P-LS4-02

Industrially manufactured HTS current leads with improved design features

Wesche R.[1], Bruzzone P.[1], Vogel M.[1], March S.[1], Boersch M.[2], Holdener F.[2], Magginetti N.[2], Quack H.[3]

[1]EPFL-CRPP Fusion Technology - Switzerland, [2]WEKA AG - Switzerland, [3]TU Dresden - Germany

2P-LS4-03

Development of 16 kA HTS current lead for 45 T hybrid magnet application

Ding K.[1], Zhou T.[1], Liu C.[1], Song Y.[1]

[1]Institute of Plasma Physics,Chinese Academy of Science - China

2P-LS4-04

Design and Development of 12kA HTSCL for Russia JINR

Zhou T.[1], Song Y.[1], Ding K.[1], Liu C.[1]

[1]Institute of Plasma Physics,Chinese Academy of Science - China

2P-MA1: Ac losses, Stability and Quench

Tuesday, September 17 @ 14:15 in Poster Area

Chair: *Marco Bonura, Yifeng Yang*

2P-MA1-01

Split coil made of two (RE)BCO pancake coils for Ic(B, alpha) measurements of superconductors

Frolek L.[1], Pardo E.[1], Gomöry F.[1], Souc J.[1], Pitel J.[1]

[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

2P-MA1-02

Dependences of microwave surface resistance of YBCO thin films on applied dc magnetic fields parallel and normal to the substrate

Sato K.[1], Sato S.[1], Ichikawa K.[1], Watanabe M.[1], Honma T.[1], Tanaka Y.[1], Oikawa S.[1], Saito A.[1], Ohshima S.[1]

[1]Yamagata University - Japan

2P-MA1-03

Finite element modeling of microwave surface resistance of superconductor-ferromagnetic bilayer

Yildız S.[1], Inanir F.[2], Cicek A.[3]

[1]Ahi evran üniversitesi - Turkey, [2]Recep Tayyip Erdogan ünv. - Turkey, [3]Mehmet akif Ersoy ünv. - Turkey

2P-MA1-04

Harmonic generation in Mo6S6I2 polycrystalline superconductor

Metskhvarishvili M.[1], Metskhvarishvili I.[2], Dgebuadze G.[2], Lobzhanidze T.[3], Bendeliani B.[2]

[1]Georgian Technical University - Georgia, [2]Ilia Vekua Sukhumi Institute of

Physics and Technology - Georgia, [3]Ivane Javakhishvili Tbilisi State University - Georgia

2P-MA1-05

In-plane surface impedance of k-BEDT-TTF)_2Cu[N(CN)_2]Br single crystals

Trunin M.[1], Shevchun A.[2]

[1]ISSP RAS (Chernogolovka), MIPT (Dolgoprudny) - Russian Federation, [2]ISSP RAS (Chernogolovka) - Russian Federation

2P-MA1-06

Fabrication of membrane-based nanocalorimeters for studies of electronic specific heat in magnetic fields

Campanini D.[1], Rydh A.[1]

[1]Stockholm University - Sweden

2P-MA1-07

Mechanical properties of Bi2212

Qin J.[1]

[1]Chinese Academy of Sciences - China

2P-MA1-08

A New Device for Measuring Critical Current Density and Critical Temperature of HTS by ac susceptibility using a Small Cryocooler

He T.[1], *Wang S.*[2], Chu X.[1], Ning X.[1], Chen D.[3]

[1]School of Instrument Science and Opto-Electronics Engineering, Beihang University, Beijing - China, [2]School of Physics, Beihang University - China, [3]Dingchen Superconductor Technology Co., Ltd., Beijing - China

2P-MA1-09

Advanced characterization of $Ba(Fe1\text{-}xCox)_2As_2$ thin films for superconducting electronics applications: energy gaps and local T_c as a function of doping

Pecchio P.[1], Daghero D.[1], Laviano F.[1], Iida K.[2], Kurth F.[2], Gonnelli R.S.[1]

[1]Dipartimento di Scienza Applicata e Tecnologia, Politecnico di Torino - Italy, [2]Leibniz Institute for Solid State and Materials Research, Dresden - Germany

2P-MA1-10

Hereditary and Physical Properties in HTSC-thick films after Processing HTSC- Powders by method of the Electromagnetic Separation

Broide E.[1]

[1]Hebrew University, 91904 Jerusalem - Israel

2P-MA2: HTS films and Multilayers I

Tuesday, September 17 @ 14:15 in Poster Area

Chair: *Daniele Di Castro, Ana Palau*

2P-MA2-01

Characterization of Superconducting $YBa_2Cu_3O_7$ Thin Strips as Possible Single Particle Detectors

Harrabi K.[1], Salem A.F.[2], Ziq K.A.[2], Kunwar S.[3], Mansour A.[4], Maneval J.P.[5]

[1]Physics Department, King Fahd University of Petroleum and Minerals - Saudi Arabia, [2]KFUPM - Saudi Arabia, [3]Department of Physics, King Fahd University of Petroleum and Minerals - Saudi Arabia, [4]Laboratoire PiPhysics Department, King Fahd University erre Aigrain, Ecole Normale Superieure, Paris - Saudi Arabia, [5]Laboratoire Pierre, Aigrain, Ecole Normale Superieure, 75231 Paris - France, Metropolitan

2P-MA2-02

Crystallinity and in-field characterization of high-T_c RECa124 epitaxial films fabricated by low temperature flux method

Funaki S.[1], Yamada Y.[1], Nakayama F.[1]

[1]Shimane University - Japan

2P-MA2-03

Crystallization and Performance of Ag-doped $DyBa_2Cu_3O_{7-\delta}$ Superconducting thin Films Prepared by Chemical Solution Deposition

Sun M.J.[1], Li M.J.[1], Liu Z.Y.[1], Bai C.Y.[1], Guo Y.Q.[1], Cai C.B.[1]

[1]Shanghai University - China

2P-MA2-04

Effects of metal transition substitution on the crystal structure, electric and magnetic properties of $Ru_{0.9}M_{0.1}Sr_2GdCu_2O_8$ (M = Zr, Nb, Mo, Mn, Co and Fe)

Abatal M.[1], González Parada A.[2]

[1]Universidad Autónoma del Carme - Mexico, [2]Universidad Autónoma de Guanajuato - Mexico

2P-MA2-05

Enhanced critical current density properties of $SmBa_2Cu_{3-x}Ti_xO_{7-y}$ thin films at high magnetic field

Yakinci M.E.[1], Aksan M.A.[2], Yakinci Z.D.[2], Altin E.[2], Sener M.[2]

[1]İnönü Üniversitesi, Fen Edebiyat Fakültesi, Fizik Bölümü, 44 - Turkey, [2]İnönü Üniversitesi, SHMYO - Turkey

2P-MA2-06

Enhancement of J_c values Bi,Pb-2223 thin film fabricated by RF sputtering and post -annealing

Matsumoto A.[1], Kitaguchi H.[2], Doi T.[3], Hata S.[4]

[1]National Institute for Materials Science - Japan, [2]NIMS - Japan, [3]Kyoto University - Japan, [4]Kyushu University - Japan

2P-MA2-07

Increased critical current density and pinning force in $YBa_2Cu_3O_{7-\delta}$ thin films by $Gd_2Ba_4CuWO_y$ nano inclusions

Awang Kechik M.M.[1], Mikheenko P.[2], Cardwell D.A.[3], Abell J.S.[4], Crisan I.A.[5]
[1]Univ Putra Malaysia, Fac Sci, Dept Phys - Malaysia, [2]Deparment of Physics, Faculty of Science, Universiti Putra Malaysia, 43400 UPM Serdang - Malaysia, [3]Department of Engineering, University of Cambridge - United Kingdom, [4]Metallurgy and Materials, School of Engineering, University of Birmingham, Edgbaston - United Kingdom, [5]School of Metallurgy and Materials, University of Birmingham - United Kingdom

2P-MA2-08

Epitaxial growth of $YBa_2Cu_3O_7$ films on $SrTiO_3$(100) by direct solution precursor deposition

Bustamante A.[1], De Los Santos Valladares L.[2], Osorio A.M.[3], Garcia J.[1], González J.C.[4], Barnes C.H.W.[2], Azuma Y.[5], Majima Y.[5], Albino Aguiar J.[6]
[1]Laboratorio de Cerámicos y Nanomateriales, Facultad de Ciencias Físicas, UNMSM - Peru, [2]Cavendish Laboratory, Department of Physics, University of Cambridge - United Kingdom, [3]Facultad de Química e Ingeniería Química, Universidad Nacional Mayor de San Marcos - Peru, [4]Grupo de Investigación de Superficies, Intercaras y Láminas Delgadas, ICMS-CSIC - Spain, [5]Materials and Structures Laboratory, Tokyo Institute of Technology, 4259 R3-5, Nagatsuta cho, Modori - Japan, [6]Laboratório de Supercondutividade e Materiais Avançados, Departamento de Física UFPE - Brazil

2P-MA2-09

Fabrication of Superconducting YBCO/STO/YBCO Multilayer Devices and Magnetic Shielding Performance of Top YBCO Layer

Uzun Y.[1], Kuran O.[1], Avci I.[1]
[1]Ege University - Turkey

2P-MA2-10

Fabrication of $TlBa_2Ca_2Cu_3O_x$ coated conductor on Ni substrate

Ji L.[1], Gao X.X.[1], He M.[1], Zhang X.[1], Zhao X.J.[1], Xie W.[1], Yan S.[1], Cai C.B.[2]
[1]Nankai University - China, [2]Shanghai University - China

2P-MA2-11

Growth and superconducting properties of $Pb_{1-y}Bi_ySr_2Y_{1-x}Ca_xCu_2O_{7+\delta}$ epitaxial films

Komori S.[1], Inaba R.[1], Kakeya I.[1], Suzuki M.[1]
[1]Kyoto University - Japan

2P-MA2-12

Growth of (001) or (115) Bi-2201 thin films by spin coating and MOCVD targeting future electronics applications.

Endo K.[1], Kaneko T.[1], Moriguchi T.[1], Takemata H.[1], Takada T.[1], Ikenaga N.[1], Badica P.[2]
[1]Kanazawa Institute of Technology - Japan, [2]National Institute of Materials Physics - Romania

2P-MA2-13

Hole Concentration Effect on the Microwave Nonlinearity of $Tl_2Ba_2CaCu_2O_8$ Thin Films

Bischak M.M.[1], Thomas J.[1], Philip R.R.[2], *Remillard S.K.*[1]
[1]Hope College - United States, [2]Union Christian College - India

2P-MA2-14

Interfacial and micro-structural features of HTS coated conductor tapes layers

Meledin A.[1], Abakumov A.[2], Van Tendeloo G.[2], Usoskin A.[3], Rutt A.[3], Schlenga K.[3], Kirchhoff L.[3]
[1]University of Antwerp, EMAT - Belgium, [2]EMAT, University of Antwerp - Belgium, [3]Bruker HTS GmbH - Germany

2P-MA2-15

Introduction of new pinning center to FF-MOD Y123 thin films by chlorine doping

Motoki T.[1], Shimoyama J.I.[2], Ishiwata Y.[1], Yamamoto A.[3], Ogino H.[2], Kishio K.[2]
[1]University of Tokyo - Japan, [2]Department of Applied Chemistry, University of Tokyo - Japan, [3]The University of Tokyo, JST-PRESTO - Japan

2P-MA3: Fe-based Superconductors - Bulk II

Tuesday, September 17 @ 14:15 in Poster Area
Chair: *Akira Iyo, Andrea Palenzona*

2P-MA3-01

Single crystal growth and primary characterization of tetragonal iron chalcogenides superconductors

Kozlyakova E.[1], Chareev D.[2], Volkova O.[1], Ovchenkov E.[1], Vasiliev A.[1]
[1]Lomonosov MSU - Russian Federation, [2]Institute of Experimental Mineralogy - Russian Federation

2P-MA3-02

Critical current and magnetic phase diagram of Ni-doped $BaFe_2As_2$ single crystals

Pervakov K.[1], Vlasenko V.[1], Khlybov E.[2], Zaleski A.J.[3], Pudalov V.[1], Eltsev Y.[1]
[1]Lebedev Physical Institute - Russian Federation, [2]Institute for High Pressure Physics - Russian Federation, [3]ILT&SR, PAS - Poland

2P-MA3-03

Synthesis and characterization of $NdMeAsO_{1-x}F_x$ (Me=Fe, Co, Ni) and importance of nominal oxygen deficient.

Ponce-Flores H.[1], Conde-Gallardo A.[2]
[1]Physics Department, CINVESTAV, 07360 Mexico D.F. - Mexico, [2]Physics Department CINVESTAV - Mexico

2P-MA3-04

Influence of microstructure on the intergranular current transport properties of $Ba(Fe,Co)_2As_2$ polycrystalline bulks

Hayashi Y.[1], Yamamoto A.[2], Ogino H.[3], Shimoyama J.I.[3], Kishio K.[3]
[1]The University of Tokyo - Japan, [2]The University of Tokyo, JST-PRESTO - Japan, [3]Department of Applied Chemistry, University of Tokyo - Japan

2P-MA3-05

Amorphous FeAs-free $SmFeAsO_{1-x}F_x$ using low temperature sintering with slow cooling

Fujioka M.[1], Denholme S.[2], Ozaki T.[1], Okazaki H.[1], Deguchi K.[1], Demura S.[1], Hara H.[1], Watanabe T.[1], Takeya H.[1], Yamaguchi T.[1], Kumakura H.[1], Takano Y.[1]
[1]NIMS - Japan, [2]NIMS - United Kingdom

2P-MA3-06

Effect of carrier control in Fe-based superconductors with perovskite-type blocking layers

Ogino H.[1], Singh S.J.[2], Yamamoto A.[3], Kishio K.[1], Shimoyama J.I.[1]
[1]Department of Applied Chemistry, University of Tokyo - Japan, [2]The University of Tokyo - Japan, [3]The University of Tokyo, JST-PRESTO - Japan

2P-MA3-07

Optical properties of superconductor LiFeAs with Tc=17.6 K

Min B.[1], Yoon J.H.[2], Iizuka T.[3], Kimura S.I.[4], Bang Y.[2], *Kwon Y.S.*[1]
[1]DGIST - Republic of Korea, [2]Chonnam National University - Republic of Korea, [3]The Graduate University for Advanced Studies - Japan, [4]Institute for Molecular Science - Japan

2P-MA3-08

2-dimensional magnetic properties in single crystal $NaFe_{0.97}Co_{0.03}As$ superconductor

Min B.[1], Ahmad D.[1], Lee K.J.[2], Lee N.H.[3], Jung M.H.[2], Kang W.[3], Bang Y.[4], Kwon Y.S.[1]
[1]DGIST - Republic of Korea, [2]Sogang University - Republic of Korea, [3]Sungkyunkwan University - Republic of Korea, [4]Chonnam National University - Republic of Korea

2P-MA3-09

New layered oxypnictide superconductor

Katrych S.[1], Pisoni A.[1], Rogacki K.[2], Bosma S.[3], Weyeneth S.[3], Zhigadlo N.D.[4], Karpinski J.A.[1], Forró L.[1]
[1]Institute of Condensed Matter Physics EPF Lausanne - Switzerland, [2]Institute of Low Temperature and Structure Research, Polish Academy of Sciences, 50-950 Wroclaw - Poland, [3]Physik-Institut der Universitat Zurich, 8057 Zurich - Switzerland, [4]Laboratory for Solid State Physics, ETH Zürich, CH-8093 Zürich - Switzerland

2P-MA3-10

Interactions of magnetism and superconductivity in substituted

$EuFe_2As_2$ single crystals

Bukowski Z.[1], Tran L.M.[2], Zaleski A.J.[1], Tran H.V.[3]

[1]ILT&SR, PAS - Poland, [2]Institute of Low Temperature - Poland, [3]Institute of Low Temperature and Structure Research, Polish Academy of Sciences, 50-950 Wroclaw - Poland

2P-MA3-11

Irreversible Magnetization Studies in $NdFeAsO_{1-x}F_x$ Polycrystalline Superconductors.

Conde-Gallardo A.[1], *Ponce-Flores H.*[2]

[1]Physics Department CINVESTAV - Mexico, [2]Physics Department, CINVESTAV, 07360 Mexico D.F. - Mexico

2P-MA3-12

Angular Dependence of Resistivity in the Mixed State of $Sr_2VFeAsO_3$Single Crystals

Katagiri T.[1], Kashiwaya H.[2], Kashiwaya S.[2], Sasagawa T.[1]

[1]Tokyo Institute of Technology - Japan, [2]National Institute of Advanced Industrial Science and Technology - Japan

2P-MA3-13

Single-crystal growth and characterization of $BaFe_2(As_{1x}P_x)_2$

Nakajima M.[1], Uchida S.I.[2], Kihou K.[3], Lee C.H.[3], Iyo A.[3], Eisaki H.[1]

[1]Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and - Japan, [2]University of Tokyo - Japan, [3]AIST - Japan

2P-MA3-14

Analysis of Peak effect in Critical current density and Flux pinning properties in iron based Superconducting $Ca_{10}(Pt_{4-\delta}As_8)(Fe_{2-x}Pt_xAs_2)_5$single crystals

Ahmad D.[1], Min B.H.[1], Lee J.H.[2], Kim G.C.[2], Kim Y.C.[2], Kwon Y.S.[1]

[1]DGIST - Republic of Korea, [2]Department of Physics, Pusan National University, Busan - Republic of Korea

2P-MA3-15

Transport properties of Fe based superconductors: SmFeAs(O,F) and $(Fe_2As_2)(Ca_4(Mg,Ti)_3O_8)$

Singh S.J.[1], Ogino H.[1], Shimoyama J.I.[1], Yamamoto A.[2], Kishio K.[1]

[1]Department of Applied Chemistry, University of Tokyo - Japan, [2]The University of Tokyo, JST-PRESTO - Japan

2P-MA3-16

Directional point-contact spectroscopy in 122 Fe-based superconductors: symmetry of the order parameters, Fermi surface topology, and evidence of magnetic scattering

Gonnelli R.S.[1], Daghero D.[1], Tortello M.[1], Pecchio P.[1], Kuroki K.[2], Suzuki K.[3], Profeta G.[4], Stepanov V.A.[5]

[1]Dipartimento di Scienza Applicata e Tecnologia, Politecnico di Torino - Italy, [2]Department of Physics, Osaka University - Japan, [3]Department of Engineering Science, The University of Electro-Communications, Chofu - Japan,

[4]Dipartimento di Scienze fisiche e chimiche, Università degli Studi dell'Aquila - Italy, [5]P.N.Lebedev Physical Institute of RAS, 53 Leninsky pr., 119991 Moscow - Russian Federation

2P-MA4: Other Bulk Materials including Novel Materials
Tuesday, September 17 @ 14:15 in Poster Area
Chair: *Jean-Claude Grivel, Zhenghe Han*

2P-MA4-01
Crystal Structure and Superconducting Properties of Tb-doped Ruthenocuprates
Lee H.K.[1], Kim K.W.[1], Lee M.S.[1], Kim Y.I.[2]
[1]Kangwon National University - Republic of Korea, [2]Korea Research Institute for Standards and Science - Republic of Korea

2P-MA4-02
Impurity scattering and diffusive proximity regime in hybrid Al devices with Bi_2Se_3 topological barriers
Galletti L.[1], Charpentier S.[2], Ekström M.[2], Arpaia R.[2], Massarotti D.[1], Bauch T.[2], Suzuki Y.[3], Komatsu M.[3], Kadowaki K.[3], Tafuri F.[1], Lombardi F.[2]
[1]Università degli studi di Napoli Federico II - Italy, [2]Chalmers University of Technology - Sweden, [3]University of Tsukuba - Japan

2P-MA4-03
Isotope Effect in superconducting crystals
Netesova N.[1]
[1]M.V.Lomonosov Moscow State University - Russian Federation

2P-MA4-04
New Superconductors Bearing Dimer Anions
Guo J.[1], Qi Y.[1], Matsuishi S.[1], Yamaura J.[1], Lei H.[1], Hosono H.[1]
[1]Tokyo Institute of Technology - Japan

2P-MA4-05
New superconductors from intercalated topological insulators
Ubaldini A.[1], Wang Z.W.[1], Giannini E.[1], van der Marel D.[1]
[1]Département de Physique de la Matière Condensée - Switzerland

2P-MA4-06
Normal and superconducting properties in single crystals of the the noncentrosymmetric PdBi compound
Okawa K.[1], Kanou M.[1], Katagiri T.[1], Kashiwaya H.[2], Kashiwaya S.[2], Sasagawa T.[1]
[1]Tokyo Institute of Technology - Japan, [2]National Institute of Advanced Industrial Science and Technology - Japan

2P-MA4-07
Pursuing Very High-Temperature Superconductivity in Modified

Compositions of Strontium Ruthenates
Gulian A.[1], Nikoghosyan V.[1]
[1]Chapman University - United States

2P-MA4-08
Resistivity measurement for newly discovered superconducting cuprates, $NbSr_2RECu_2O_z$ (RE: rare-earth element)
Maeda T.[1], Yano H.[1], Toyota H.[1], Ogura Y.[1]
[1]Kochi University of Technology - Japan

2P-MA4-09
Superconductivity of quasi-two-dimensional indium layer embedded in $[Ca_2N]$+e- electride
Jeong S.[1], Matsuishi S.[1], Toda Y.[1], Hosono H.[1]
[1]Tokyo Institute of Technology - Japan

2P-MA4-10
Superconductivity of fullerides with composition $AnIn_xGa_yC_{60}$ (A=K,Rb,Cs; n=2,3) synthesized from gallams
Kulbachinskii V.[1], Bulychev B.[1], Lunin R.[1]
[1]M.V.Lomonosov Moscow State University - Russian Federation

2P-MA4-11
Superconductivity and metal-insulator transition in Ca-doped $(Bi_{1-x}Ca_x)_4O_4S_3$
Wang Z.W.[1], Giannini E.[1], Ubaldini A.[1], Jacimovic J.[2], van der Marel D.[1]
[1]Département de Physique de la Matière Condensée - Switzerland, [2]University of Geneva - Switzerland

2P-MA4-12
Superconductivity at 8.1 K in simple cubic Sb-Au alloys
Iyo A.[1], Koudai H.[1], Tokiwa K.[2], Hase I.[1], Yanagisawa T.[1], Takeshita N.[1], Kihou K.[1], Lee C.H.[1], Tanaka Y.[3], Eisaki H.[4]
[1]AIST - Japan, [2]Tokyo Univ. of Science - Japan, [3]National Institute of Advanced Industrial Science and Technology - Japan, [4]Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and - Japan

2P-MA4-13
Superconductivity in Iridium related compounds Ir_xCh_2 (Ch = Se and Te) and Ir-based skutterudites
Qi Y.[1], Matsuishi S.[1], Guo J.[1], Lei H.[1], Mizoguchi H.[1], Hosono H.[1]
[1]Tokyo Institute of Technology - Japan

2P-MA5: Pinning and Flux Dynamics II
Tuesday, September 17 @ 14:15 in Poster Area
Chair: *Chiara Tarantini, Martin Zehetmayer*

2P-MA5-01

Conditions for the vortex penetration in samples with a thin normal slit

Duarte E.C.S.[1], Sardella E.[1], Filho P.N.L.[1], Malvezzi A.L.[1], Zadorosny R.[1]
[1]UNESP - Brazil

2P-MA5-02

Control of the vortex penetration by surface defects on mesoscopic superconductors

Presotto A.[1], Duarte E.C.S.[1], Malvezzi A.L.[2], Lisboa-Filho P.N.[2], Sardella E.[2], *Zadorosny R.*[3]
[1]Depto de Fisica e Quimica/FEIS, Univ Estadual Paulista - UNESP - Brazil, [2]Depto Fisica/FCB, Univ Estadual Paulista - UNESP - Brazil, [3]UNESP - Brazil

2P-MA5-03

DC-tunable Microwave Loss in Nanostructured Superconducting Nb Microstrips

Dobrovolskiy O.V.[1], Shklovskij V.A.[2], Huth M.[1]
[1]Physikalisches Institut Goethe-University, Frankfurt am Main - Germany, [2]Institute of Theoretical Physics NSC-KIPT, Kharkiv - Ukraine

2P-MA5-04

Modelling lock-in and trapping angle in columnar pinning sites with Ginzburg-Landau simulations

Palonen H.[1], Jaykkä J.[2], Paturi P.[1]
[1]University of Turku - Finland, [2]Nordita, Stockholm - Sweden

2P-MA5-05

Ex-situ processing of nanoparticles for pinning in $Y_1Ba_2Cu_3O_y$ ink-jet printed coatings.

Van Driessche I.[1], De Keukeleere K.[1], De Roo J.[1], Feys J.[1], Lommens P.[1]
[1]Ghent University - Belgium

2P-MA5-06

Vortex creep in TFA-YBCO films with BZO and BYTO nanoparticles

Bartolomé E.[1], Rouco V.[2], Palau A.[2], Coll M.[2], Obradors X.[2], Puig T.[2], Maiorov B.[3], Civale L.[3]
[1]Escola Universitària Salesiana de Sarrià, Passeig Sant Joan Bosco, 74, 08011, Barcelona - Spain, [2]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain, [3]Condensed Matter and Magnet Science Group (MPA-CMMS), Los Alamos National Laboratory, Los Alamos - United States

2P-MA5-07

Generation of Voltage Pulses by DC Current in Superconducting Films with Periodic Pinning Potential

Shklovskij V.A.[1], Dobrovolskiy O.V.[2]
[1]Institute of Theoretical Physics NSC-KIPT, Akademicheskaya Str. 1, 61108 Kharkiv - Ukraine, [2]Physikalisches Institut Goethe-University, Max-von-Laue-Str. 1, 60438 Frankfurt/Main - Germany

2P-MA5-08

Glassy Transition in the Vortex Lattice of $Ba(Fe_{0.93}Rh_{0.07})_2As_2$ superconductor probed by NMR and Ac-susceptibility

Bossoni L.[1], Carretta P.[2], Horvatic M.[3], Corti M.[2], Thaler A.[4], Canfield P.[4]

[1]Università di Roma TRE-CNISM - Italy, [2]Department of Physics, University of Pavia - CNISM - Italy, [3]Laboratoire National des Champs Magn - France, [4]Ames Laboratory USDOE and Department of Physics and Astronomy, Iowa State University - Ames - United States

2P-MA5-09

Grain boundary channels of easy vortex motion in YBaCuO films

Hua T.[1], Jiang L.[1], *Xu W.*[1], An D.[1], Yu M.[1], Chen J.[1], Wu P.[1]

[1]Nanjing University - China

2P-MA5-10

Pulse magnetization and voltage-current characteristic of $YBa_2Cu_3O_{7-x}$ film.

Dorofeev G.[1], Drobin V.[2], Malinowski H.[3]

[1]Kurchatov Institute, Moscow - Russian Federation, [2]JINR, Dubna - Russian Federation, [3]JINR, Dubna - Poland

2P-MA5-11

Intrinsic ab-Plane Pinning in Fe(Se,Te) Thin Films

Haenisch J.[1], Iida K.[2], Kurth F.[2], Schulze M.[1], Wurmehl S.[1], Schultz L.[1], Holzapfel B.[1]

[1]IFW Dresden - Germany, [2]Leibniz Institute for Solid State and Materials Research, Dresden - Germany

2P-MA5-12

Magnetic Flux-Trapping of Anisotropic-Grown Y-Ba-Cu-O Bulk Superconductors during and after Pulsed-Field Magnetizing Processes

Oka T.[1], Yamada Y.[1], Horiuchi T.[1], Ogawa J.[1], Fukui S.[1], Sato T.[1], Yokoyama K.[2], Langer M.[3]

[1]Niigata University - Japan, [2]Ashikaga Institute of Technology - Japan, [3]IFW Dresden - Germany

2P-MA5-13

Microwave and dc pinning studies of BZO enhanced YBCO thin films

Pompeo N.[1], Augieri A.[2], Torokhtii K.[1], Galluzzi V.[2], Celentano G.[2], Silva E.[3]

[1]Università Roma Tre - Italy, [2]ENEA C.R. FRASCATI - Italy, [3]Dipartimento di Ingegneria, Università Roma Tre - Italy

2P-WT1: Modeling of Thermal, Electrical and Mechanical Properties

Tuesday, September 17 @ 14:15 in Poster Area

Chair: *Archie Campbell, Carmine Senatore*

2P-WT1-01

Experimental analysis and numerical 2D simulation of quench in a superconducting high temperature YBCO tape

Casali M.[1], Breschi M.[1], Ribani P.L.[1]
[1]Università Di Bologna - Italy

2P-WT1-02

Numerical investigation of various interfacial resistance architectures for accelerating the normal zone propagation velocity in 2G HTS coated conductors

Christian L.[1], Bonnard C.H.[1], Memiaghe S.[1], Sirois F.[1]
[1]Polytechnique Montreal - Canada

2P-WT1-03

Analysis of transient state in HTS tapes under ripple DC load current

Stepien M.[1], Grzesik B.[1]
[1]Silesian Univ. of Technology - Poland

2P-WT1-04

Computation of effective critical current density and transient behavior of Twisted Stacked Tape high-current cable

Kruger P.[1], Grilli F.[1], Takayasu M.[2]
[1]Karlsruhe Institute of Technology - Germany, [2]Massachusetts Institute of Technology - United States

2P-WT1-05

Thermal Conductivity Measurement of High Temperature Superconductor Tapes for Application in Current Leads

Wu H.[1], Bi Y.[1], Song Y.[1]
[1]Institute of Plasma Physics, CAS - China

2P-WT1-06

Experimental and Analytical Approach for the Transition of DC Electric Field Intensity of Butt gap Condition in LN2/PPLP Composite Insulation System

Seong J.K.[1], Lee J.G.[1], Shin W.J.[1], Hwang J. S.[1], Lee B.W.[1]
[1]Hanyang University - Republic of Korea

2P-WT1-07

Modelling magnetisation of (RE)BCO bulk superconductors: comparison of H formulation and Campbell's equation

Xu Z.[1], Campbell A.M.[2], Ainslie M.D.[2], Cardwell D.A.[2]
[1]University of Cambridge - United Kingdom, [2]Department of Engineering, University of Cambridge - United Kingdom

2P-WT1-08

Effects of corners in thin superconducting samples: current crowding, ratchet, and partial rectification effects

Via G.[1], Sanchez A.[2], *Navau C.*[2]

[1]Universitat Autonoma Barcelona - Spain, [2]Grup d'electromagnetisme, Departament de Física, Universitat Autonoma de Barcelona - Spain

2P-WT1-09

Critical current in long-length YBCO coated conductors: limiting factors and prospectives

Usoskin A.[1], Rutt A.[1], Bubelis T.[1], Schlenga K.[1]
[1]Bruker HTS GmbH - Germany

2P-WT2: Thermal, Electrical and Mechanical Characterization

Tuesday, September 17 @ 14:15 in Poster Area

Chair: *Najib Cheggour, Davide Uglietti*

2P-WT2-01

Contactless measurements of local transport characteristics of coated conductors under the bending strain

Rudnev I.[1], Mareeva A.[2], Mineev N.[2], Pokrovskiy S.[2], Sotnikova A.[2]
[1]National Research Nuclear University "MEPHI" - Russian Federation, [2]National Nuclear Research University - Russian Federation

2P-WT2-02

Investigation of ReBCO Twisted Stacked-Tape Cable Conductor Performance

Takayasu M.[1], Chiesa L.[2], Minervini J.[1]
[1]Massachusetts Institute of Technology - United States, [2]Tufts University - United States

2P-WT2-03

Effect of transverse loads on the critical current of coated conductor Roebel cables

Uglietti D.[1], Wesche R.[2], Bruzzone P.[2]
[1]CRPP - Switzerland, [2]EPFL-CRPP Fusion Technology - Switzerland

2P-WT2-04

On temperature measurements of the heating tape and bulk HTS's.

Korotkov V.[1], Krasnoperov E.[1], Yashkin D.[1]
[1]Kurchatov Institute - Russian Federation

2P-WT2-05

Influence of different Surface Treatments on the Heat Flux from Solids to Liquid Nitrogen

Hellmann S.[1], Noe M.[2], Kudymow A.[2]
[1]Karlsruhe Institute of Technology - Germany, [2]Karlsruher Institut für Technologie, Institut für Technische Physik - Germany

2P-WT2-06

Applied strain dependence of T_c and J_c for YBCO coated conductors annealed under strain

Suzuki T.[1], Awaji S.[1], Oguro H.[1], Watanabe K.[1]
[1]High Field Laboratory for Superconducting Materials, IMR, Tohoku University - Japan

2P-WT2-07

Intra-strand resistance and current transfer length in multifilamentary NbTi, Nb_3Sn, MgB_2, BSSCO and ReBCO conductors

Zhou C.[1], Krooshoop H.J.G.[1], Dhallé M.[1], Nijhuis A.[2]
[1]University of Twente - Netherlands, [2]University of Twente, Faculty of Science & Technology, 7522 NB Enschede - Netherlands

2P-WT2-08

Evaluation of the transient electrical and thermal characteristics of YBCO coated conductor tapes by the pulsed current method

Bernardes A.[1], Lamas J.[2], Carneiro L.[1], Baldan C.[3], Ruppert E.[4], *Shigue C.*[5]
[1]EEL/USP - Brazil, [2]Ghent University - Belgium, [3]EEL/USP and FEG/UNESP - Brazil, [4]FEEC/Unicamp - Brazil, [5]EEL USP - Brazil

2P-WT2-09

Development of an experimental system for characterization of high-temperature superconductors cooled by liquid hydrogen under the external magnetic field

Tatsumoto H.[1], Shirai Y.[2], Shiotsu M.[2], Kobayashi H.[3], Naruo Y.[3]
[1]JAEA - Japan, [2]Kyoto University - Japan, [3]JAXA - Japan

2P-WT2-10

Effect of strain and magnetic field on the critical current and the electric resistance of the joints between HTS coated conductors

Konstantopoulou K.[1], Granados X.[2], Pastor J.Y.[1], Obradors X.[3]
[1]Departamento de Ciencia de Materiales, Technical University of Madrid - Spain, [2]Institute of Materials Science of Barcelona-CSIC - Spain, [3]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain

2P-WT2-11

Performance of high current capacity HTS Roebel cable at fields up to 15 T

Badcock R.[1], Bumby C.[1], Hamilton K.[1], Long N.[1], Miller G.[2], Walsh R.[3]
[1]Callaghan Innovation - New Zealand, [2]NHMFL/MST - United States, [3]National High Magnetic Field Laboratory - United States

2P-WT2-12

Breakdown Characteristics of PPLP Specimen in Liquid Nitrogen with Superposition of DC and Lightning Impulse.

Choi W.[1], Seo I.[1], Koo J.[1]
[1]Hanyang University - Republic of Korea

2P-WT2-13

Experimental study on DC breakdown characteristics of PPLP in LN2 Considering Insulation design of HVDC superconducting cable

Seo I.[1], Choi W.[1], Koo J.[1]
[1]Hanyang University - Republic of Korea

2P-WT2-14

Current distribution on joints between HTS Coated Conductors

Carrera M.[1], *Granados X.*[2], Amorós J.[3], Puig T.[4], Obradors X.[4]
[1]Dept. Medi Ambient i Ciències del Sòl, Universitat de Lleida, Jaume II, 69. 25001 Lleida - Spain, [2]Institute of Materials Science of Barcelona-CSIC - Spain, [3]Dept. Matemàtica Aplicada I, Universitat Politècnica de Catalunya, Diagonal 647, Barcelona - Spain, [4]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain

2P-WT2-15

Experimental and numerical methods for the characterization of Superconducting YBCO-based tapes and components

Angeli G.[1], Bocchi M.[1], Ascade M.[1], Rossi V.[1], Valzasina A.[1], Martini L.[1]
[1]Ricerca sul Sistema Energetico - RSE S.p.A. - Italy

2P-WT2-16

In situ comparison between direct and magnetization critical current measurements on REBCO coated conductors

Stangl A.[1], Sinclair J.[2], Coulter Y.[3], Santos M.[2], Hu X.[2], Jaroszynski J.[2], Weber H.W.[4]
[1]Vienna University of Technology, NHMFL - Austria, [2]NHMFL - United States, [3]Los Alamos National Laboratory - United States, [4]Vienna University of Technology - Austria

2P-WT2-17

Effects of heat-treatment on the irreversible and reversible strain properties of Ti-doped Nb_3Sn superconducting wires made by the restacked-rod process

Cheggour N.[1], Ghosh A.K.[2], Lee P.J.[3]
[1]UCB/NIST - United States, [2]Brookhaven National Lab - United States, [3]FSU - United States

2P-WT2-18

Room temperature stress-strain curve and its correlation to the superconducting transport properties of MgB_2 ex-situ wires developed for the LHC superconducting link project

Piccardo R.[1], Barberis F.[2], Capurro M.[2], Cirillo P.[2], Zattera E.[2], Ballarino A.[3], Bordini B.[3], Cubeda V.[1], Nardelli D.[1], Tropeano M.[1], Grasso G.[1]
[1]Columbus Superconductors S.p.A - Italy, [2]Università degli Studi di Genova - Italy, [3]CERN, Technology Department - Switzerland

2P-WT2-19

Simulations of temperature effects and magnetic field distribution of Magnetized YBCO Tape Stacks.

Maynou R.[1], Lopez J.[1], Granados X.[2], Bosch R.[1]
[1]UPC - Barcelona Tech - Spain, [2]Institute of Materials Science of Barcelona-CSIC - Spain

2P-WT3: BSCCO and Fe-based Superconductors
Tuesday, September 17 @ 14:15 in Poster Area
Chair: *Fumitake Kametani, Christian Scheuerlein*

2P-WT3-01

Effect of heat treatment on superconducting properties of FeSe wire fabricated by PIT method

Vlasenko V.[1], *Pervakov K.*[1], Pudalov V.[1], Prudkoglyad V.[1], Berbentsev V.[2], Gavrilkin S.[1], Eltsev Y.[1]
[1]Lebedev Physical Institute - Russian Federation, [2]Institute for High Pressure Physics - Russian Federation

2P-WT3-02

In situ studies of Bi-2212/Ag partial melt processing by combined synchrotron micro-tomography and diffraction

Kadar J.[1], *Scheuerlein C.*[1], Ballarino A.[2], Bottura L.[1], Di Michiel M.[3], Rikel M.[4], Bock J.[5], Hobl A.[4], Miao H.[6], Huang Y.[6], Jiang J.[7], Hellstrom E.[7], Larbalestier D.[7]
[1]CERN - Switzerland, [2]CERN, Technology Department - Switzerland, [3]ESRF - France, [4]Nexans SuperConductors - Germany, [5]Nexans SuperConductors GmbH - Germany, [6]Oxford Superconducting Technology - United States, [7]Applied Superconductivity Center, NHMFL, Florida State University - United States

2P-WT3-03

Groove-rolling process as a successful way to fabricate Bi-2212 wires with improved critical current density

Malagoli A.[1], Braccini V.[1], Chaud X.[2], Debray F.[3], Putti M.[4]
[1]CNR-SPIN, Genova - Italy, [2]CNRS LNCMI CRETA, F-38042 Grenoble 09 - France, [3]CNRS/LNCMI - France, [4]Physics Department, University of Genova - Italy

2P-WT3-04

Critical current measurement of Bi2212 round wires

Liu B.[1], Qin J.[1]
[1]Chinese Academy of Sciences - China

2P-WT3-05

Comparison of J_c characteristics in PIT wires based on $BaFe_2As_2$ with different substitutions

Tamegai T.[1], Pyon S.[1], Ding Q.[1], Inoue H.[1], Kobayashi H.[1], Tsuchiya Y.[1], Sun Y.[1]
[1]Department of Applied Physics, University of Tokyo - Japan

2P-WT3-06

The effect of SiO_2 addition on the formation and the superconducting properties of $Bi_2Sr_2CaCu_2O_{8+\delta}$ System

Nora B.[1], Mosbah M.F.[2]
[1]Material Science and Applications Research Unit, Physics Dept., Mentouri

University - Constantine - Algeria, [2]Material Science and Applicati - Algeria

2P-WT3-07

$Bi_2Sr_2CaCu_2O_x$ multifilamentary round wire conductor and its applications in high field superconducting magnets

Shen T.[1], Li P.[1], Cooley L.[1], Ghosh A.K.[2], Huang Y.[3], Miao H.[3], Jiang J.[4]
[1]Fermi National Accelerator Lab - United States, [2]Brookhaven National Lab - United States, [3]Oxford Superconducting Technology - United States, [4]Applied Superconductivity Center, NHMFL, Florida State University - United States

2P-WT3-08

Preparation of Monel sheathed $Ba_{0.6}K_{0.4}Fe_2As_2$ superconducting wires without heattreatment

Shi Z.X.[1]
[1]Southeast University - China

2P-WT3-09

Fe(Se,Te) wires for current transport

Palombo M.[1], Pani M.[1], Bernini C.[2], Palenzona A.[3], Malagoli A.[2], Putti M.[1]
[1]Physics Dept. Genova Univ. and CNR-SPIN Genova - Italy, [2]CNR-SPIN, Genova - Italy, [3]Chemistry Dept. Genova Univ. and CNR-SPIN Genova - Italy

2P-WT4: Critical Current and Flux Pinning

Tuesday, September 17 @ 14:15 in Poster Area
Chair: *Jan Jaroszynskii, Kaname Matsumoto*

2P-WT4-01

Analysis of the anisotropic critical current behaviour of HTS coated conductors

Leys P.[1], Klaeser M.[1], Schleissinger F.[1], Schneider T.[1]
[1]K.I.T., Karlsruhe - Germany

2P-WT4-02

Synthesis of Ta_2O_5, HfO_2 and $BaHfO_3$ nanoparticles as artificial pinning centers in YBCO

De Roo J.[1], De Keukeleere K.[1], Feys J.[1], Lommens P.[1], Van Driessche I.[1]
[1]Ghent University - Belgium

2P-WT4-03

A model describing the changes in volume pinning force due to radiation induced defects in state-of-the-art multifilamentary Nb_3Sn wires

Baumgartner T.[1], Eisterer M.[1], Weber H.W.[1], Scheuerlein C.[2], Flukiger R.[2], Bottura L.[2]
[1]Atominstitut, Vienna University of Technology - Austria, [2]CERN - Switzerland

2P-WT4-04

Improvement of critical current densities in SmBCO films with $BaMnO_3$ nanorods using low temperature growth

Yoshida Y.[1], *Miura S.*[2], Tsuruta A.[2], Ichino Y.[2], Mastumoto K.[3], Ichinose A.[4], Awaji S.[5]

[1]Nagoya University - Japan, [2]Nagoya university - Japan, [3]Kyushu Institute of Technology - Japan, [4]Central Research Institute of Electric Power Industry - Japan, [5]Tohoku University - Japan

2P-WT4-05

Determination of pinning parameters for $YBa_2Cu_3O_{7-\delta}$ thin films from the flux-creep data.

Sannikov I.[1], Kuznetsov A.[1], Ivanov A.[1], Churkin O.[1]

[1]NRNU MEPHI - Russian Federation

2P-WT4-06

Magnetic-Circuit method: a technique to examine the Ic uniformity of HTS tapes with and without magnetic substrate

Gu C.[1], Shengnan Z.[1], Qu T.[2], Xiaohang L.[3]

[1]Applied Superconductivity Research Center, Tsinghua Uni. Beijing - China, [2]Department of Mechanical Engineering, Tsinghua University - China, [3]Innova Superconductor Technology Co., Ltd., Beijing - China

2P-WT4-07

Ferromagnetic nanoparticles as efficient bulk pinning centers in HTSC

Maksimova A.[1]

[1]NRNU MEPHI - Russian Federation

2P-WT4-08

Tuning the critical current properties of YBCO based nanocomposite thin films by controlling the target rotation speed

Jha A.K.[1], Matsumoto K.[1], Horide T.[1]

[1]Kyushu Institute of Technology - Japan

2P-WT4-09

The effects of density and size of $BaMO_3$ (M=Zr, Nb, Sn) nanoparticles on the superconducting properties in $(Y,Gd)Ba_2Cu_3O_y$ coated conductors

Miura M.[1], Jung S.H.[1], Sato M.[1], Kato T.[2], Takagi Y.[3], Izumi T.[3], Shiohara Y.[3]

[1]Graduate school of Science and Technology, SEIKEI University - Japan, [2]Materials R&D Laboratory, Japan Fine Ceramics Center - Japan, [3]Superconductivity Research Laboratory-ISTEC - Japan

2P-WT4-10

Critical current density in REBCO coated conductors in longitudinal magnetic field

Kiuchi M.[1], Tanabe K.[1], Vyatkin V.S.[2], Otabe E.S.[1], Matsushita T.[1]

[1]Kyushu Institute of Technology - Japan, [2]Kyushu Institute of

Technology - Russian Federation

2P-WT4-11

Cryogen-free 1kA-class Ic measurement system featuring an 8T HTS magnet

Strickland N.[1], Hoffmann C.[2], Wimbush S.[1], Pooke D.[3], Huang T.[3], Lazic Z.[3], Chamritski V.[3], Talantsev E.[1], Long N.[1], *Tallon J.*[1]

[1]Callaghan Innovation - New Zealand, [2]Industrial Research Ltd - New Zealand, [3]HTS-110 - New Zealand

2P-WT4-12

Control of the superconducting properties on $BaHfO_3$-doped $SmBa_2Cu_3O_y$ films by changing the additive amount and substrate temperature

Tsuruta A.[1], Yoshida Y.[1], Ichino Y.[1], Ichinose A.[2], Matsumoto K.[3], Awaji S.[4]

[1]Nagoya University - Japan, [2]CRIEPI - Japan, [3]Kyushu Institute of Technology - Japan, [4]High Field Laboratory for Superconducting Materials, IMR, Tohoku University - Japan

2P-WT4-13

Influence of the magnetic flux in HTS tape on the critical-current density

Kase S.[1], Tsuzuki K.[1], Miki M.[1], Izumi M.[1], Murase Y.[2], Umemoto K.[2], Yanamoto T.[2]

[1]Tokyo University of Marine Science and Technology - Japan, [2]Kawasaki Heavy Ind - Japan

2P-WT4-14

HTS critical current characterization at LNCMI

Miyoshi Y.[1], Marpaud J.[1], Chaud X.[2], Debray F.[3]

[1]LNCMI, CNRS - France, [2]CNRS LNCMI CRETA, F-38042 Grenoble 09 - France, [3]CNRS/LNCMI - France

2P-WT4-15

Multi-pulse current measurement of critical currents in low external fields

Mešišek T.[1], Kováč P.[1]

[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

2P-WT4-16

Geometry-controlled hysteresis in the transport critical-current density of superconducting films

Del-Valle N.[1], Navau C.[1], Via G.[1], Sanchez A.[2]

[1]Universitat Autonoma Barcelona - Spain, [2]Grup d'electromagnetisme, Departament de Física, Universitat Autonoma de Barcelona - Spain

2P-WT4-17

Enhancement of pinning properties of superconducting thin films by graded pinning landscapes

Motta M.[1], Colauto F.[2], *Ortiz W.*[3], Fritzche J.[4], Cuppens J.[5], Gillijns W.[5], Moshchalkov V.[5], Johansen T.H.[6], Sanchez A.[7], Silhanek A.[8]
[1]Physics Department, UFSCarbraz - Brazil, [2]Physics Department, UFSCar - Brazil, [3]UFSCar - Brazil, [4]Department of Applied Physics, Chalmers University of Technology - Sweden, [5]INPAC, Nanoscale Superconductivity and Magnetism Group, K. U. Leuven - Belgium, [6]Department of Physics, University of Oslo - Norway, [7]Grup d'electromagnetisme, Departament de Física, Universitat Autonoma de Barcelona - Spain, [8]Dèpartement de Physique, Université de Liège - Belgium

2P-WT4-18

The effect of Y_2O_3 and $YFeO_3$ additions on the critical current density of YBCO coated conductors

Lao M.[1], Eisterer M.[1], Stadel O.[2]
[1]Atominstitut, Vienna University of Technology - Austria, [2]PerCoTech - Germany

2P-WT4-19

Reel-to-reel critical current characterization and analysis of long lengths of commercially available coated conductor

Sinclair J.[1], Jaroszynski J.[2], Coulter Y.[3], Stangl A.[4], Santos M.[5], Hu X.[6], Larbalestier D.[7]
[1]National High Magnetic Laborator - United States, [2]NHMFL - United States, [3]Los Alamos National Laboratory - United States, [4]Vienna University of Technology - Austria, [5]National High Magnetic Field Laboratoory - United States, [6]National High Magnetic Field Laboratory - United States, [7]Applied Superconductivity Center, NHMFL, Florida State University - United States

2P-WT4-20

Modeling and calculation of critical current density in polycrystalline iron pnictide superconductors

Yi D.[1], Yue S.[1], Jincheng Z.[1], Feifei Y.[1], Zhou W.[1], Shi Z.X.[1]
[1]Southeast University - China

2P-WT4-21

Critical current distribution and pinning force distribution influence on E-J characteristics of 2G YBCO Tapes

Falorio I.[1]
[1]University of Southampton - United Kingdom

PARALLEL ORAL SESSIONS 2A

2A-EL: Detectors, Readout and Instrumentation
Tuesday, September 17 @ 16:15 in Room Libeccio
Chair: *Flavio Gatti, Sae Woo Nam*

16:15 2A-EL-I1

The path towards multi-pixel arrays of superconducting detectors

Ortlepp T.[1], Hofherr M.[2], Brandel O.[3], Toussaint J.[3], Ilin K.[2], May T.[3],

Meyer H.G.[4], Siegel M.[2]
[1]CiS Research Institute - Germany, [2]Karlsruhe Institute of Technology - Germany, [3]IPHT Jena - Germany, [4]Institute of Photonic Technology - Germany

16:45 2A-EL-O1
Parallel superconducting strip-line detectors: operation in the single strip switch regime
Casaburi A.[1], Heath R.M.[1], Tanner M.G.[1], Cristiano R.[2], Ejrnaes M.[2], Nappi C.[2], Hadfield R.H.[1]
[1]University of Glasgow - United Kingdom, [2]Istituto di Cibernetica "E. Caianiello" del Consiglio Nazionale delle Ricerche - Italy

17:00 2A-EL-O2
Superconducting Nonlinear Kinetic Inductance Devices
Kher A.[1], Day P.[2], Eom B.H.[1], Leduc H.[2], Zmuidzinas J.[1]
[1]California Institute of Technology - United States, [2]NASA Jet Propulsion Laboratory - United States

17:15 2A-EL-O3
Superconducting nanowire as junctionless transistor and/or quantum standard of electric current
Arutyunov K.[1], Lehtinen J.[2]
[1]Jyväskylä Univ., Physics Dept., NanoScience Centre & NPI Moscow (Russian Federation) - Finland, [2]Nuclear Physics Institute (NPI), Moscow State University - Russian Federation

17:30 2A-EL-O4
Superconducting Microresonator Detectors for Neutrino Physics in Milano
Ferri E.[1], Nucciotti A.[1], Faverzani M.[1], Giachero A.[1], Day P.[2], Giordano C.[3], Margesin B.[3]
[1]University and INFN Milano Bicocca - Italy, [2]NASA Jet Propulsion Laboratory - United States, [3]FBK, Trento - Italy

17:45 2A-EL-O5
Development of an MKID-based x-ray microcalorimeter
Quaranta O.[1], Cecil T.[1], Gades L.[1], Miceli A.[1]
[1]Argonne National Laboratory - United States

18:00 2A-EL-O6
Large area a-thermal phonon TES detector mediated by the quasiparticle diffusion signal for space application
Biasotti M.[1], Bagliani D.[2], Boragno C.[2], Corsini D.[2], Gatti F.[2], *Pizzigoni G.*[2]
[1]University of Genova - Italy, [2]University and INFN Genova - Italy

18:15 2A-EL-O7
Multiplexed readout of metallic magnetic calorimeters using non-hysteretic, unshunted rf-SQUIDs

Kempf S.[1], Ferring A.[1], Wegner M.[1], Fleischmann A.[1], Gastaldo L.[1], Enss C.[1]
[1]KIP Heidelberg - Germany

2A-MA: LTS and MgB2
Tuesday, September 17 @ 16:15 in Room Maestrale
Chair: *Giovanni Giunchi, Janusz Karpinsky*

16:15 2A-MA-I1
Probing two-band superconductivity by experiment
Zehetmayer M.[1], Eisterer M.[1]
[1]Atominstitut, Vienna University of Technology - Austria

16:45 2A-MA-O1
Nanostructural inhomogenities as pinning centers in bulk MgB_2 with low and enhanced grain connectivity
Prikhna T.[1], Eisterer M.[2], Weber H.W.[2], Gawalek W.[3], Kovylaev V.[4], Kozyrev A.[5], Karpets M.[5], Sverdun V.[5], Basyuk T.[5], Moshchil V.[5]
[1]Institute for Superhard materials of the National Academy of Ukraine - Ukraine, [2]Atominstitut, Vienna University of Technology - Austria, [3]Institut für Photonische Technologien - Germany, [4]Institute for Problems in Material Science, of the National Academy of Sciences of Ukraine - Ukraine, [5]Institute for Superhard Materials of the National Academy of Ukraine - Ukraine

17:00 2A-MA-O2
MgB_2 powder size determination adopting different measurement techniques: magnetization curve, SEM image analysis and surface area measurements.
Vignolo M.[1], Bovone G.[1], Buscaglia V.[2], Buscaglia M.[2], Bernini C.[1], Bellingeri E.[1], Siri A.S.[3]
[1]CNR-SPIN, Genova - Italy, [2]CNR-IENI - Italy, [3]Dipartimento di Fisica, Università degli Studi di Genova - Italy

17:15 2A-MA-O3
MgB_2 superconducting bulk for permanent magnet applications
Tomita M.[1], Ishihara A.[1], Akasaka T.[1], Muralidhar M.[1], Yamamoto A.[2], Kishio K.[3]
[1]Railway Technical Research Institute - Japan, [2]The University of Tokyo, JST-PRESTO - Japan, [3]The University of Tokyo - Japan

17:30 2A-MA-O4
Systematic studies on superconducting properties of MgB_2 synthesized by different size of Mg and B precursor powders
Sinha B.B.[1], Chung K.C.[1], Jang S.H.[1], Kim J.H.[2], Dou S.X.[2]
[1]KIMS - Republic of Korea, [2]ISEM - Australia

17:45 2A-MA-O5
A single atomic layer Pb/Si superconductor as a network of native

Josephson junctions

Brun C.[1], Cren T.[1], Cherkez V.[1], Fokin D.[2], Debontridder F.[1], Pons S.[1], Tringides M.[3], Bozhko S.[4], *Roditchev D.*[5]

[1]Institut des Nanosciences de Paris, Universite Pierre et Marie Curie UPMC and CNRS-UMR 7588 - France, [2]Joint Institute for High Temperatures, RAS 125412, Moscow - Russian Federation, [3]Ames Laboratory USDOE and Department of Physics and Astronomy, Iowa State University - Ames - United States, [4]Institute for Solid State Physics, RAS 142432, Chernogolovka - Russian Federation, [5]LPEM and INSP Univ. Paris 6 FR - France

18:00 2A-MA-O6

Superconductivity and magneto-resistance oscillations in amorphous Ga films

Skrotzki R.[1], Herrmannsdörfer T.[1], Schönemann R.[1], Heera V.[1], Fiedler J.[1], Kampert E.[1], Wolff-Fabris F.[1], Philipp P.[1], Bischoff L.[1], Voelskow M.[1], Mucklich A.[1], Schmidt B.[1], Skorupa W.[1], Helm M.[1], Wosnitza J.[1]

[1]Helmholtz-Zentrum Dresden-Rossendorf (HZDR) - Germany

18:15 2A-MA-O7

Improvement in C-doping and synthesis process of boron powder useful for superconducting application

Bovone G.[1], Vignolo M.[2], Palenzona A.[3], Bernini C.[3], Siri A.S.[4]

[1]DIFI - Italy, [2]SPIN-CNR - Italy, [3]CNR-SPIN, Genova - Italy, [4]Dipartimento di Fisica, Università degli Studi di Genova - Italy

2A-WL: Advanced Technologies for Cables

Tuesday, September 17 @ 16:15 in Room Scirocco

Chair: *Riccardo Musenich, Pierluigi Bruzzone*

16:15 2A-WL-I1

Development of Superconducting Links for the LHC machine

Ballarino A.[1]

[1]CERN - Switzerland

16:45 2A-WL-O1

Results of the test of a pair of 20 kA HTS current leads

Wesche R.[1], Bruzzone P.[1], Fiamozzi Zignani C.[2], Affinito L.[2], Chiarelli S.[2], Freda R.[2], Marchetti M.[2], Ehmler H.[3], Heinrich J.[3], Smeibidl P.[3]

[1]EPFL-CRPP Fusion Technology - Switzerland, [2]ENEA C.R. FRASCATI - Italy, [3]Helmholtz Zentrum Berlin - Germany

17:00 2A-WL-O2

Installation and Demonstration of 275 kV- 3 kA HTS Cable System

Liu J.[1], Yagi M.[1], Mukoyama S.[1], Mitsuhashi T.[1], Ohkuma T.[2], Maruyama O.[2], Hayakawa N.[3], Wang X.[4], Ishiyama A.[4], Amemiya N.[5], Hasegawa T.[6], Saitoh T.[7]

[1]Furukawa Electric Co., Ltd. - Japan, [2]ISTEC SRL - Japan, [3]Nagoya University - Japan, [4]Waseda University - Japan, [5]Kyoto University - Japan, [6]Showa Cable Systems - Japan, [7]Fujikura. Ltd - Japan

17:15 2A-WL-O3

Superconducting Cable Systems for Power Transmission on Board a Ship

Bruzek C.E.[1], Marzahn E.[2], Lallouet N.[3], Alleweins K.[2]

[1]Nexans France, Etablissement de Clichy, 4-10 rue Mozart, 92587 Clichy Cedex - France, [2]Nexans Deutschland GmbH, Superconducting Cable Systems (HTS), Kabelkamp 20, 30179 Hannover - Germany, [3]Nexans France, 536 Quai de la loire, 62225 Calais - France

17:30 2A-WL-O4

Design and construction of a cable for fusion composed of coated conductors

Uglietti D.[1], Wesche R.[2], Bruzzone P.[2]

[1]CRPP - Switzerland, [2]EPFL-CRPP Fusion Technology - Switzerland

17:45 2A-WL-O5

Electro-Mechanical Characterization of the MgB_2 wire developed for the LHC Superconducting Link Project

Bordini B.[1], Ballarino A.[1], Richter D.[1], Cubeda V.[2], Grasso G.[2], Piccardo R.[2], Tropeano M.[2]

[1]CERN, Technology Department - Switzerland, [2]Columbus Superconductors S.p.A - Italy

18:00 2A-WL-O6

Mechanical testing of REBCO coated conductors, joints and the effect of transverse compressive stress on the ac losses of CORC cables

Yagotintsev K.A.[1], Gao P.[1], Kosse J.[1], Lagraauw R.[2], Otten S.J.[1], van Melzen M.[1], Pompe van Meerdervoort R.P.[1], Wessel W.A.J.[1], Krooshoop H.J.G.[1], Dhallé M.[1], Haugan T.J.[3], van der Laan D.C.[4], Fabbri F.[5], Celentano G.[5], *Nijhuis A.*[6]

[1]University of Twente, Enschede - Netherlands, [2]University of Twente - Netherlands, [3]US Air Force Research Laboratory, Wright Patterson AFB - United States, [4]Advanced Conductor Technologies and University of Colorado, Boulder - United States, [5]ENEA C.R. FRASCATI - Italy, [6]University of Twente, Faculty of Science & Technology, 7522 NB Enschede - Netherlands

18:15 2A-WL-O7

Properties of Roebel assembled coated conductor cables in the shape of solenoid and pancake coils

Goldacker W.[1], Kario A.[1], Vojenčiak M.[1], Kling A.[1], Jung A.[1], Brand J.[1], Walschburger U.[1]

[1]Karlsruhe Institute of Technology, ITEP - Germany

2A-WT: Flux Pinning and Critical Current

Tuesday, September 17 @ 16:15 in Room Levante e Ponente

Chair: *Michael Eisterer, Sandro Pace*

16:15 2A-WT-I1

From 2G conductors to practical conductors - What needs to be improved?

Noe M.[1], Goldacker W.[1], Holzapfel B.[2]

[1]Karlsruhe Institute of Technology - Germany, [2]IFW Dresden - Germany

16:45 2A-WT-O1

Flux pinning in epitaxial $YBa_2Cu_3O_{7-x}$ films with segmented $BaSnO_3$ nanords and additional artificial pinning centers

Matsumoto K.[1], Horide T.[1], Yoshida Y.[2], Awaji S.[3], Mele P.[4], Ichinose A.[5]

[1]Kyushu Institute of Technology - Japan, [2]Nagoya University - Japan, [3]High Field Laboratory for Superconducting Materials, IMR, Tohoku University - Japan, [4]Hiroshima University - Japan, [5]CRIEPI - Japan

17:00 2A-WT-O2

Critical current properties of BHO doped REBCO films with the high irreversibility field.

Awaji S.[1], Kikuchi Y.[1], Watanabe K.[1], Tsuruta A.[2], Yoshida Y.[2]

[1]High Field Laboratory for Superconducting Materials, IMR, Tohoku University - Japan, [2]Nagoya University - Japan

17:15 2A-WT-O3

Tuning vortex pinning landscape of CSD YBCO nanocomposites by 248-intergrowth control

Puig T.[1], Gázquez J.[1], Coll M.[1], Guzmán R.[1], Rouco V.[1], Palau A.[1], Salafranca J.[2], Mihsra R.[2], Varela M.[2], Obradors X.[1]

[1]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain, [2]Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831 - United States

17:30 2A-WT-O4

REBCO coated conductors characterization and anomalous critical currents at very strong magnetic fields.

Jaroszynski J.[1], Abraimov D.[1], Braccini V.[2], Xu A.[1], Sinclair J.[1], Santos M.[1], Polyanskii A.[1], Weijers H.[1], Larbalestier D.[3]

[1]NHMFL - United States, [2]SPIN - Italy, [3]Applied Superconductivity Center, NHMFL, Florida State University - United States

17:45 2A-WT-O5

Development of reel-to-reel high speed scanning Hall-probe microscope system as a diagnostic method of long RE-123 coated conductors

Kiss T.[1], Higashikawa K.[1], Okumura K.[1], Shiohara K.[1], Inoue M.[1], Ibi A.[2], Yoshizumi M.[2], Izumi T.[2], Shiohara Y.[2], Kimura K.[3], Koizumi T.[3], Aoki N.[3]

[1]Department of Electrical Engineering, Kyushu University, Fukuoka - Japan, [2]SRL-ISTEC, Tokyo 135-0062 - Japan, [3]SWCC Showa cable systems Co., Ltd, Sagamihara 252-0253 - Japan

18:00 2A-WT-O6

Critical current density of Nb_3Sn wires after irradiation with 65 MeV and 24 GeV protons

Spina T.[1], Scheuerlein C.[1], Richter D.[1], Bottura L.[1], Ballarino A.[2], Flukiger R.[1]

[1]CERN - Switzerland, [2]CERN, Technology Department - Switzerland

18:15 2A-WT-O7

On the derivation of the $J_c(B)$ dependence of HTS and its use in electromagnetic models of HTS devices

Grilli F.[1], Vojenčiak M.[1], Zermeno V.[2], Sirois F.[3]

[1]Karlsruhe Institute of Technology - Germany, [2]Karlsruher Institut für Technologie, Institut für Technische Physik - Germany, [3]Polytechnique Montreal - Canada

PLENARY SESSION 3

3PL: Plenary Session III
Wednesday, September 18 @ 08:30 in Room Maestrale
Chair: *Horst Rogalla (3PL01), Marina Putti (3PL02)*

08:30 3PL01
Let's twist (again); developments related to topology in superconducting electronics
Hilgenkamp H.[1]
[1]MESA+ Institute for Nanotechnology, Twente Univ. - Netherlands

09:15 3PL02
Challenges and Opportunities for Applications of Unconventional Superconductors
Gurevich A.[1]
[1]Old Dominion University, Norfolk - United States

PARALLEL ORAL SESSIONS 3M

3M-EL: Microwaves and THz Devices
Wednesday, September 18 @ 10:30 in Room Libeccio
Chair: *Pascal Febvre, Sergio Pagano*

10:30 3M-EL-I1
Superconducting detectors for Millimetron space mission
Baryshev A.[1], Smirnov A.[2], Likhachev S.[2], Koshelets V.[3], Goltsman G.[4], Kardashev N.[2]
[1]Netherlands Institute for Space Research & Kapteyn Astronomical Institute, Groningen - Netherlands, [2]Astro Space Center of Lebedev Physical Institute, Moscow - Russian Federation, [3]Kotel'nikov Institute of Radioengineering and Electronics, Moscow - Russian Federation, [4]Department of Physics, Moscow State Pedagogical University, Moscow - Russian Federation

11:00 3M-EL-O1
Temperature and bias tuning of terahertz emission from Bi2212 intrinsic Josephson junction stacks
Kakeya I.[1], Hirayama N.[1], Mizuta S.[1], Nakagawa T.[1], Suzuki M.[1]
[1]Kyoto University - Japan

11:15 3M-EL-O2
Niobium based SIS junctions with niobium titanium nitride leads:

Effect of different shape normal metal layers on the electron temperature

Selig S.[1], Westig M.P.[1], Jacobs K.[1], Honingh C.E.[1]
[1]I. Physikalisches Institut, Universität zu Köln - Germany

11:30 3M-EL-O3

Superconducting Integrated Submm Wave Receivers for Earth Atmosphere Monitoring and Laboratory Applications

Koshelets V.[1], Ermakov A.[2], Filippenko L.[2], Kalashnikov K.[2], Kinev N.[2], Kiselev O.[2], de Lange A.[3], de Lange G.[3], Torgashin M.[2], Vaks V.[4], Yuan J.[5], Wang H.[5]
[1]Kotel'nikov Institute of Radio Engineering and Electronics - Russian Federation, [2]Kotel'nikov IREE RAS - Russian Federation, [3]SRON Netherlands Institute for Space Research - Netherlands, [4]Institute for Physics of Microstructure - Russian Federation, [5]National Institute for Materials Science - Japan

11:45 3M-EL-O4

Resonance Cold-Electron Bolometer with a Compact Internal Filter using a Kinetic Inductance of the NbN strip

Kuzmin L.[1]
[1]Chalmers University of Technology - Sweden

12:00 3M-EL-O5

A Traveling Wave Kinetic Inductance Parametric Amplifier

Day P.[1], Leduc H.[1], Chaudhuri S.[2], Kher A.[2], Zmuidzinas J.[2], Wollman E.[2]
[1]NASA Jet Propulsion Laboratory - United States, [2]California Institute of Technology - United States

12:15 3M-EL-O6

Terahertz Response of a Microwave Kinetic Inductance Detector with an NbN Spiral Resonator

Ariyoshi S.[1], Nakajima K.[2], Saito A.[2], Taino T.[3], Tanoue H.[3], Hayashi K.[2], Yamada H.[2], Ohshima S.[2], Otani C.[4], Bae J.[1]
[1]Nagoya Institute of Technology - Japan, [2]Yamagata University - Japan, [3]Saitama University - Japan, [4]RIKEN - Japan

12:30 3M-EL-O7

Large Area Superconducting TES Spider WEB Bolometer for Multi-mode Cavity Microwave Detection

Biasotti M.[1], Bagliani D.[1], Corsini D.[1], Gatti F.[1], Pizzigoni G.[1], De Bernardis P.[2], Masi S.[2], Schillaci A.[2], Gualtieri R.[2]
[1]University of Genova - Italy, [2]Univ. Roma "La Sapienza" - Italy

3M-LS: Industrial, High Field and Innovative Magnets

Wednesday, September 18 @ 10:30 in Room Scirocco

Chair: *Luca Bottura, Francois Kircher*

10:30 3M-LS-I1

High Field Magnets Using High Temperature Superconductors: Progress and Challenges

Schwartz J.[1]

[1]North Carolina State Universit - United States

11:00 3M-LS-O1

The 45-m-long HTS Maglev ring line in Chengdu, China

Deng Z.[1], Zhang W.[1], Zheng J.[1], Ren Y.[1], Deng C.[1], Jiang D.[1], Gou Y.[1], Ma G.[1], Zhang Y.[1]

[1]Southwest Jiaotong University - China

11:15 3M-LS-O2

22 Tesla Measurement System For Magnetic Characterisation Studies And A Range Of Other Physical Properties

Mitchell R.[1], Ritman-Meer T.[1]

[1]Cryogenic Ltd - United Kingdom

11:30 3M-LS-O3

New Generation of High Field Superconducting Research Magnets

Melhem Z.[1], Brown J.[1], Chappell S.[1], Jokinen A.[1], Ball S.[1], Twin A.[1], Warren D.[1], Wotherspoon R.[1], Viznichenko R.[1], Burgoyne J.[1]

[1]Oxford Instruments - United Kingdom

11:45 3M-LS-O4

Manufacture and test of large size Bi-2223 HTS magnet coil

Hong H.[1], Cui J.[1], Tian B.[1], Sun Y.[1], Li Q.[1], Wang L.[1], Gong W.[1], Zhang J.[1], Wei Z.[1], Chen Z.[1], Yu M.[2], Wei B.[2], Xin Y.[1]

[1]Innopower Superconductor Cable Co. - China, [2]Guangdong Power Grid Co. - China

12:00 3M-LS-O5

Space Radiation Superconducting Shields

Musenich R.[1], Battiston R.[2], Burger W.[3], Calvelli V.[4], Farinon S.[1]

[1]INFN-Genova - Italy, [2]INFN-Perugia and Università di Trento - Italy, [3]Università di Perugia - Italy, [4]Università di Genova - Italy

12:15 3M-LS-O6

$REBa_2Cu_3O_{7-x}$ Coated Conductor and $Bi_2Sr_2CaCu_2O_{8-x}$ round wire wound coils as part of a combined LTS-HTS high field demonstration Magnet targeting high field homogeneity

Trociewitz U.P.[1], Dalban-Canassy M.[1], Hellstrom E.[2], Hilton D.[1], Jiang J.[2], Miller G.[3], Whittington A.[1], Larbalestier D.[2]

[1]NHMFL/ASC - United States, [2]Applied Superconductivity Center, NHMFL, Florida State University - United States, [3]NHMFL/MST - United States

12:30 3M-LS-O7

Development plan of the 25T cryogen-free superconducting magnet

Awaji S.[1], Oguro H.[1], Watanabe K.[1], Miyazaki H.[2], Tosaka T.[3], Hanai S.[2], Ioka S.[2]

[1]High Field Laboratory for Superconducting Materials, IMR, Tohoku University - Japan, [2]Toshiba Corporation - Japan, [3]Toshiba - Japan

3M-MA: Fe-based Superconductors Thin Films
Wednesday, September 18 @ 10:30 in Room Maestrale
Chair: *Renato Gonnelli, Michio Naito*

10:30 3M-MA-I1
Development of very high critical current densities in Ba-122 thin films by self-assembled and artificial pin arrays
Tarantini C.[1], Kametani F.[1], Weiss J.[1], Jiang J.[1], Hellstrom E.[1], Jaroszynski J.[2], Lee S.[3], Eom C.B.[3], Larbalestier D.[1]
[1]Applied Superconductivity Center, NHMFL, Florida State University - United States, [2]NHMFL - United States, [3]University of Wisconsin - United States

11:00 3M-MA-I2
Tuning superconductivity and pinning mechanisms of Fe(Se,Te) thin films by strain technology
Bellingeri E.[1], Braccini V.[1], Kawale S.[1], Tarantini C.[2], Lamura G.[1], Caglieris F.[1], Jost A.[3], Gerbi A.[1], Buzio R.[1], Pellegrino L.[1], Palenzona A.[4], Sala A.[1], Reich E.[5], Putti M.[4], Ferdeghini C.[1]
[1]CNR-SPIN, Genova - Italy, [2]Applied Superconductivity Center, NHMFL, Florida State University - United States, [3]Radboud University Nijmegen High Field Magnet Laboratory - Netherlands, [4]Università di Genova, Dipartimento di Chimica and CNR-SPIN Genova - Italy, [5]IFW Dresden - Germany

11:30 3M-MA-O1
Strain induced superconductivity in non-doped Ba122 epitaxial thin films
Engelmann J.[1], Grinenko V.[1], Chekhonin P.[2], Skrotzki W.[2], Iida K.[1], Huhne R.[1], Kurth F.[1], Schultz L.[1], Holzapfel B.[1]
[1]IFW Dresden - Germany, [2]TU Dresden - Germany

11:45 3M-MA-O2
MBE growth of iron-based superconductors
Naito M.[1], Ueda S.[1], Takano S.[2], Sugawara H.[1], *Watanabe D.*[1]
[1]Tokyo University of Agriculture and Technology - Japan, [2]Department of Applied Physics, Tokyo University of Agriculture and Technology - Japan

12:00 3M-MA-O3
Enhancement of T_c in FeSe and $FeSe_{1-x}$ Te_x thin films on CaF_2 substrate
Imai Y.[1], Nabeshima F.[1], Hanawa M.[2], Ichinose A.[3], Tsukada I.[2], Maeda A.[1]
[1]University of Tokyo - Japan, [2]Central Research Institute of Electric Power Industry - Japan, [3]CRIEPI - Japan

12:15 3M-MA-O4
Growth of $BaFe_2(As,P)_2$ Thin Films by Molecular Beam Epitaxy

Ikuta H.[1], Mori Y.[1], Sakagami A.[1], Kawaguchi T.[1], Tabuchi M.[2], Ujihara T.[3]
[1]Department of Crystalline Materials Science, Nagoya University - Japan, [2]Synchrotron Radiation Research Center, Nagoya University - Japan, [3]Department of Materials Science and Engineering, Nagoya University - Japan

12:30 3M-MA-O5

High-fields transport properties of in-situ prepared epitaxial oxypnictide thin films

Iida K.[1], Haenisch J.[2], Kurth F.[1], Reich E.[2], Schultz L.[2], Holzapfel B.[2], Tarantini C.[3], Jaroszynski J.[4], Ueda S.[5], Naito M.[5], Ichinose A.[6], Tsukada I.[7]
[1]Leibniz Institute for Solid State and Materials Research, Dresden - Germany, [2]IFW Dresden - Germany, [3]Applied Superconductivity Center, NHMFL, Florida State University - United States, [4]NHMFL - United States, [5]Tokyo University of Agriculture and Technology - Japan, [6]CRIEPI - Japan, [7]Central Research Institute of Electric Power Industry - Japan

3M-WT: LTS Wires and HTS Thermal Stability

Wednesday, September 18 @ 10:30 in Room Levante e Ponente

Chair: *Antonio Dallacorte, Arno Godeke*

10:30 3M-WT-O1

Lattice parameter changes during uniaxial tensile loading of Nb_3Sn/Cu multifilament composite wires at 4.2 K

Scheuerlein C.[1], Di Michiel M.[2], Buta F.[3], Kadar J.[1], Bordini B.[4], Ballarino A.[4], Bottura L.[1], Seeber B.[5], Senatore C.[3], Flukiger R.[3]
[1]CERN - Switzerland, [2]ESRF - France, [3]UniGeneva - Switzerland, [4]CERN, Technology Department - Switzerland, [5]University of Geneva - Switzerland

10:45 3M-WT-O2

International benchmarking of strain-measurement facilities available in the U.S.A., Europe, and Asia: First assessment at fixed temperature and magnetic field

Cheggour N.[1], Nijhuis A.[2], Mondonico G.[3], Awaji S.[4], Tsui Y.[5], Liu F.[6], Sugano M.[7], Lee C.[8], Krooshoop H.J.G.[2], Splett J.D.[9], Wuis A.J.[10], Oh S.[8], Nishijima G.[11], Park S.H.[8], Hampshire D.P.[5], Senatore C.[3], Bordini B.[10], Goodrich L.F.[1], Seeber B.[3], Osamura K.[12], Devred A.[13]
[1]UCB/NIST - United States, [2]University of Twente - Netherlands, [3]University of Geneva - Switzerland, [4]University of Tohoku - Japan, [5]Durham University - United Kingdom, [6]ASIPP - China, [7]KEK - Japan, [8]NFRI - Republic of Korea, [9]NIST - United States, [10]CERN - Switzerland, [11]NIMS - Japan, [12]RIAS - Japan, [13]ITER-IO - France

11:00 3M-WT-O3

Field dependent calorimetry and thermal conductivity of Nb_3Sn and MgB_2 wires

Senatore C.[1], Bonura M.[2], Mondonico G.[2], Flukiger R.[1]
[1]UniGeneva - Switzerland, [2]University of Geneva - Switzerland

11:15 3M-WT-O4

Effect of Ti on Internal Tin Nb_3Sn Wires for Accelerator Magnets

Pong I.[1], Dietderich D.[1], Godeke A.[1], Mentink M.[1], Prestemon S.[1]
[1]Lawrence Berkeley National Laboratory - United States

11:30 3M-WT-O5

The Influence of Nb Filament Size on the Critical Current Density of Internal Tin Nb_3Sn Strands

Sun X.[1]
[1]Western Superconducting Technologies Co., Ltd. - China

11:45 3M-WT-O6

Minimum Quench Energy of High Temperature Superconducting Composites and Magnets

Yang Y.[1]
[1]University of Southampton - United Kingdom

12:00 3M-WT-O7

Thermal Conductivity of MgB_2 Wires and YBCO Tapes in High Magnetic Fields

Bonura M.[1], Senatore C.[2]
[1]University of Geneva - Switzerland, [2]UniGeneva - Switzerland

12:15 3M-WT-O8

Experimental investigation of various interfacial resistance architectures for accelerating the normal zone propagation velocity in 2G HTS coated conductors

Christian L.[1], Lapierre Y.[1], Founier-Lupien J.H.[1], McMeekin K.[1], Coulombe J.[1], Sirois F.[1]
[1]Polytechnique Montreal - Canada

12:30 3M-WT-O9

Advanced modeling for second generation high temperature superconducting pancake coils

Zhang M.[1], Coombs T.[2], Pamidi S.[3], Lai L.[4]
[1]Engineering Department, University of Cambridge Cambridge - United Kingdom, [2]EPEC Superconductivity Group, Cambridge University Engineering Department - United Kingdom, [3]Florida state university - United States, [4]University of Tsinghua - China

POSTER SESSIONS 3P

3P-EL1: Other Squid Applications

Wednesday, September 18 @ 14:15 in Poster Area

Chair: *Mikko Kirivanta, Kim Kiwoong*

3P-EL1-01

Wide dynamic range analog flux-locked loop system using Low-T_c SQUID for magnetocardiogram

Kobayashi K.[1], Katsuhiko M.[1], Yoshizawa M.[1], Oyama D.[2], Uchikawa Y.[3]

[1]Iwate University - Japan, [2]Kanazawa Institute of Technology - Japan, [3]Tokyo Denki University - Japan

3P-EL1-02

Study of Cu-wound Flux transformer for High-T_c SQUID Ultra-Low Field MRI

Tanaka S.[1], Murata H.[1], Imamura K.[1], Hatsukade Y.[1]

[1]Toyohashi Univ. of Tech - Japan

3P-EL1-03

Development of Integrated AC-DC Magnetometer using High Critical Temperature Superconductor SQUID for Magnetic Property Evaluation of Magnetic Nanoparticles in Solution

Saari M.M.[1], Takagi R.[1], Kusaka T.[1], Ishihara Y.[1], Tsukamoto Y.[1], Sakai K.[1], Kiwa T.[1], Tsukada K.[1]

[1]Okayama University - Japan

3P-EL1-04

DC current distribution mapping system of solar panels using a HTS-SQUID

Miyazaki S.[1], Kasuya S.[1], Saari M.M.[1], Sakai K.[1], Kiwa T.[1], Tsukamoto A.[2], Adachi S.[3], Tanabe K.[2], Tsukada K.[1]

[1]Okayama University - Japan, [2]ISTEC-SRL - Japan, [3]Superconductivity Research Laboratory-ISTEC, Koto-ku, Tokyo 135-0062 - Japan

3P-EL1-05

Novel SQUID sensor with high slew rate for transient electromagnetic method

Chang K.[1], Rong L.[1], Wang H.[1], Wang Y.[1], Zhao J.[2], Wu J.[1], Xu T.[3], Shi W.[3], Jiang K.[1], Qiu L.[1], Xie X.[1]

[1]State Key Laboratory of Functional Materials for Informatics, SIMIT - China, [2]Jilin University - China, [3]SIMIT,CAS - China

3P-EL1-06

Hybrid Measurement of Superconducting Materials by STM-SQUID Microscope

Hayashi T.[1], Tachiki M.[2], Machida T.[3], Ooi S.[2], He D.[2], Itozaki H.[4], Hirata K.[2]

[1]Sendai National College of Technology - Japan, [2]National Institute for Materials Science - Japan, [3]Tokyo University of Science - Japan, [4]Osaka University - Japan

3P-EL1-07

Improvements of Beam Current Monitor with High T_c Current Sensor and SQUID at RIBF

Watanabe T.[1], Fukunishi N.[1], Kase M.[1], Kamigaito O.[1], Inamori S.[2], Kon K.[2]
[1]RIKEN - Japan, [2]TEP Corporation - Japan

3P-EL1-08

Development of Contaminant Detection System based on Ultra-Low Field SQUID-NMR/MRI

Tsunaki S.[1], Yamamoto M.[1], Hatta J.[1], Hatsukade Y.[1], Tanaka S.[1]
[1]Toyohashi Univ. of Tech - Japan

3P-EL1-09

Development of Robust HTS-SQUID for Non-destructive Inspection System in Unshielded Environment

Yoshida K.[1], Kage T.[1], Hatsukade Y.[1], Tanaka S.[1]
[1]Toyohashi Univ. of Tech - Japan

3P-EL1-10

Liquid Nitrogen-Cooled Polarizing Coil using HTS wire for Ultra-Low Field HTS-SQUID NMR/MRI System

Hatta J.[1], Tsunaki S.[1], Yamamoto M.[1], Hatsukade Y.[1], Tanaka S.[1]
[1]Toyohashi University of Technology - Japan

3P-EL1-11

Fabrication and Calibration of a Superconducting Magnetic Full Tensor Gradiometer Module

Qiu L.[1], Shi W.[2], Chang K.[3], Rong L.[1], Wang H.[1], Zhang Y.[4], Xie X.[1]
[1]State Key Laboratory of Functional Materials for Informatics, SIMIT - China, [2]SIMIT,CAS - China, [3]Shanghai Institute of Microsystem and Information Technology (SIMIT) - China, [4]Peter Grünberg Institute (PGI-8), Forschungszentrum Jülich (FZJ), Jülich - Germany

3P-EL1-12

SQUID Predistortion and Its Application in Unmanned Aerial Vehicle Aviation Superconducting Magnetometer

Wu J.[1], Rong L.[1], Qiu L.[1], Wang H.[1], Wang Y.[1], Chang K.[1]
[1]State Key Laboratory of Functional Materials for Informatics, SIMIT - China

3P-EL1-13

Readout of Nano-Electromechanical Resonators by SQUID Sensors

Ruede F.[1], Drung D.[2], Schurig T.[1]
[1]PTB Berlin - Germany, [2]Physikalisch-Technische Bundesanstalt - Germany

3P-EL1-14

Measurement of Ultra-Low-Field Nuclear Magnetic Resonance Using a Tuned HTS-SQUID Magnetometer

Ahn S.[1], Kang C.S.[2], Kim I.S.[2], Song J.H.[1]
[1]Chungnam National University - Republic of Korea, [2]Korea Research Institute for Standards and Science - Republic of Korea

3P-EL1-15

Characteristics of SQUID system cooled by pulse-tube cryocooler

Lee Y.H.[1], Yu K.K.[1], Kim K.[1], Kim J.M.[1], Kwon H.[1]
[1]KRISS - Republic of Korea

3P-EL1-16

An improved superconducting neural circuit and its application for a neural network solving a combinatorial optimization problem

Onomi T.[1], Nakajima K.[1]
[1]Tohoku University - Japan

3P-EL1-17

Frequency response analysis of DC-SQUID read-out for application in Transition-Edge Sensors impedance spectroscopy measurements up to 10 MHz

Taralli E.[1], Lolli L.[1], Portesi C.[1], Monticone E.[1], Rajteri M.[1]
[1]Istituto Nazionale di Ricerca Metrologica - Italy

3P-EL1-18

New Fast Current Sensing Noise Thermometer for Dilution Refrigerator Temperatures

Shibahara A.[1], *Casey A.*[1], Lusher C.[1], Saunders J.[1]
[1]Royal Holloway - United Kingdom

3P-EL1-19

Characterising Josephson devices as potential metamaterial building blocks

Taylor R.[1], Pegrum C.[2]
[1]QUT - Australia, [2]University of Strathclyde - United Kingdom

3P-EL1-20

High performance flip-chip planar SQUID gradiometers

Keenan S.[1], Lam S.[1], Leslie K.[1]
[1]CSIRO - Australia

3P-EL1-21

Full tensor SQUIDs gradiometer pick-up coils for ac-current dipole positioning

Wang S.[1], *Zhang M.J*[1]
[1]Beihang University - China

3P-EL1-22

Two Dimensional DC Superconducting Quantum Interference Filter Framework in a Dynamical Electromagnetic Field Environment

Wang L.[1], Liu Q.H.[1], Yuan M.Q.[2], Joines W.T.[1]
[1]Department of Electrical and Computer Engineering, Duke University, Durham NC - United States, [2]Wave Computation Technologies, Inc., 1800 Martin Luther King Pkwy., Durham NC - United States

3P-EL1-23

Frequency Division Multiplexed SQUID readout of superconducting TES Bolometers with a FPGA processor

Biasotti M.[1], Bagliani D.[2], Corsini D.[2], Gatti F.[2], Pizzigoni G.[2], Pecora M.[3], Marchioro D.[3], Bonati A.[3]

[1]University of Genova - Italy, [2]University and INFN Genova - Italy, [3]Thales Alenia Space, Milano - Italy

3P-EL2: Microwaves and THz Devices II

Wednesday, September 18 @ 14:15 in Poster Area

Chair: *Gianrico Lamura*

3P-EL2-01

Evaluation of Cavity Modes in Terahertz-Wave Oscillators using Bi-2212 Intrinsic Josephson Junctions

Tachiki T.[1], Katada H.[1], Uchida T.[1]

[1]National Defense Academy - Japan

3P-EL2-02

HTS chirp filters with long delay time

Zhang Q.[1], Bian Y.[1], Li H.[1], Zhang X.[1], Li C.[1], Sun L.[1], Wang Y.[2], Huang F.[3], Lancaster M.[3], He Y.[1]

[1]Institute of Physics, Chinese Academy of Sciences - China, [2]University of Greenwich - United Kingdom, [3]University of Birmingham - United Kingdom

3P-EL2-03

Strong enhancement of terahertz emission induced by a self-heating effectin intrinsic Josephson junctions

Asai H.[1], Kawabata S.[1]

[1]AIST - Japan

3P-EL2-04

MM-wave harmonic generation in an array of SIS junctions

Billade B.[1], Pavolotsky A.[1], Belitsky V.[1]

[1]Chalmers University of Technology - Sweden

3P-EL2-05

Testing of Josephson Spectrometer with Waveguide Coupling

Lyatti M.[1], Poppe U.[2], Divin Y.[2]

[1]Kotel'nikov Institute of Radio Engineering and Electronics of Russian Academy of Sciences - Russian Federation, [2]Research Centre Jülich - Germany

3P-EL2-06

Confined structures in YBCO film based microwave resonators

Ghigo G.[1], Gerbaldo R.[1], Gozzelino L.[1], Laviano F.[2]

[1]Politecnico di Torino, Dipartimento di Scienza Applicata e Tecnologia - Italy, [2]Dipartimento di Scienza Applicata e Tecnologia, Politecnico di Torino - Italy

3P-EL2-07

Terahertz wave emission from step-edge type Bi-2212 thin film intrinsic Josephson junctions

Nakajima K.[1], Watanabe S.[1], Yamada H.[1]
[1]Yamagata University - Japan

3P-EL2-08

Terahertz Spectrum Analyzer Based on High-T_c Josephson Junction

Snezhko A.[1], Lyatti M.[1], Poppe U.[2], *Divin Y.*[2]
[1]Kotel'nikov Institute of Radio Engineering and Electronics of Russian Academy of Sciences - Russian Federation, [2]Research Centre Jülich - Germany

3P-EL2-09

TES Arrays for Standoff Passive Imaging at 350GHz

Cho H.M.[1], Becker D.[1], Hilton G.[1], Irwin K.[1], Schwall B.[1], Ade P.[2], Tucker C.[2], Reintsema C.[1], Devlin M.[3], Dicker S.[3]
[1]NIST-Boulder - United States, [2]Cardiff University - United Kingdom, [3]UPENN - United States

3P-EL2-10

Optimization of Terahertz HEB-mixer parameters for SOFIA

Kuzmin A.[1], Trojan P.[2], Merker M.[2], Meckbach J.M.[2], Wunsch S.[3], Ilin K.[4], Siegel M.[2], Semenov A.[5], Richter H.[6], Hubers H.W.[7]
[1]TU Berlin, IMS KIT - Germany, [2]Institut für Mikro- und Nanoelektronische Systeme, KIT - Germany, [3]Institut für Mikro- und Nanoelektronische Systeme, KIT; Center for Functional Nanostructures - Germany, [4]Karlsruhe Institute of Technology - Germany, [5]Institute of Planetary Research, German Aerospace Centre (DLR) - Germany, [6]DLR - Germany, [7]TU Berlin, DLR - Germany

3P-EL2-11

Phenomenological aspects of THz emission from the intrinsic Josephson junctions

Hatano T.[1]
[1]Nat'l Inst Mat Sci - Japan

3P-EL2-12

Effect of quasiparticles in the intra-gap states on the property of superconducting resonators

Noguchi T.[1], Naruse M.[2], Sekimoto Y.[3]
[1]NAOJ - Japan, [2]Saitama University - Japan, [3]National Astronomical Observatory - Japan

3P-EL2-13

NbTiN MKIDs Developed for TeSIA

Li J.[1], Endo A.[2], Theon D.J.[2], Liu D.[1], Klapwijk T.M.[2], Shi S.C.[1]
[1]Purple Mountain Observatory - China, [2]Delft University of Technology - Netherlands

3P-EL2-14

Superconducting Plasmonics materials

Lupi S.[1]
[1]Physics Dept., Univ. Roma "La Sapienza" - Italy

3P-EL2-15

Triple Mesa Structures Fabricated from Intrinsic Josephson Junctions in Cuprate Superconductorsfor Powerful Terahertz Emission

Demirhan Y.[1], Turkoglu F.[1], Saglam H.[1], Koseoglu H.[1], Miyakawa N.[2], Kadowaki K.[3], Ozyüzer L.[4]
[1]Izmir Institute of Technology - Turkey, [2]Department of Applied Physics, University of Tokyo - Japan, [3]University of Tsukuba - Japan, [4]Izmir Institute of technology - Turkey

3P-EL2-16

Compact tunable local oscillator based on arrays of niobium Josephson junctions

Klushin A.[1], Galin M.[1], Semenov A.[2], Seliverstov S.[3], Finkel M.[4], Goltsman G.[4], Muller F.[5], Scheller T.[5]
[1]Institute for Physics of Microstructures RAS - Russian Federation, [2]Institute of Planetary Research, German Aerospace Centre (DLR) - Germany, [3]Department of Physics, Moscow State Pedagogical University, Moscow - Saint Helena, [4]Department of Physics, Moscow State Pedagogical University, Moscow - Russian Federation, [5]Physikalisch -Technische Bundesanstalt (PTB) - Germany

3P-EL3: Detectors II

Wednesday, September 18 @ 14:15 in Poster Area
Chair: *Shigeito Miki, Varun Verma*

3P-EL3-01

Influence of an externally applied magnetic field on the detection efficiency of superconducting nanowire single-photon detectors

Lusche R.[1], Semenov A.[2], Hubers H.W.[1], Ilin K.[3], Siegel M.[3], Korneeva Y.[4], Trifonov A.[4], Korneev A.[4], Goltsman G.[5]
[1]German Aerospace Center (DLR) - Germany, [2]Institute of Planetary Research, German Aerospace Centre (DLR) - Germany, [3]Karlsruhe Institute of Technology - Germany, [4]Moscow State Pedagogical University - Russian Federation, [5]Department of Physics, Moscow State Pedagogical University, Moscow - Russian Federation

3P-EL3-02

Detection mechanism in SNSPD: comparison of numerical models with experimental data

Engel A.[1], Schilling A.[1]
[1]University of Zürich - Switzerland

3P-EL3-03

Vortex assisted detection mechanism in superconducting nanowire single photon detectors

Vodolazov D.[1]
[1]IPM RAS - Russian Federation

3P-EL3-04

Free Space Coupled Superconducting Nanowire Single Photon Detectors

Bellei F.[1], McCaughan A.[1], Najafi F.[1], Zhao Q.[2], De Fazio D.[3], Korre H.[1], Berggren K.[1]
[1]Massachusetts Institute of Technology - United States, [2]Nanjing University - China, [3]Polytechnic University of Turin - Italy

3P-EL3-05

Mid-infrared enhanced Niobium Superconducting Nanowire Photon Detector integrated with an optical cavity

Jia T.[1], Kang L.[1], Zhao Q.[1], Zhang L.[1], Gu M.[1], Jin B.[1], Chen J.[1]
[1]Nanjing University - China

3P-EL3-06

Performance of low-filling-factor superconducting nanowire single-photon detectors

Yamashita T.[1], Miki S.[1], Terai H.[1], Wang Z.[1]
[1]NICT - Japan

3P-EL3-07

Dark Count Rate of NbN/NiCu Superconducting Nanowire Single Photon Detectors

Myoren H.[1], Taguchi S.[1], Naruse M.[1], Taino T.[1], Pepe G.P.[2], Parlato L.[2]
[1]Saitama University - Japan, [2]University of Naples Federico II - Italy

3P-EL3-08

Influence of Magnetic field one Superconducting Nanowire Single Photon Detector counting rate

Rosticher M.[1], Ladan F.R.[2], Villegier J.C.[3], Mathieu P.[4], Maneval J.P.[4]
[1]CNRS - France, [2]ENS - France, [3]INAC-CEA - France, [4]Laboratoire Pierre Aigrain - France

3P-EL3-09

Superconducting Single-photon Detectors are Energy Detectors

Renema J.J.[1], Frucci G.[2], Zhou Z.[2], Mattioli F.[3], Gaggero A.[3], Leoni R.[3], de Dood M.J.A.[1], Fiore A.[2], van Exter M.P.[1]
[1]University of Leiden, Leiden - Netherlands, [2]Eindhoven University of Technology - Netherlands, [3]Istituto di Fotonica e Nanotecnologie, CNR, Roma - Italy

3P-EL3-10

Tomography of photon-number resolving superconducting nanowire detectors

Renema J.J.[1], Frucci G.[2], Jahanmirinejad S.[2], Sahin D.[2], Mattioli F.[3], Gaggero A.[3], Leoni R.[3], de Dood M.J.A.[1], Fiore A.[2], van Exter M.P.[1]
[1]University of Leiden, Leiden - Netherlands, [2]Eindhoven University of

Technology - Netherlands, [3]Istituto di Fotonica e Nanotecnologie, CNR, Roma - Italy

3P-EL3-11

Superconducting Nanowire Single Photon Detectors with Reduced Area for energy-efficient Optical-to-Electrical Converters

Kajino K.[1], Yamashita T.[1], Miki S.[1], Terai H.[1], Wang Z.[1]

[1]NICT - Japan

3P-EL3-12

Approaching the theoretical depairing current in YBCO nanowires

Arpaia R.[1], Nawaz S.[1], Bauch T.[1], Lombardi F.[1]

[1]Chalmers University of Technology - Sweden

3P-EL3-13

Photoresponse experiments on parallel superconducting YBCO nanowires

Arpaia R.[1], Arzeo M.[1], Nawaz S.[1], Bauch T.[1], Lombardi F.[1], Ejrnaes M.[2], Cristiano R.[2], Pepe G.P.[3], Parlato L.[3], Tafuri F.[4]

[1]Chalmers University of Technology - Sweden, [2]Istituto di Cibernetica "E. Caianiello" del Consiglio Nazionale delle Ricerche - Italy, [3]University of Naples Federico II - Italy, [4]Università degli studi di Napoli Federico II - Italy

3P-LS1: Fault Current Limiters II

Wednesday, September 18 @ 14:15 in Poster Area

Chair: *Carlos Baldan, Daniele Colangelo*

3P-LS1-01

Electromagnetic Characteristics Analysis of 500kV Single Phase Saturated core Type Superconducting Fault Current Limiter

Meng S.[1]

[1]Yunnan Power Grid Corp. - China

3P-LS1-02

Hysteretic Dependence of Magnetic Flux Density on Primary AC Current in Flat-Type Inductive Fault Current Limiter with YBCO Thin Film Discs.

Harada M.[1], Okuda K.[1], Yokomizu Y.[1], Matsumura T.[1]

[1]Nagoya University - Japan

3P-LS1-03

Improved Heat Propagation in Coated Superconducting Fault Current Limiters

Djokic D.[1], Antognazza L.[2], Badel A.[3], Decroux M.[1], Abplanalp M.[4]

[1]DPMC, University of Geneva - Switzerland, [2]University of Geneva - Switzerland, [3]CRETA, G2Elab, Grenoble - France, [4]ABB Research Center, Baden-Dätwil - Switzerland

3P-LS1-04

Influence of Superconducting Fault Current Limiter on LCC-HVDC Transmission Systems Considering Different Installation Sites

Lee J.G.[1], Hwang J.S.[1], Seong J.K.[1], Shin W.J.[1], Lee B.W.[1]
[1]Hanyang University - Republic of Korea

3P-LS1-05

Investigation of current limiting characteristics and of thermal stability at varying fault conditions on different 2G HTS

Kudymow A.[1], Elschner S.[2], Strauss S.[1], Goldacker W.[3]
[1]Karlsruher Institut für Technologie, Institut für Technische Physik - Germany, [2]Hochschule Mannheim - Germany, [3]Karlsruhe Institute of Technology, ITEP - Germany

3P-LS1-06

Investigation of SCFCL modules based on Bi-2212 and 2G coils - Modeling and Testing

de Sousa W.T.B.[1], Dias R.[2], da Silva F.A.[2], Matt C.F.[2], Polasek A.[2], de Andrade Jr R.[1]
[1]UFRJ-Federal University of Rio de Janeiro - Brazil, [2]CEPEL - Electric Power Research Center - Brazil

3P-LS1-07

Quench behavior in resistive FCLs: predicting the influence of tape properties variations through modelling.

Badel A.[1], Gandioli C.[1], Tixador P.[2], Antognazza L.[3]
[1]CNRS G2Elab / Neel Institute - France, [2]CNRS G2Elab - France, [3]University of Geneva - Switzerland

3P-LS1-08

SCFCL integration in a scaled down network

Gandioli C.[1], Badel A.[2], Tixador P.[2], Labonne A.[2], Hadjsaid N.[2], Caire R.[2]
[1]Institut Néel - France, [2]G2Elab - France

3P-LS1-09

Specifications of the 154 kV SFCL for the application to the live power grid in Korea

Lee S.R.[1], Yoon J.Y.[1], Yang B.[2]
[1]Korea Electrotechnology Research Institute - Republic of Korea, [2]KEPCO KEPRI - Republic of Korea

3P-LS1-10

Study and simulation of a resistive stage of a RI-SFCL

Suárez-Marcelo P.[1], Alvarez-García A.[1], Ceballos-Martínez J.M.[1], Perez-Caballero B.[1], Caballero-Gil B.[1]
[1]University of Extremadura - Spain

3P-LS1-11

Study of the magnetic field in an Inductive SFCL in line

Alvarez-García A.[1], Suárez-Marcelo P.[1], Ceballos-Martínez J.M.[1], Perez-Caballero B.[1], Mendez-Benítez F.[1]
[1]University of Extremadura - Spain

3P-LS1-12

Using SFCL to Advanced Under Voltage Load Shedding Scheme in Korean Power Transmission Systems

Lee Y.H.[1], Lee B.[1], Kwon S.H.[1]
[1]Korea University - Republic of Korea

3P-LS1-13

Double-Storey, Three-Phase, Novel Saturated-Cores Fault-Current-Limiter

Wolfus S.[1], Friedman A.[1], Nikulshin Y.[1], Yeshurun Y.[1]
[1]Bar-Ilan University - Israel

3P-LS2: Power Devices II (motors, generators and transformers)

Wednesday, September 18 @ 14:15 in Poster Area
Chair: *Tim Coomb*

3P-LS2-01

A Study on Large-scale Magnet using HTS 2G wire for Rotating Machines

Jo Y.S.[1], Joo J.H.[2], Hong J.P.[3], Kim Y.C.[2]
[1]Korea Electrotechnology Research Institute - Republic of Korea, [2]Doosan Heavy Industries & Construction Co. - Republic of Korea, [3]Hanyang University - Republic of Korea

3P-LS2-02

AC loss in stacked REBCO coated conductors due to a moving permanent magnet rotor

Solovyov M.[1], Souc J.[1], Kováč J.[1], Pardo E.[1], Gomöry F.[1], Vojenčiak M.[1]
[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

3P-LS2-03

Armature reaction effects on HTS field winding in HTS machine

Mijatovic N.[1], Jensen B.B.[2]
[1]CEE, Department of Electrical Engineering, Technical University Denmark - Denmark, [2]Technical University Denmark - Denmark

3P-LS2-04

Conceptual Design of a Superconducting DC Generator for Wind Turbines

Erb F.[1], Noe M.[2]
[1]Karlsruhe Institute of Technology - Germany, [2]Karlsruher Institut für Technologie, Institut für Technische Physik - Germany

3P-LS2-05

Design and market considerations for axial flux superconducting electric machine design

Ainslie M.D.[1], George A.[2], Winfield A.[3], Shaw R.[2], Steketee M.[4], Dawson L.[3], Stockley S.[5]

[1]Department of Engineering, University of Cambridge - United Kingdom, [2]Department of Material Science and Metallurgy, University of Cambridge - United Kingdom, [3]Department of Physics, University of Cambridge - United Kingdom, [4]Department of Chemical Engineering, University of Cambridge - United Kingdom, [5]Judge Business School, University of Cambridge - United Kingdom

3P-LS2-06

Design and measurement of high temperature superconducting coils for an axial flux electric machine

Ainslie M.D.[1], Durrell J.[1], Dennis A.[1], Shi Y.[1], Campbell A.M.[1], Cardwell D.A.[1]

[1]Department of Engineering, University of Cambridge - United Kingdom

3P-LS2-07

Design of MgB_2 coil for wind turbine generator pole demonstration

Abrahamsen A.B.[1], Magnusson N.[2], Runde M.[2], Jensen B.B.[3]

[1]Department of Wind Energy, Technical University of Denmark - Denmark, [2]SINTEF Energy Research - Norway, [3]Technical University Denmark - Denmark

3P-LS2-08

Design Study of an Axial-Type Full Superconducting Low-Speed Synchronous Generator

Xu Y.[1], Tsuzuki K.[1], Watasaki M.[2], Kase S.[1], Izumi M.[2]

[1]TUMSAT - Japan, [2]Tokyo University of Marine Science and Technology - Japan

3P-LS2-09

Design, manufacturing and tests of first cryogen-free MgB_2 prototype coils for offshore wind generators

Sarmiento G.[1], *Sanz S.*[1], Pujana A.[1], Merino J.M.[1], Iturbe R.[2], Apiñániz S.[1]

[1]Fundacion Tecnalia Research & Innovation - Spain, [2]ANTEC, S.A. - Spain

3P-LS2-10

Effect of the fluctuation magnetic field of the superconductivity bulk rotor shielded in the superconductivity ring

Yamagishi K.[1]

[1]Yokohama National University - Japan

3P-LS2-11

Electrical Design Methodology and Design Study of Large-scale Salient-pole HTS Generators for Wind Power Systems

Maki N.[1], Xu Y.[1], Izumi M.[1]

[1]TUMST - Japan

3P-LS2-12

Electric and magnetic properties measurement and analysis of a conventional and a superconducting power transformer

Figueira P.[1], *Gonçalves Pronto A.*[2], Murta Pina J.[2]
[1]FCT/UNL - Portugal, [2]CTS/UNINOVA - Portugal

3P-LS2-13

Electromagnetic Characteristics Analysis of 35kV Single Phase transformer Type Superconducting adjustable reactor

Meng S.[1]
[1]Yunnan Power Grid Corp. - China

3P-LS2-14

Feasibility study of a superconducting electrical propulsion motor for helicopters

Simons C.A.B.A.E.[1], *Sanabria-Walter C.*[2], Polinder H.[1]
[1]Delft University of Technology - Netherlands, [2]EADS Innovation Works, Delft Univ. of Technology - Netherlands

3P-LS2-15

Insulation Characteristics of the Mini-model Bushing at Cryogenic Temperature

Kim W.J.[1], Kim S.H.[1], Kim Y.J.[2]
[1]Gyeongsang National University and ERI - Republic of Korea, [2]Korea Electrotechnology Research Institute - Republic of Korea

3P-LS2-16

Magnetic properties measurement and discussion of an amorphous power transformer core at room and liquid nitrogen temperature

Gonçalves Pronto A.[1], Murta Pina J.[1], Maurício A.[2]
[1]CTS/UNINOVA - Portugal, [2]FCT/UNL - Portugal

3P-LS2-17

Toroidal superconducting transformer with warm magnetic core

Grzesik B.[1], Stepien M.[1]
[1]Silesian Univ. of Technology - Poland

3P-LS2-18

Magnetic flux deflection applied to Bi-2223 field-pole magnets for HTS rotating machines

Tsuzuki K.[1], Kase S.[2], Miki M.[1], Izumi M.[1], Murase Y.[3], Umemoto K.[3], Yanamoto T.[3]
[1]Tokyo University of Marine Science and Technology - Japan, [2]TUMSAT - Japan, [3]Kawasaki Heavy Ind - Japan

3P-LS3: Modeling

Wednesday, September 18 @ 14:15 in Poster Area
Chair: *Francesco Grilli, Emmanuele Ravaioli*

3P-LS3-01

Flux Trapping and Field Magnet Stability of Bulk Superconductors

Zhang Y.[1], Xu Y.[1], Watasaki M.[2], Zhou D.[2], Li B.[2], Tsuzuki K.[2], *Izumi M.*[2]
[1]Shanghai University of Electric Power - China, [2]Tokyo University of Marine Science and Technology - Japan

3P-LS3-02

Mesoscopic disk containing superconducting anti-dots

Higuera Agudelo S.J.[1], Barba Ortega J.J.[1], Aguiar J.A.[2]
[1]Universidad Nacional de Colombia - Colombia, [2]Universidade Federal de Pernambuco - Brazil

3P-LS3-03

Facility for cryogenic tests of superconducting magnets for the NICA accelerator complex

Nikiforov D.[1], Agapov N.[2], Khodzhibagiyan H.[3], Emelianov N.[1], Korolev V.[1]
[1]Joint Institute for Nuclear Research - Russian Federation, [2]JINR, Dubna - Russian Federation, [3]Science - Russian Federation

3P-LS3-04

Superconducting complex NICA: distinctive features of cooldown

Emelianov N.[1], Agapov N.[2], Khodzhibagiyan H.[3], Nikiforov D.[1], Batin V.[1], Kuznetsov G.[1]
[1]Joint Institute for Nuclear Research - Russian Federation, [2]JINR, Dubna - Russian Federation, [3]Science - Russian Federation

3P-LS3-05

Investigation of effects of DC flow on a 4K two-stage pulse tube cryocooler

Tsuchiya A.[1], Xu M.[1]
[1]Sumitomo Electric Industries Ltd. - Japan

3P-LS3-06

Recent development status of striling type pulse tube cryocooler for HTS

Hiratsuka Y.[1], Nakano K.[1]
[1]Research & Development Center, Sumitomo Heavy Industries, Ltd. - Japan

3P-LS3-07

Design rules of magnet-superconductor non-contact mechanisms considering the mechanical interaction in the Meissner state

Diez-Jimenez E.[1], Perez-Diaz J.L.[1]
[1]Universidad Carlos III de Madrid - Spain

3P-LS3-08

Hall mapping simulation in BSCCO superconducting bulk using finite element method

Bigansolli A.R.[1], Cruz F.A.d.O.[1], *Rodrigues Jr. D.*[2]
[1]UFRRJ - Brazil, [2]EEL/USP - Brazil

3P-LS3-09

Analysis of adaptive time-stepping integration algorithms for numerical modelling of HTS materials

Brault S.[1], *Sirois F.*[1], Dufour S.[1]
[1]Polytechnique Montreal - Canada

3P-LS3-10

Adaptive space-time finite element method: Toward effective reduction of problem sizes for simulating HTS devices

Wan A.[1], Laforest M.[1], *Sirois F.*[1]
[1]Polytechnique Montreal - Canada

3P-LS3-11

A New Hybrid Protection System for High-Field Superconducting Magnets

Ravaioli E.[1], Verweij A.[2], Ten Kate H.[3]
[1]CERN + University of Twente - Switzerland, [2]CERN - Switzerland, [3]University of Twente / CERN - Netherlands Antilles

3P-LS3-12

Cryogenic stability and quench characteristics of assemblies of twisted-pair cables of MgB_2 tapes

Yang Y.[1], Young E.[1], Bailey W.[1], Spurrell J.[1], Ballarino A.[2]
[1]University of Southampton - United Kingdom, [2]CERN, Technology Department - Switzerland

3P-LS4: Accelerators

Wednesday, September 18 @ 14:15 in Poster Area

Chair: *Bernardo Bordini, Ian Pong*

3P-LS4-01

Effect of trapped vortex hotspots on the radio-frequency surface resistance of superconducting resonator cavities and thin film structures.

Gurevich A.[1], Ciovati G.[2]
[1]Old Dominion University - United States, [2]Thomas Jefferson National Accelerator Facility, Newport News, VA 23606 - United States

3P-LS4-02

Design and test of a NbTi prototype coil for a low beta section

Statera M.[1], Lenisa P.[2], Schleichert R.[3], Grigoryev K.[3], Vasilyev A.[4]
[1]INFN - Sezione di Ferrara - Italy, [2]Ferrara University - Italy, [3]Forschungszentrum Juelich GmbH - Germany, [4]PNPI, Gatchina - Russian Federation

3P-LS4-03

Developments of the Eucard HTS dipole insert

Devaux M.[1], Chaud X.[2], Debray F.[3], Durante M.[4], Favre G.[5], Fleiter J.[5],

Fazilleau P.[4], Lecrevisse T.[4], Manil P.[4], Pes C.[4], Sorbi M.[6], Stenvall A.[7], Tixador P.[8], Tudela J.M.[8], Rey J.M.[4]
[1]CEA Saclay - France, Metropolitan, [2]CNRS LNCMI CRETA, F-38042 Grenoble 09 - France, [3]CNRS/LNCMI - France, [4]CEA - France, Metropolitan, [5]CERN - Switzerland, [6]INFN - Italy, [7]Electromagnetics, Tampere University of Technology - Finland, [8]CNRS - France

3P-LS4-04

Test results of first superconducting magnets for the NICA accelerator complex

Galimov A.[1], Borisov V.[2], Blinov N.[2], Donyagin A.[2], Khodzhibagiyan H.[2], Kuznetsov G.[2], Pivin R.[2], Smirnov A.[3], Trubnikov G.[3], Zorin A.[2]
[1]JINR - Russian Federation, [2]Science - Russian Federation, [3]JINR, Dubna - Russian Federation

3P-LS4-05

Improving homogeneity of the magnetic field by a high-temperature superconducting shield

Kulikov E.[1], Agapov N.[1], Dorofeev G.[2], Drobin V.[1], Malinowski H.[3], Smirnov A.[1], Trubnikov G.[1]
[1]JINR, Dubna - Russian Federation, [2]Kurchatov Institute, Moscow - Russian Federation, [3]JINR, Dubna - Poland

3P-LS4-06

3D Magnetic Field Measurement System using Rotary and Linear Motion Drive at In-vacuum Cryogenic Environment for Bulk HTSC SAU

Kii T.[1]
[1]IAE, Kyoto University - Japan

3P-LS4-07

Superconducting properties of experimental YBCO coils for FFAG accelerator magnets

Takayama S.[1], Koyanagi K.[1], Tosaka T.[1], Tasaki K.[1], Kurusu T.[1], Ishii Y.[1], Amemiya N.[2], Ogitsu T.[3]
[1]Toshiba - Japan, [2]Kyoto University - Japan, [3]KEK - Japan

3P-LS4-08

New evidence tor thermal boundary resistance effects in superconducting 6 GHz cavities

Checchin M.[1], Martinello M. [1], Palmieri V.[1], Rossi A.A.[2], Stark S.Y.[2], Stivanello F.[2], Takhur R.K.[1], Yu G.[1], *Vaglio R.*[3]
[1]INFN-LNL and Università di Padova - Italy, [2]INFN-LNL - Italy, [3]CNR-SPIN Napoli and Dipartimento di Fisica Università "Federico II" di Napoli - Italy

3P-MA1: HTS films and Multilayers II

Wednesday, September 18 @ 14:15 in Poster Area

Chair: *Kumari Devendra Namburi*

3P-MA1-01

Magnetization and magneto-resistance properties of $SmBa_2Cu_{-x}Sb_xO_{7-z}$ superconductors

Yakinci Z.D.[1], Altin S.[2], Cakan E.[2], Yakinci M.E.[2]

[1]İnönü Üniversitesi, SHMYO - Turkey, [2]İnönü Üniversitesi, Fen Edebiyat Fakültesi, Fizik Bölümü, 44 - Turkey

3P-MA1-02

Manufacture of Bi-cuprate thin films on MgO single crystal substrates by chemical solution deposition

Grivel J.C.[1], Andersen N.H.[1], Bertelsen C.[1], Almoor K.[1], Kepa K.[2], Hlásek T.[3], Rubesova K.[3]

[1]Technical University of Denmark - Denmark, [2]Poznan University of Technology - Poland, [3]Institute of Chemical Technology - Czech Republic

3P-MA1-03

Multiple reentrant resistance phenomena in hybrid structures consisting of multilayered $Y(Nd)Ba_2Cu_3O_7$ films and $La_{2/3}Ca_{1/3}MnO_3/SrTiO_3$ superlattice

Fedoseev S.[1], Pan A.V.[1], Golovchanskiy I.[1]

[1]University of Wollongong - Australia

3P-MA1-04

Performance Analysis of Direct Gold Wire Bonding on YBCO/STO/YBCO Multilayer Structures

Kuran O.[1], Uzun Y.[1], Yilmaz A.A.[1], Avci I.[1]

[1]Ege University - Turkey

3P-MA1-05

Potassium Substitution and Addition Doping Effects on Structural and Transport Properties of Bi(Pb)2212 Superconducting Ceramics.

Belala K.[1], Haouam A.[2], Mosbah M.F.[1]

[1]Material Sciences and Applications Research Unit, Physics Department, Constantine1 University - Algeria, [2]MODERNA laboratory, Electronics Department, Constantine1 University, B.P. 325 Route d'Ain El Bey - Algeria

3P-MA1-06

Preparation and Characterization of PEG/Bi2212 Nanocomposites

Enomoto H.[1], Deguchi T.[2], Takano Y.[3], Mori N.[4]

[1]Osaka Electro-Communication University - Japan, [2]Kyoto University - Japan, [3]Nihon University - Japan, [4]Oyama National College of Technology - Japan

3P-MA1-07

Preparation of c-axis textured Bi-2212 thin film on silver substrates by using sol-gel method

Qu T.[1], Deng S.[2], Lin G.[1], Han Z.[2]

[1]Department of Mechanical Engineering, Tsinghua University - China, [2]Applied Superconductivity Research Center, Tsinghua Uni. Beijing - China

3P-MA1-08

Real-time oscillations of the superconducting condensate in a high-T_c superconductor

Carbone F.[1]

[1]EPFL - Switzerland

3P-MA1-09

YBCO Films Grown on Faceted YSZ single crystal fiber

Snigirev O.[1], Chukharkin M.[2], Kalaboukhov A.[3], Porokhov N.[1], Rusanov S.[4], Kashin V.[4], Tsvetkov V.[4], Winkler D.[5]

[1]M.V.Lomonosov Moscow State University - Russian Federation, [2]M.V.Lomonosov Moscow State University, Chalmers University of Technology - Russian Federation, [3]Chalmers University of Technology & M.V. Lomonosov Moscow State University - Sweden, [4]Institute of General Physics Russian Academy of Sciences - Russian Federation, [5]Chalmers University of Technology - Sweden

3P-MA1-10

Solution derived- $YBa_2Cu_3O_7$ nanocomposites with ex-situ preparation of nanoparticles for enhanced superconducting performance

Cayado P.[1], Garzón A.[2], Coll M.[1], Ros J.[2], Ricart S.[1], Palau A.[1], Guzmán R.[1], de la Mata M.[1], Arbiol J.[1], Gazquez J.[1], Obradors X.[1], Puig T.[1]

[1]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain, [2]UAB - Spain

3P-MA1-11

Strong flux pinning enhancement in MOD-YBCO films by embedded $BaZrO_3$ and $BaTiO_3$ nanoparticles

Ding F.Z.[1], Gu H.W.[1]

[1]Chinese Academy of Sciences - China

3P-MA1-12

The Effects of the Post-annealing Temperature on the Growth Mechanism of $Bi_2Sr_2Ca_1Cu_2O_{8+\delta}$Thin Films Produced on MgO (100) Single Crystal Substrates by Pulsed Laser Deposition (PLD)

Ozcelik B.[1], Nane O.[2], Abukay D.[3]

[1]Cukurova University - Turkey, [2]Hakkari University - Turkey, [3]Izmir Institute of Technology - Turkey

3P-MA1-13

The fabrication of the Superconductor/Ferroelectric YBCO/$BiFeO_3$ heterostructure on the $SrTiO_3$ substrate

Yang Q.[1], Nie R.[1], Wang F.[1], Zhang H.[1]

[1]Peking University - China

3P-MA1-14

Thermal investigation of the low-fluorine precursor chemistry for the solution deposition of $YBa_2Cu_3O_{7-x}$ epitaxial thin films

Nasui M.[1], Petrisor Jr T.[1], Mos R.B.[1], Mesaros A.[1], Gabor M.[1], Ciontea

L.[1], Petrisor T.[1]
[1]Technical University of Cluj-Napoca - Romania

3P-MA2: HTS - Bulk
Wednesday, September 18 @ 14:15 in Poster Area
Chair: *Zhou Difan, Marco Truccato*

3P-MA2-01
A uniform in-field pinning strength induced by the periodically arranged grain boundaries in textured Gd-Ba-Cu-O bulk superconductor
Li B.[1], Xu Y.[2], Zhou D.[1], Hara S.[1], Izumi M.[1]
[1]Tokyo University of Marine Science and Technology - Japan, [2]Shanghai University of Electric Power - China

3P-MA2-02
Complex magnetic behavior of superconducting ferromagnets $RuSr_2(R_{1.4}Ce_{0.6})Cu_2O_{10-\delta}$ (R = Eu, Gd and Y)
Kumar A.[1], Tandon R.P.[2], Awana V.P.S.[1]
[1]National Physical Laboratory - India, [2]University of Delhi - India

3P-MA2-03
Composite superconducting structures using bulk (RE)BCO, copper and sapphire pieces
Patel A.[1], Hopkins S.C.[1], Baskys A.[1], Rush J.[1], Shi Y.[2], Cardwell D.A.[2], Kenfaui D.[3], Chaud X.[3], Zhang M.[4], *Glowacki B.A.*[5]
[1]Applied Superconductivity and Cryoscience Group, Dept Materials Sc., Cambridge Univ. - United Kingdom, [2]Bulk Superconductivity Group, Engineering Department, Cambridge Univ. - United Kingdom, [3]CNRS LNCMI CRETA, F-38042 Grenoble 09 - France, [4]Department of Engineering, University of Cambridge - United Kingdom, [5]Department of Material Science and Metallurgy, University of Cambridge - United Kingdom

3P-MA2-04
Connectivity in optimised nanocrystalline superconducting $YBa_2Cu_3O_{7-x}$
Wang G.[1], Hampshire D.P.[1]
[1]Durham University - United Kingdom

3P-MA2-05
Control of Grain Boundary Properties of RE123 Sintered Bulks by Reductive Post-annealing
Hirota T.[1], Shimoyama J.I.[2], Yamamoto A.[3], Ogino H.[2], Kishio K.[2]
[1]University of Tokyo - Japan, [2]Department of Applied Chemistry, University of Tokyo - Japan, [3]The University of Tokyo, JST-PRESTO - Japan

3P-MA2-06
Effects of RE compositional boundaries on fracture strength at 77 K in large single-grained RE-Ba-Cu-O bulk 150 mm in diameter

Murakami A.[1], Teshima H.[2], Morita M.[2], Iwamoto A.[3]
[1]Ichinoseki National College of Technology - Japan, [2]Nippon Steel & Sumitomo Metal Corporation - Japan, [3]National Institute for Fusion Science - Japan

3P-MA2-07

Effects of RE-mixing on microstructure and critical current properties of RE123 melt-solidified bulks

Setoyama Y.[1], Shimoyama J.I.[2], Yamamoto A.[2], Ogino H.[2], Kishio K.[2]
[1]The University of Tokyo - Japan, [2]Department of Applied Chemistry, University of Tokyo - Japan

3P-MA2-08

Existence of Energy Gap in Electronic Density of States at the Transition Temperature of an Electron Doped High T_c Cuprate Superconductor $Pr_{0.88}LaCe_{0.12}CuO_{4-\delta}$ (PLCCO)

Kunwar S.[1]
[1]Department of Physics, King Fahd University of Petroleum and Minerals - Saudi Arabia

3P-MA2-09

Low ac field response of Bi-based superconductors with edition of Antimony oxide

Metskhvarishvili I.[1], Dgebuadze G.[1], Bendeliani B.[1], Lobzhanidze T.[2], Metskhvarishvili M.[3], Mumladze G.[4]
[1]Ilia Vekua Sukhumi Institute of Physics and Technology - Georgia, [2]Ivane Javakhishvili Tbilisi State University - Georgia, [3]Department of Physics, Georgian Technical University - Georgia, [4]I.Vekua Sukhumi Institute of Physics and Technology - Georgia

3P-MA2-10

Ni nano-layer effect on the critical current density of Bi-2212 films fabricated by rf-sputtering

Altin S.[1], Kurt F.[2], Yakinci Z.D.[2], Altin E.[2], Yakinci M.E.[1]
[1]İnönü Üniversitesi, Fen Edebiyat Fakültesi, Fizik Bölümü, 44 - Turkey, [2]İnönü Üniversitesi, SHMYO - Turkey

3P-MA2-11

Preparation of magnetically c-axis aligned Bi(Pb)2223 and Hg(Re)1212 bulks

Shiino T.[1], Shimoyama J.I.[2], Yamamoto A.[3], Ogino H.[2], Kishio K.[2]
[1]University of Tokyo - Japan, [2]Department of Applied Chemistry, University of Tokyo - Japan, [3]The University of Tokyo, JST-PRESTO - Japan

3P-MA2-12

Size dependence of the trapped magnetic field in large single-grained Gd-Ba-Cu-O bulk superconductors

Teshima H.[1], Morita M.[2]
[1]Nippon Steel & Sumitomo Metal Corporation, Futtsu, Chiba 293-8511 - Japan, [2]Nippon Steel & Sumitomo Metal - Japan

3P-MA2-13

Structure and properties of Bi-2212 and Y123 highly curved single-crystal-like objects: whiskers, bows and ring-like structures

Agostino A.[1], Badica P.[2], Truccato M.[3], Boffecchia E.[1], Mino L.[1], Lamberti C.[1], Pascale L.[1], Operti L.[1]

[1]Department of Chemistry, University of Study of Turin - Italy, [2]National Institute of Materials Physics - Romania, [3]Department of Physics, University of Study of Turin - Italy

3P-MA2-14

Synthesis of Bi-based superconductor by hydrothermal method assisted by microwaves

Lima R.G.[1], Carvalho C.L.[1], Teixeira S.R.[2], Souza A.E.[2], *Zadorosny R.*[3]

[1]Depto de Fisica e Quimica/FEIS, Univ Estadual Paulista - UNESP - Brazil, [2]DFQB/FCT, Univ Estadual Paulista - UNESP - Brazil, [3]UNESP - Brazil

3P-MA2-15

Synthesis Of YBCO adding in Bi-Pb-Sr-Ca-Cu-O ceramics superconductors.

Ali A.[1], Shaari A.H.[1], Chen S.K.[1], Awang Kechik M.M.[1]

[1]Univ Putra Malaysia, Fac Sci, Dept Phys - Malaysia

3P-MA2-16

Synthesis of YBCO(123) With Addition of Nano-Nd Via Co-precipitation

Ramli A.[1], Shaari A.H.[1], Awang Kechik M.M.[1], Chen S.K.[1]

[1]Univ Putra Malaysia, Fac Sci, Dept Phys - Malaysia

3P-MA2-17

Systematic Enhancements of Switching Rate in Intrinsic Josephson Junctions

Nomura Y.[1], Mizuno T.[1], Kambara H.[1], Nakagawa Y.[1], Watanabe T.[2], Kakeya I.[1], Suzuki M.[1]

[1]Kyoto University - Japan, [2]Hirosaki Univ. - Japan

3P-MA2-18

Temperature dependence of the trapping properties of thin wall YBCO Cryomagnet

Kenfaui D.[1], Sibeud P.F.[2], Tournigant D.[3], Louradour E.[3], Noudem J.[4], *Chaud X.*[1]

[1]CNRS LNCMI CRETA, F-38042 Grenoble 09 - France, [2]CNRS/CRETA - France, [3]CTI SA - France, [4]LUSAC/CRISMAT-CNRS - France

3P-MA2-19

The Processing and Properties of Single Grain YBCO Fabricated from a Graded Y-211 Precursor Composition

Zhai W.[1], Durrell J.[1], Shi Y.[2], Dennis A.[2], Zhang Z.[1], Cardwell D.A.[2]

[1]University of Cambridge - United Kingdom, [2]Department of Engineering, University of Cambridge - United Kingdom

3P-MA2-20

Thermal expansion of the high-T_c superconductors $REBa_2Cu_3O_7$ (RE = Y, Dy) revisited at low temperatures

Lahoubi M.[1]

[1]Badji-Mokhtar-Annaba University, Department of Physics, Annaba - Algeria

3P-MA2-21

Vortex matter properties in oxygen reduced $YBa_2Cu_3O_{6+x}$ single crystals

Pissas M.[1], *Papageorgiou G.*[2]

[1]IAMPPNM NCSR - Greece, [2]IAMPPNM NCSR and Physics Department University of Athens - Greece

3P-MA2-22

Design and Search for High-T_c Superconductivity in 4 - 8 Element Systems without Copper

Isikaku-Ironkwe O.P.[1], Animalu A.[2], Haugan T.J.[3]

[1]TCST, San Diego, CA - United States, [2]Dept of Physics & Astronomy, University of Nigeria, Nsukka - Nigeria, [3]US Air Force Research Laboratory, Wright Patterson AFB - United States

3P-MA3: LTS and MgB2 - Films and Multilayers

Wednesday, September 18 @ 14:15 in Poster Area

Chair: *Davide Nardelli, Judy Wu*

3P-MA3-01

Characterization and study of Cr[Nb/Sn] superconducting multilayers

Corredor L.T.[1], Portela F.[2], Silva Jr R.[3], Barrozo P.[4], Jung S.G.[5], Vanacken J.[5], Moshchalkov V.[6], Aguiar J.A.[7]

[1]UFPE - Brazil, [2]U. Federal de Pernambuco - Brazil, [3]U. Federal de Sergipe - Brazil, [4]UFS - Brazil, [5]INPAC - Belgium, [6]INPAC-KU Leuven - Belgium, [7]Programa de Pós-Graduação CCEN and Departamento de Física, UFPE - Brazil

3P-MA3-02

Comparison of critical properties in MgB_2 nanometer films prepared on SiC/Si substrate

Nishida A.[1], Taka C.[1], Chromik S.[2], Durny R.[3]

[1]Fukuoka University - Japan, [2]Slovak Academy of Sciences - Slovakia, [3]Physics Dept., Constantine the Philosofer University - Slovakia

3P-MA3-03

Cryogenic static and magic angle spinning NMR on superconductors

Carravetta M.[1], Denning M.[1], Beckett P.[2], Bounds R.[1], Heinmaa I.[3], Stern R.[3], Young E.[1]

[1]University of Southampton - United Kingdom, [2]MoD - United Kingdom, [3]KBFI, Tallinn - Estonia

3P-MA3-04

Electrodynamics of superconductor/ferromagnet/superconductor heterostructures

Pompeo N.[1], Torokhtii K.[2], Meneghini C.[3], Attanasio C.[4], Cirillo C.[4], Silva E.[2]

[1]Dipartimento di Ingegneria and Unità CNISM, Università Roma Tre - Italy, [2]Dipartimento di Ingegneria, Università Roma Tre - Italy, [3]Dipartimento di Scienze and Unità CNISM, Università Roma Tre - Italy, [4]CNR-SPIN and Dipartimento di Fisica "E.R. Caianiello", Università degli Studi, Salerno - Italy

3P-MA3-05

Enhancement the critical current density in CrO_2/MgB_2 bilayer

Soltan S.[1], Alzayed N.[2]

[1]Department of Physics, Faculty of Science, Helwan University, Helwan-Cairo - Egypt, [2]Department of Physics and Astronomy, College of Science, King Saud University - Saudi Arabia

3P-MA3-06

Influence of annealing atmosphere on structural and superconducting properties of MgB_2 thin films

Gregor M.[1], Brndiarova J.[1], Plecenik T.[1], Sobota R.[1], Roch T.[1], Satrapinskyy L.[1], Mikula M.[1], Kus P.[1], Plecenik A.[1]

[1]FMFI, Comenius University - Slovakia

3P-MA3-07

Investigation of the Superconducting Properties of Thin Niobium Films Deposited on Rough Bulk Substrates of Zinc Oxide and Lead Zirconate Titanate

Stamopoulos D.[1], Zeibekis M.[1], Aristomenopoulou E.[1]

[1]National Center for Scientific Research 'Demokritos' - Greece

3P-MA3-08

Optimization of sputtered NbN-MgO superconducting multilayers for Josephson and RF-devices

Villegier J.C.[1], Bouat S.[2]

[1]CEA Grenoble - France, [2]LPSC-Grenoble - France

3P-MA3-09

Precursor Structures Effect on MgB_2 Thin Film Prepared by Pulsed Laser Deposition

Alzayed N.[1], Soltan S.[2], Shahabuddin M.[3], El-Naggar A.M.[3], Kityk I.V.[4], Qaid S.A.[3], Parakandy J.M.[3], Shah M.S.[3], Asif M.[5]

[1]Department of Physics and Astronomy, College of Science, King Saud University - Saudi Arabia, [2]Max-Planck-Institute (FKF), Hesienbergstrasse 1, D- 569 Stuttgart - Germany, [3]King Saud University, Riyadh - Saudi Arabia, [4]Electrical Engineering Department, Czestochowa University Technology, Armii Krajowej, Czestochowa - Poland, [5]Department of Chemical Engineering, College of Engineering, King Saud University, Riyadh - Saudi Arabia

3P-MA3-10

Prediction of Solitary Reentrant Superconductivity for Asymmetrical Ferromagnet-Superconductor Layered Structures

Proshin Y.[1], Khusainov M.[1], Minnullin A.[1], Avdeev M.[1]
[1]Kazan Federal University - Russian Federation

3P-MA3-11

Singlet-triplet superconducting correlations in asymmetrical F/S structures in external magnetic field

Proshin Y.[1], Avdeev M.[1]
[1]Kazan Federal University - Russian Federation

3P-MA3-12

Superconducting properties in multilayer Nb/Pb/Nb

Portela F.S.[1], Corredor L.T.[1], Silva Jr R.[2], Barrozo P.[3], Jung S.G.[4], Vanacken J.[4], Moshchalkov V.[4], Aguiar J.A.[5]
[1]UFPE - Brazil, [2]U. Federal de Sergipe - Brazil, [3]UFS - Brazil, [4]INPAC - Belgium, [5]Programa de Pós-Graduação CCEN and Departamento de Física, UFPE - Brazil

3P-MA3-13

Superconductivity in new Hf1-xVxB2 compounds

Renosto S.T.[1], Aguiar J.A.[2], Fisk Z.[3], *Machado A.J.S.*[1]
[1]Escola de Engenharia de Lorena, Universidade de Sao Paulo - Brazil, [2]UFPE - Brazil, [3]UCI - United States

3P-MA3-14

Vortex-Antivortex formation in Nb based Superconductor/Ferromagnet thin film heterostructures studied by Low Temperature Magnetic Force Microscopy

Di Giorgio C.[1], Bobba F.[2], Scarfato A.[2], Longobardi M.[2], Iavarone M.[3], Karapetrov G.[4], Novosad V.[4], Yefremenko V.[4], Cucolo A.M.[2]
[1]"E.R. Caianiello" Physics Dept. and NANOMATES, University of Salerno, Fisciano - Italy, [2]"E.R. Caianiello" Physics Dept. and NANOMATES, University of Salerno; CNR-SPIN Salerno - Italy, [3]Physics Department, Temple University, Philadelphia, PA - United States, [4]Materials Science Division, Argonne National Laboratory, Argonne, IL - United States

3P-MA3-15

The performance of Ni80Fe20-Nb-Ni80Fe20 and Co-Nb-Co trilayers as cryogenic magnetic field sensors: an investigation of their transport properties

Aristomenopoulou E.[1], *Stamopoulos D.*[1]
[1]National Center for Scientific Research 'Demokritos' - Greece

3P-MA3-16

Epitaxial Ultrathin NbN Films Prepared on MgO Substrates

Lu Z.[1], Lixing Y.[1], Wei P.[1]
[1]Shanghai Institute of Microsystem and Information Technology (SIMIT) - China

3P-MA3-17

Tunneling STM/STS and break junction spectroscopy of the layered superconductors β-$MNCl_x$ (M = Hf or Zr)

Ekino T.[1], Sugimoto A.[1], Gabovich A.[2], Zheng Z.[1], Yamanaka S.[1]
[1]Hiroshima University - Japan, [2]Institute of Physics - Ukraine

3P-MA3-18

Proximity effects in hybrid superconductor / organic-linker / nanoparticle systems

Katzir E.[1], Kalcheim Y.[1], Yochelis S.[1], Millo O.[1], Paltiel Y.[1]
[1]Racah Institute of Physics, The Hebrew University of Jerusalem - Israel

3P-MA3-19

Superconductor-insulator transition tuned by annealing in Bi/Co clusters nanocomposites

Trujillo Herrera W.[1], *S. Dinóla I.*[1], Continentino M.[2], Baggio-Saitovitch E.[2]
[1]Brazilian Center for Research - Brazil, [2]Brazilian Center for Research in Physics - Brazil

3P-MA4: LTS and MgB2 - Bulk

Wednesday, September 18 @ 14:15 in Poster Area
Chair: *Maurizio Vignolo, Akiyasu Yamamoto*

3P-MA4-01

A detailed study of microstructure focused on understanding effects of various milling conditions and Hot Pressing on superconducting properties of MgB_2 sinters

Cetner T.[1], Morawski A.[1], Czujko T.[2], Malecka A.[2], Kościuczyk E.[2], Gajda D.[3], Gajda G.[3], Diduszko R.[4], Zaleski A.J.[5], Przysłupski P.[6]
[1]Institute of High Pressure Physics PAS - Poland, [2]Military University of Technology, Dept Adv Mat & Technol, Warsaw - Poland, [3]International Laboratory of High Magnetic Fields and Low Temperature - Poland, [4]Institute of Tele- and Radiotechnic, Warsaw - Poland, [5]ILT&SR, PAS - Poland, [6]Institute of Physics, Polish Academy of Science - Poland

3P-MA4-02

AC susceptibility analysis on MgB_2 bulk superconductors aimed at large scale applications

Cicek O.[1], Gencer A.[1]
[1]Ankara University Center of Excellence for Superconductivity Research - Turkey

3P-MA4-03

Attrition milling and wire processing effects on a commercial MgB_2 powder

Sobrero C.E.[1], *Malachevsky M.T.*[2], Soldati A.[3], Serquis A.C.[3]
[1]CNEA - Argentina, [2]CNEA-CONICET - Argentina, [3]CONICET - Argentina

3P-MA4-04

BN addition to MgB_2 superconductor obtained by ex-situ spark plasma sintering technique

Badica P.[1], Burdusel M.[2], *Aldica G.*[2], Popa S.[2], Enculescu M.[2], Pasuk I.[2]
[1]National Institute of Materials Physics - Romania, [2]Natl. Inst. Mater. Phys. - Romania

3P-MA4-05

Carbon doping of precursor boron powder for control of normal resistance of MgB_2 bulks for specific use in fault current limiter applications

Archer J.[1], Jarvis L.[1]
[1]University of KwaZulu-Natal - South Africa

3P-MA4-06

Effect of Aromatic Hydrocarbon Addition on the Microstructural, Thermal and Magnetic Properties of MgB_2 Superconductors

Ertekin E.[1], Agıl H.[1], Aksu E.[2], Gencer A.[1]
[1]Ankara University Center of Excellence for Superconductivity Research - Turkey, [2]Turkish Atomic Energy Authority - Turkey

3P-MA4-07

Evaluation of trapped field stability in MgB_2 superconducting bulk magnet

Yamamoto A.[1], Kishio K.[2], Ishihara A.[3], Akasaka T.[3], Tomita M.[3]
[1]The University of Tokyo, JST-PRESTO - Japan, [2]The University of Tokyo - Japan, [3]Railway Technical Research Institute - Japan

3P-MA4-08

Layer by layer fabrication of MgB_2 thin films by e-beam technique

Altin E.[1], Yakinci Z.D.[1], Kurt F.[1], Altin S.[2], Yakinci M.E.[2]
[1]İnönü Üniversitesi, SHMYO - Turkey, [2]İnönü Üniversitesi, Fen Edebiyat Fakültesi, Fizik Bölümü, 44 - Turkey

3P-MA4-09

Mechanism of enhancement of critical current density, J_c, of simultaneously co-doped MgB_2 with nano Al_2O_3 and SiC

Shahabuddin M.[1], Parakandy J.[2], Shah M.S.[1], Alzayed N.[3]
[1]King Saud University, Riyadh - Saudi Arabia, [2]King Saud University - Saudi Arabia, [3]Department of Physics and Astronomy,King Saud University, Riyadh - Saudi Arabia

3P-MA4-10

MgB_2 obtained by ex-situ Spark Plasma Sintering: addition of Ho_2O_3 with different morphology

Aldica G.[1], Popa S.[1], Enculescu M.[1], Batalu D.[1], Badica P.[2]
[1]Natl. Inst. Mater. Phys. - Romania, [2]National Institute of Materials Physics - Romania

3P-MA4-11

Preparation of Nb_3Al by high-energy ball milling and superconductivity

Chen Y.[1], Cui Y.[1], Liu Z.[1], Zhao Y.[2]

[1]Southwest Jiaotong University - China, [2]Southwest Jiaotong University - Australia

3P-MA4-12

Role of different Boron precursors on the superconducting, microstructural and mechanical properties of bulk MgB_2 superconductor

Kilic A.[1], Cicek O.[2]

[1]Ankara University Physics Department, Tandogan - Turkey, [2]Ankara University Center of Excellence for Superconductivity Research - Turkey

3P-MA4-13

Superconductivity in borides YB_6 and ZrB_{12} mediated by a quasi-local vibrations of the transition metal ions

Sluchanko N.[1], *Gavrilkin S.*[2], Mitsen K.[2], Kuznetsov A.[3], Sannikov I.[3], Glushkov V.[4], Demishev S.[4], Azarevich A.[5], Bogach A.[1], Khoroshilov A.[5], Lyashenko A.[6], Dukhnenko A.[6], Shitsevalova N.[6], Filipov V.[6], Flachbart K.[7], Moshchalkov V.[8]

[1]A.M.Prokhorov General Physics Institute of RAS - Russian Federation, [2]P.N.Lebedev Physical Institute of RAS, 53 Leninsky pr., 119991 Moscow - Russian Federation, [3]National Research Nuclear University MEPhI, 31 Kashirskoe Shosse, 115409 Moscow - Russian Federation, [4]A.M.Prokhorov General Physics Institute of RAS & Moscow Institute of Physics and Technology - Russian Federation, [5]Moscow Institute of Physics and Technology - Moscow - Russian Federation, [6]I.N.Frantsevich Institute for Problems of Materials Science, NASU, Kiev - Ukraine, [7]Institute of Experimental Physics of SAS - Slovakia, [8]Institute for Nanoscale Physics and Chemistry (INPAC) - Belgium

3P-MA4-14

Synthesis and characterization of the new superconductor material $Zr_{1-x}Nb_xB_2$

Marques M.D.R.[1], Correa L.E.[2], Renosto S.T.[2], Portela F.S.[3], Corredor L.T.[3], Machado A.J.S.[2], Aguiar J.A.[4]

[1]Programa de Pós-Graduação CCEN, Universidade Federal de Pernambuco, 50670-9 - Brazil, [2]Escola de Engenharia de Lorena, Universidade de Sao Paulo - Brazil, [3]Departamento de Física, Universidade Federal de Pernambuco, 50670-901, Recife-PE, Brasil - Brazil, [4]Programa de Pós-Graduação CCEN and Departamento de Física, UFPE - Brazil

3P-MA4-15

The effect of the milling time in the MgB_2 + ZrB_2 superconducting bulk

Da Silva L.B.S.[1], Hellstrom E.[2], Rodrigues Jr. D.[3]

[1]University of Sao Paulo - Brazil, [2]Applied Superconductivity Center, NHMFL, Florida State University - United States, [3]EEL/USP - Brazil

3P-MA4-16

Thermodynamic critical field in MgB_2 superconductors doped with Aluminum

Salem A.F.[1], Ziq K.A.[1], Bahgat A.A.[2]
[1]KFUPM - Saudi Arabia, [2]Al-Azhar University - Egypt

3P-MA4-17

Pressure effect on superconducting and electronic properties of $(K,Na)Fe_2As_2$

Grinenko V.[1], Schottenhamel W.[1], Wolter A.U.B.[1], Aswartham S.[1], Efremov D.V.[1], Holapfel B.[1], Wurmehl S.[1], Hess C.[1], Drechsler S.L.[1], Buchner B.[2]
[1]IFW Dresden - Germany, [2]IFW Dresden and TU Dresden - Germany

3P-WT1: Coated Conductors II

Wednesday, September 18 @ 14:15 in Poster Area
Chair: *Antonella Mancini, Enric Pardo*

3P-WT1-01

Design of the SuperOx buffer layers architecture of 2G High T_c tapes compatible with the IBAD-MgO magnetron sputtering process

Petrykin V.[1], Lee S.[1], Martynova I.[2], Tsymbarenko D.[2], Kharchenko A.[2], Mankevich A.[2]
[1]SuperOx LLC - Japan, [2]SuperOx - Russian Federation

3P-WT1-02

Development of Solution Deposition Planarisation for High Current IBAD Coated Conductors at SuperOx

Martynova I.[1], Tsymbarenko D.[2], Kharchenko A.[2], Petrykin V.[3], Lee S.[3], Kamenev A.[1], Burova L.[1], Kuzmina N.[4], *Samoilenkov S.*[1], Kaul A.[5]
[1]SuperOx - Russian Federation, [2]Department of Materials Science, Moscow State University - Russian Federation, [3]SuperOx LLC - Japan, [4]Department of Chemistry, Moscow State University - Russian Federation, [5]SuperOx; Department of Chemistry, Moscow State University - Russian Federation

3P-WT1-03

Tuning of Lattice Mismatch at the Buffer Layer/HTS Interface to Promote c-Oriented YBCO Growth for High Current Coated Conductors

Chepikov V.[1], Kharchenko A.[1], Amelichev V.[2], Shchukin A.[1], Markelov A.[2], Blednov A.[2], Makarevich A.[3], *Samoilenkov S.*[2], Kaul A.[3]
[1]Department of Materials Science, Moscow State University - Russian Federation, [2]SuperOx - Russian Federation, [3]SuperOx; Department of Chemistry, Moscow State University - Russian Federation

3P-WT1-04

Influence of middle-energy ion-irradiation on the flux pinning properties of YBCO films: Comparison between different synthesis

methods

Ogiso H.[1], *Matsui H.*[1], Yamasaki H.[1], Sohma M.[1], Yamaguchi I.[1], Kumagai T.[1], Manabe T.[1]
[1]National Institute of Industrial Science and Technology - Japan

3P-WT1-05

Transport properties of PLD-YBCO films deposited on CeO_2/YSZ(ABAD)/SS templates

Augieri A.[1], Rizzo F.[1], Vannozzi A.[1], Fabbri F.[1], Mancini A.[1], Angrisani Armenio A.[1], Galluzzi V.[1], Rufoloni A.[1], Celentano G.[1], Usoskin A.[2]
[1]ENEA - Italy, [2]Bruker HTS GmbH - Germany

3P-WT1-06

In-field property of IBAD/PLD coated conductors

Fujita S.[1], Daibo M.[1], Igarashi M.[1], Kikutake R.[1], Kakimoto K.[1], Iijima Y.[1], Itoh M.[1], Saitoh T.[1]
[1]Fujikura. Ltd - Japan

3P-WT1-07

Effects of Gd_2O_3 doping on polymer assisted deposited epitaxial ceria thin films

Mos R.B.[1], Petrisor Jr T.[1], Nasui M.[1], Gabor M.[1], Mesaros A.[1], Calleja A.[2], Puig T.[2], Ciontea L.[1], Petrisor T.[1]
[1]Technical University of Cluj-Napoca - Romania, [2]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain

3P-WT1-08

Influence of the deposition process on the texture formation of IBAD-TiN

Pahlke P.[1], Schultz L.[1], Holzapfel B.[1], Huhne R.[1]
[1]IFW Dresden - Germany

3P-WT1-09

Influence of the sulfur superstructure on texture formation of buffer layers grown by CSD on biaxial textured Ni-W tapes

Kirchner A.[1], Sparing M.[1], Erbe M.[1], Freudenberg T.[1], Huhne R.[1], Knoth K.[2], Schultz L.[1], Holzapfel B.[1]
[1]IFW Dresden - Germany, [2]evico GmbH, Dresden - Germany

3P-WT1-10

Improved MOD $(Ce,Zr)O_2$ buffers on ABAD-textured substrates for reel-to-reel manufacture of coated conductors

Calleja A.[1], Vlad V.R.[1], Vilardell M.[1], Granados X.[2], Usoskin A.[3], Guzmán R.[4], Arbiol J.[4], Puig T.[4], Obradors X.[4]
[1]OXOLUTIA SL, Edif. Eureka, Parc de Recerca de la UAB, Campus de la UAB - Spain, [2]Institute of Materials Science of Barcelona-CSIC - Spain, [3]Bruker HTS GmbH - Germany, [4]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain

3P-WT1-11

Continuous Pulsing Overcurrent through 2G HTS in Self Field

Miller J.[1], Fitzpatrick B.[1]
[1]US Navy Research and Dev - United States

3P-WT1-12

Influence of target density and oxygen content on properties of HTSC 2G samples fabricated by PLD technique

Shavkin S.[1], Shikov A.[1], Chernykh I.[1], Guryev V.[1], Kovalenko E.[1], Rakov D.[2], Vorobieva A.[3], Yakovenko E.[1], Zanaveskin M.[1]
[1]NRC Kurchatov Institute, Moscow, 123185 - Russian Federation, [2]Bochvar Institute - Russian Federation, [3]Bochvar Institute of Inorganic Materials (VNIINM) - Russian Federation

3P-WT1-13

Crystal Structure and Critical Properties of HTSC 2G Prototypes Formed by Pulsed Laser Deposition Technique on the RABITS Tapes

Chernykh I.[1], Stroev A.[1], Garaeva M.[1], Krylova T.[1], Klevalina L.[1], Grishchenko J.[1], Zanaveskin M.[1], Shavkin S.[1], Shikov A.[1], Vasiliev A.[1]
[1]NRC Kurchatov Institute, Moscow, 123185 - Russian Federation

3P-WT2: Ac losses, Stability and Quench

Wednesday, September 18 @ 14:15 in Poster Area

Chair: *Niklas Magnusson, Elena Martinez*

3P-WT2-01

Generation and propagation of normal zone in current joints of long length YBCO coated conductors

Rutt A.[1], Usoskin A.[1]
[1]Bruker HTS GmbH - Germany

3P-WT2-02

Tests on two YBCO tape coils

Devaux M.[1], Debray F.[2], Chaud X.[3], Durante M.[4], *Fazilleau P.*[4], Lecrevisse T.[4], Miyoshi Y.[5], Rey J.M.[4], Tixador P.[6], Vincent B.[7]
[1]CEA Saclay - France, Metropolitan, [2]CNRS/LNCMI - France, [3]CNRS LNCMI CRETA, F-38042 Grenoble 09 - France, [4]CEA - France, Metropolitan, [5]LNCMI, CNRS - France, [6]CNRS - France, [7]CNRS - France, Metropolitan

3P-WT2-03

Experimental study of the magnetization AC losses in MgB_2 wires and cables

Kováč J.[1], Souc J.[1], Kováč P.[1], Hušek I.[1]
[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

3P-WT2-04

Simulation of current profile and AC loss of HTS winding wound by

parallel connected tapes

Gu C.[1], Qu T.[2], Han Z.[1]

[1]Applied Superconductivity Research Center, Tsinghua Uni. Beijing - China, [2]Department of Mechanical Engineering, Tsinghua University - China

3P-WT2-05

Influence on Magnetization Loss in Striated 2G HTS Conductors by copper and superconducting joint of end regions

Lee J.K.[1], Kim Y.[2], Lee S.[2], Park S.H.[2], Kim W.[2], Choi K.[2]

[1]Woosuk University - Republic of Korea, [2]Korea Polytechnic University - Republic of Korea

3P-WT2-06

Investigation of AC loss for HTS coils with strengthening copper tapes

Chen Z.[1], Hong H.[1], Zhang J.[1], Wei Z.[1], Wang L.[1], Xin Y.[1]

[1]Innopower Superconductor Cable Co. - China

3P-WT2-07

AC loss study of HTS superconducting racetrack coils by calorimetric method

Chudy M.[1], Chen Y.[1], Zhang M.[2], Coombs T.[3]

[1]University of Cambridge - United Kingdom, [2]Engineering Department, University of Cambridge Cambridge - United Kingdom, [3]EPEC Superconductivity Group, Cambridge University Engineering Department - United Kingdom

3P-WT2-08

Effective reduction of AC loss in MgB_2 wires

Vojenčiak M.[1], Kling A.[2], Kováč P.[1], Hušek I.[3], Jung A.[4], Runtsch B.[4], Grilli F.[2]

[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia, [2]Karlsruhe Institute of Technology - Germany, [3]ElU SAV Bratislava - Slovakia, [4]Karlsruhe Institute of Technology, ITEP - Germany

3P-WT2-09

Calorimetric AC Loss Measurements on High Temperature Superconducting Inductive Fault Current Limiter Modules

Kvitkovic J.[1], Pamidi S.[1], Graber L.[1], Chiocchio T.[1], Steurer M.[1], Usoskin A.[2]

[1]Center for Advanced Power Systems, Florida State University - United States, [2]Bruker Energy - Germany

3P-WT2-10

AC losses of a LTC wire in the HF frequency band.

Krasnicky D.[1], Lagomarsino V.[2], Sobrero G.[2], Testera G.[2], Vaccarone R.[2]

[1]INFN - Czech Republic, [2]INFN - Italy

3P-WT2-11

A Method to Estimate the Necessary Twist Pitch in Multi-filamentary Superconductors

Lindau S.[1], *Magnusson N.*[2], Taxt H.[2]

[1]Norwegian University of Science and Technology - Norway, [2]SINTEF Energy Research - Norway

3P-WT2-12

Laser striations in coated conductors, a way to reduce AC loss

Nast R.[1], Vojenčiak M.[2], Kario A.[1], Ringsdorf B.[1], Jung A.[1], Runtsch B.[1], Goldacker W.[1]

[1]Karlsruhe Institute of Technology, ITEP - Germany, [2]Karlsruhe Institute of Technology - Germany

3P-WT2-13

Numerical Study of Two Layer HTS Power Transmission Cables Composed of Coated Conductors with Ferromagnetic Substrate

Inanir F.[1], Yildız S.[2], Gomöry F.[3]

[1]Recep Tayyip Erdogan ünv. - Turkey, [2]Ahi evran üniversitesi - Turkey, [3]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

3P-WT2-14

Thermal stability properties of MgB_2 tapes and pancake coils, important for applications.

Pelegrín J.[1], Romano G.[2], Martinez E.[3], Angurel L.A.[1], Navarro R.[1], Ferdeghini C.[2], Brisigotti S.[4], Grasso G.[4], Nardelli D.[4]

[1]ICMA (CSIC-University of Zaragoza) - Spain, [2]CNR-SPIN, Genova - Italy, [3]CSIC - Spain, [4]Columbus Superconductors S.p.A - Italy

3P-WT2-15

AC loss and quench propagation properties of 2G tape in coil environment

Zhang G.[1]

[1]Institute of Electrical Engineering, Chinese Academy of Sciences - China

3P-WT2-16

Current Instability of High Temperature Superconducting Tapes in the AC modes

Romanovskii V.[1], Watanabe K.[2], Awaji S.[2]

[1]Kurchatov Institute - Russian Federation, [2]High Field Laboratory for Superconducting Materials, IMR, Tohoku University - Japan

3P-WT2-17

The transition to the normal state of the coated conductors and YBCO films : pulsed current measurements and scanning electrons microscopy observations

Bernstein P.[1], Ferro G.[2], Harnois C.[1], McLoughlin C.[1], Noudem J.[1], Osorio M.[2], Thimont Y.[1], Veira J.A.[2], Vidal F.[2]

[1]CRISMAT-ENSICAEN - France, [2]LBTS-USC - Spain

3P-WT2-18

Internal field and vortex density along the edges of the coated conductors

Bernstein P.[1], Noudem J.[2]
[1]CRISMAT-ENSICAEN - France, [2]CRISMAT - France

3P-WT2-19

Detection of local inhomogeneities in 2G coated conductors immersed in liquid nitrogen using optical speckle techniques

Nuñez-Chico A.B.[1], Pelegrín J.[2], *Angurel L.A.*[2], Martinez E.[3], Lorda J.A.[4], Andrés N.[4], Arroyo M.P.[4], Hazelton D.[5]
[1]CMA (CSIC-Univ of Zaragoza) - Spain, [2]ICMA (CSIC-University of Zaragoza) - Spain, [3]CSIC - Spain, [4]I3A-University of Zaragoza - Spain, [5]SuperPower, Inc. - United States

3P-WT2-20

Cooling Stability Test of MgB_2 Wire Immersed in Liquid Hydrogen under External Magnetic Field

Shirai Y.[1], Hikawa K.[1], Shiotsu M.[1], Tatsumoto H.[2], Naruo Y.[3], Kobayashi H.[3], Nonaka S.[3], Inatani Y.[3]
[1]Kyoto University - Japan, [2]JAEA - Japan, [3]JAXA - Japan

3P-WT3: Cable Design

Wednesday, September 18 @ 14:15 in Poster Area
Chair: *Rod Badcock, Stefania Farinon*

3P-WT3-01

Round and flat cable made of MgB_2 wires

Kopera L.[1], Kováč P.[1], Melišek T.[1], Hušek I.[1]
[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

3P-WT3-02

Superior critical current densities obtained in binary MgB_2 cables through various mechanical deformations

Hossain M.S.A.[1], Motaman A.[1], Kim J.H.[2], Dou S.X.[2], Rindfleisch M.[3], Tomsic M.[3], Cicek O.[4], Kováč P.[5], Melišek T.[5], Kopera L.[5], Kario A.[6], Ringsdorf B.[6], Runtsch B.[6], Jung A.[6], Goldacker W.[6]
[1]University of Wollongong - Australia, [2]Institute for Superconducting and Electronic Materials, University of Wollongong, Northfields Avenue - Australia, [3]Hypertech Research Inc. - United States, [4]Ankara University Center of Excellence for Superconductivity Research - Turkey, [5]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia, [6]Department of Physics, Karlsruhe Institute of Technology, Karlsruhe - Germany

3P-WT3-03

Current transfer in twisted-pair cables of MgB_2 tapes for future LHC applications

Spurrell J.[1], Young E.[1], Falorio I.[1], Yang Y.[1]
[1]University of Southampton - United Kingdom

3P-WT3-04

Analysis of current degradation in stacked twisted tapes using self consistent calculations of field and current distribution in a stack

Bykovsky N.[1], Fetisov S.[1], Nosov A.[1], Zanegin S.[1], Zubko V.[1], Vysotsky V.[1]

[1]Russian Scientific R&D Cable Institute - Russian Federation

3P-WT3-05

Current currying capacity of HTS DC cables with the reduced Lorentz force

Vyatkin V.S.[1], Otabe E.S.[1], Kiuchi M.[1], Matsushita T.[1]

[1]Kyushu Institute of Technology - Japan

3P-WT3-06

Electric Field Analysis on the Insulation Design of the Stop Joint Box for DC HTS Power Cable

Hwang J.S.[1], Seong J.K.[1], Shin W.J.[1], Cho J.W.[2], Ryoo H.S.[2], Lee B.W.[1]

[1]Hanyang University - Republic of Korea, [2]Korea Electrotechnology Research Institute - Republic of Korea

3P-WT3-07

Ac transport loss: evaluation of experimental technique on a single phase out of a 3-phase model cable

Demencik E.[1], Douine B.[2], Grilli F.[3], Elschner S.[4], Kudymow A.[5], Strauss S.[5], Zermeno V.[5], Vojenčiak M.[3], Goldacker W.[6], Stemmle M.[7], Noe M.[5]

[1]Karlsruher Institut für Technologie - Germany, [2]GREEN, University of Nancy, BP 239, F-54506 Vandoeuvre-les-Nancy - France, [3]Karlsruhe Institute of Technology - Germany, [4]Hochschule Mannheim - Germany, [5]Karlsruher Institut für Technologie, Institut für Technische Physik - Germany, [6]Karlsruhe Institute of Technology, ITEP - Germany, [7]Nexans Deutschland GmbH - Germany

3P-WT3-08

AC Loss and Inductance analysis of a HTS Cable

Zhang Z.[1], *Yuan W.*[1], Zhu J.[2], Zhang H.[1]

[1]University of Bath - United Kingdom, [2]Department of Electronic and Electrical Engineering - China

3P-WT3-09

Finite element analysis of a 3-phase coaxial HTS cable

Zermeno V.[1], Grilli F.[1], Elschner S.[2], Kudymow A.[1], Demencik E.[1], Vojenčiak M.[3], Douine B.[3], Goldacker W.[3], Stemmle M.[4], Noe M.[3]

[1]Karlsruher Institut für Technologie, Institut für Technische Physik - Germany, [2]Hochschule Mannheim - Germany, [3]Karlsruher Institut für Technologie - Germany, [4]Nexans Deutschland Industries GmbH & Co. KG - Germany

3P-WT3-10

AC loss properties of single-layer CORC cables

Souc J.[1], Kováč J.[1], Solovyov M.[1], Frolek L.[1], Gomöry F.[1]
[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia

3P-WT3-11
Characterization of a 10 kA MgB_2 Cable and Joints
Cheadle M.[1], Bromberg L.[1], Dietz A.[2]
[1]Massachusetts Institute of Technology - United States, [2]Creare, Inc. - United States

3P-WT3-12
Critical current measurement of HTS tape relating with cable structure for a DC power cable
Sun J.[1], Watanabe H.[1], Hamabe M.[1], Kawahara T.[1], Yamaguchi S.[1]
[1]Chubu University - Japan

PARALLEL ORAL SESSIONS 3A

3A-EL: Squid Applications
Wednesday, September 18 @ 16:15 in Room Libeccio
Chair: *Kenji Enpuku, Hans-Georg Meyer*

16:15 3A-EL-O1
Biomagnetic Resonance Technique
Kim K.[1], Lee S.J.[1], Kang C.S.[1], Hwang S.M.[1], Lee Y.H.[1], Yu K.K.[1], Kim I.S.[1], Kim J.M.[1], Kwon H.[1]
[1]KRISS - Republic of Korea

16:30 3A-EL-O2
Application of HTS SQUID-based AC Magnetosusceptmeter in diagnosing dementia by detecting ultra-low-concentration bio-molecules in blood
Yang S.Y.[1], Horng H.E.[2], Chiu M.J.[3], Chieh J.J.[4], Chen T.F.[3], Yang C.C.[1], Yang H.C.[5]
[1]MagQu Corp. - Taiwan, [2]National Taiwan Normal University - Taiwan, [3]National Taiwan University Hospital - Taiwan, [4]National Taiwan Normal University Hospital - Taiwan, [5]Kun Shan University - Taiwan

16:45 3A-EL-O3
Combined superparamagnetic relaxometry and ultra-low field MRI using a low-T_c SQUID-gradiometer array
Magnelind P.[1], Matlashov A.[1], Espy M.[1]
[1]Los Alamos National Laboratory - United States

17:00 3A-EL-O4
Towards high-quality ultra-low-field MRI with a superconducting polarizing coil
Zevenhoven K.C.J.[1], Nieminen J.O.[1], Dabek J.[1], Vesanen P.T.[1],

Parkkonen L.T.[1], Simola J.[2], Ahonen A.I.[2], Ilmoniemi R.J.[1]
[1]Aalto University BECS - Finland, [2]Elekta Oy - Finland

17:15 3A-EL-O5

Design of Low-Tc-SQUID based vector and tensor measurement systems for absolute magnetic field measurements with pT resolution

Voigt J.[1], Knappe-Grüneberg S.[1], Schnabel A.[1], Burghoff M.[1]
[1]Phys. Tech. Bundesanstalt - Germany

17:30 3A-EL-O6

Some phenomena due to SQUID input properties when the local feedback is present

Kiviranta M.[1], Beev N.[1], van der Kuur J.[2]
[1]VTT - Finland, [2]SRON - Netherlands

17:45 3A-EL-O7

1:30 000 Cryogenic Current Comparator for sub nanoampere current metrology

Rengnez F.[1], Seron O.[1], Devoille L.[1], Piquemal F.[1]
[1]LNE - France

18:00 3A-EL-O8

Near-field Scanning SQUID microwave microscope

Talanov V.[1], Lettsome N.[1], Gagliolo N.[1], Gaudestad J.[1], Orozco A.[1], Cawthorne A.[2], Borzenets V.[3]
[1]Neocera, LLC, Beltsville, MD 20705 - United States, [2]Trevecca Nazarene University, Nashville, TN 37210 - United States, [3]SLAC National Accelerator Laboratory, Menlo Park, CA 94025 - United States

18:15 3A-EL-O9

Scanning superconducting quantum interference device microscope for magnetic imaging of nanoscale phenomena

Embon L.[1], Anahory Y.[1], Vasyukov D.[2], Cuppens J.[1], Myasoedov Y.[1], Rappaport M.[1], Huber M.[3], Zeldov E.[1]
[1]Weizmann Institute of Science - Israel, [2]Weizmann Institute of Science - Singapore, [3]University of Colorado - United States

3A-MA1: Fe-based Superconductors - Bulks and Tapes (hosted by SUPER-IRON EU-Japan project)

Wednesday, September 18 @ 16:15 in Room Maestrale
Chair: *Marina Putti, Jun-ichi Shimoyama*

16:15 3A-MA1-I1

Recent progress in Fe-based superconducting wires and tapes for high field applications

Ma Y.[1]

[1]Key Laboratory of Applied Superconductivity, Institute of Electrical Engineering, CAS - China

16:45 3A-MA1-O1

Alternative Synthesis Approach towards Iron Pnictides: Soft Chemistry and Metathesis

Nitsche F.[1], Friederichs G.[1], Frankovsky R.[1], Johrendt D.[2]

[1]Department Chemie, Ludwig-Maximilians-Universität München - Germany, [2]LMU Munich - Germany

17:00 3A-MA1-O2

LnFeAsO single crystals grown at high pressure: influence of doping and substitutions on superconducting properties and structure

Karpinski J.A.[1], Zhigadlo N.D.[2], Katrych S.[1], Moll P.J.W.[2], Rogacki K.[3], Puzniak R.[4], Pisoni A.[5], Prsa K.[1], Batlogg B.[2], Weyeneth S.[6], Keller H.[6], Forró L.[1]

[1]Institute of Condensed Matter Physics EPF Lausanne - Switzerland, [2]Laboratory for Solid State Physics, ETH Zürich, CH-8093 Zürich - Switzerland, [3]Institute of Low Temperature and Structure Research, Polish Academy of Sciences, 50-950 Wroclaw - Poland, [4]Institute of Physics PAS Warsaw - Poland, [5]Institute of Condensed Matter Physics EPF Lausanne - Poland, [6]Physik-Institut der Universitat Zurich, 8057 Zurich - Switzerland

17:15 3A-MA1-O3

Evolution of superconductivity and structural properties in $Rb_{0.8}Fe_{1.6+x}Se_2$ systems

Wang Z.W.[1], Wang Z.[2], Cai Y.[2], Ma C.[2], Yang H.[2], Li J.[2]

[1]Département de Physique de la Matière Condensée - Switzerland, [2]Beijing National Laboratory for Condensed Matter Physics, Institute of Physics, IOP, CAS - China

17:30 3A-MA1-O4

Further improvement and limitations of critical current densities in K-doped ferropnictide $BaFe_2As_2$ bulks and multifilament round wires

Weiss J.[1], Jiang J.[1], Tarantini C.[1], Kametani F.[1], Polyanskii A.[1], Larbalestier D.[1], Hellstrom E.[1]

[1]Applied Superconductivity Center, NHMFL, Florida State University - United States

17:45 3A-MA1-O5

Phase diagram of 1111-type $SmFeAs_{1-y}P_yO_{1-x}H_x$: what is the primary factor controlling T_c dome shape?

Matsuishi S.[1], Maruyama T.[1], Iimura S.[1], Hanna T.[1], Muraba Y.[1], Hosono H.[1]

[1]Tokyo Institute of Technology - Japan

18:00 3A-MA1-O6

Key point for bulk superconductivity in FeTe based superconductors

Takano Y.[1]

[1]NIMS - Japan

18:15 3A-MA1-O7

Anisotropy of superconducting properties and magnetic relaxation of Na-doped CaFFeAs single crystals

Shlyk L.[1], Wolff K.[1], Bischoff M.[1], Rose E.[2], Schleid T.[1], Niewa R.[1]

[1]IAC, Universität Stuttgart, Pfaffenwaldring 55, 70569 Stuttgart - Germany, [2]Erstes Physikalisches Institut, Universität Stuttgart, Pfaffenwaldring 57, 70550 Stuttgart - Germany

3A-MA2: Pinning and Flux Dynamics I - In memory of J. Clem

Wednesday, September 18 @ 16:15 in Room Levante e Ponente

Chair: *Teruo Matsushita, Harald W. Weber*

16:15 3A-MA2-I1

Similarities and differences in the pinning landscape between Fe- and Cu-based High T_c Superconductors

Maiorov B.[1]

[1]Condensed Matter and Magnet Science Group (MPA-CMMS), Los Alamos National Laboratory, Los Alamos - United States

16:45 3A-MA2-O1

Comparison of the pinning energy in $Fe(Se_{1-x}Te_x)$ compound between single crystals and thin films

Leo A.[1], Guarino A.[1], Grimaldi G.[1], Nigro A.[1], Pace S.[1], Bellingeri E.[2], Kawale S.[2], Ferdeghini C.[2], Giannini E.[3]

[1]CNR-SPIN and Dipartimento di Fisica "E.R. Caianiello", Università degli Studi, Salerno - Italy, [2]CNR-SPIN, Genova - Italy, [3]Département de Physique de la Matière Condensée - Switzerland

17:00 3A-MA2-O2

Development of nanosized ZrO_2 and $BaZrO_3$ pinning centers for $YBa_2Cu_2O_{7-\delta}$ superconductors

De Keukeleere K.[1], De Roo J.[1], Feys J.[1], Van Driessche I.[1]

[1]Ghent University - Belgium

17:15 3A-MA2-O3

Evolution of vortex dynamics in YBCO films with nonsuperconducting nanorods by increasing the film thickness and using nanodot decorated substrates

Miu L.[1], Crisan I.A.[2], Mele P.[3], Miu D.[4]

[1]Nati. Inst. of Mat. Phys. - Romania, [2]School of Metallurgy and Materials, University of Birmingham - United Kingdom, [3]Hiroshima University - Japan, [4]Natl. Inst. of Laser, Plasma, and Red. Phys. - Romania

17:30 3A-MA2-O4

Modelling Longitudinal Critical Currents

Campbell A.M.[1]

[1]Department of Engineering, University of Cambridge - United Kingdom

17:45 3A-MA2-O5

Study of radiation induced defects in iron based superconducting single crystals

Mishev V.[1], Eisterer M.[1], Zehetmayer M.[1], Nakajima M.[2], Eisaki H.[2], Takano Y.[3], Zhigadlo N.D.[4], Karpinski J.A.[4], Katrych S.[4]

[1]Atominstitut, Vienna University of Technology - Austria, [2]Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and - Japan, [3]NIMS - Japan, [4]Laboratory for Solid State Physics, ETH Zürich, CH-8093 Zürich - Switzerland

18:00 3A-MA2-O6

Vortex dynamics in $(CaCuO_2)_n/(SrTiO_3)_m$ Superlattices

Salvato M.[1], Ottaviani I.[2], Lucci M.[2], Cirillo M.[1], Di Castro D.[3], Innocenti D.[3], Tebano A.[3], Balestrino G.[3]

[1]CNR-SPIN and Physics Department University of Rome 2 - Italy, [2]Physics Department University of Rome 2 - Italy, [3]CNR-SPIN and Dip.to di Ingegneria Civile e Ingegneria Informatica, Università Roma Tor Vergata - Italy

18:15 3A-MA2-O7

Evidence of anisotropic vortex pinning by intrinsic and irradiation-induced defects in $Ba(Fe_{1-x}Co_x)_2As_2$ crystals studied by quantitative magneto-optical imaging

Laviano F.[1], Gerbaldo R.[2], Ghigo G.[2], Gozzelino L.[2], Taen T.[3], Tamegai T.[3]

[1]Dipartimento di Scienza Applicata e Tecnologia, Politecnico di Torino - Italy, [2]Politecnico di Torino, Dipartimento di Scienza Applicata e Tecnologia - Italy, [3]Department of Applied Physics, University of Tokyo - Japan

3A-SS: HTS Conductor Form - The Device Builders' Point of View

Wednesday, September 18 @ 16:15 in Room Scirocco

Chair: *David Larbalestier, Valeria Braccini*

16:15 3A-SS-01

Representative device builder points of view

Fault current limiters - Pascal Tixador (CNRS Grenoble)

High field magnets for small science and for accelerators - Ulf Peter Trociewitz (National High Magnetic Field Laboratory) and Ezio Todesco (CERN)

Current leads - Reinhard Heller (KIT)

Superconducting links - Amalia Ballarino (CERN)

Bearings and other bulk uses - David Cardwell (U. of Cambridge)

Representative manufacturer points of view

Bi-2223 - Kazuhiko Hayashi (Sumitomo) and Zhang Yinian (INNOVA Superconductor Technology)

REBCO - Klaus Schlenga (BEST), Steve Fleshler (AMSC) and Drew Hazelton (SuperPower)

Bi-2212 - Mark Rikel (Nexans) and Jeff Parrell (OST)

MgB_2 - Mike Tomsic (Hypertech Research) and Gianni Grasso (Columbus)

PARALLEL ORAL SESSIONS 4M

4M-LS: Modeling
Thursday, September 19 @ 08:30 in Room Scirocco
Chair: *Stefania Farinon, Fedor Gomory*

08:30 4M-LS-I1
Potential and limits of numerical modeling for supporting the development of HTS devices
Sirois F.[1], Grilli F.[2], Laforest M.[1], Wan A.[1]
[1]Polytechnique Montreal - Canada, [2]Karlsruhe Institute of Technology - Germany

09:00 4M-LS-O1
A New Approach to Enhance the Thermal Stability of HTS-CCs for Resistive Fault Current Limiter Purposes
Colangelo D.[1], Vojenčiak M.[2], Dutoit B.[1]
[1]EPFL - Switzerland, [2]Karlsruhe Institute of Technology - Germany

09:15 4M-LS-O2
3-D modeling and simulation of 2G HTS stacks and coils
Zermeno V.[1], Grilli F.[1]
[1]Karlsruher Institut für Technologie, Institut für Technische Physik - Germany

09:30 4M-LS-O3
AC loss in coated conductor windings in DC bias current
Pardo E.[1], Souc J.[2], Kováč J.[1], Lahtinen V.[3], Stenvall A.[3]
[1]Institute of Electrical Engineering, Slovak Academy of Science - Slovakia, [2]Institute of Electrical Engineering, Slovak Academy of Sciences - Slovakia, [3]Electromagnetics, Tampere University of Technology - Finland

09:45 4M-LS-O4
Quench Simulations for 9.4T MRI superconducting magnet
Wang Q.[1]
[1]IEE,CAS - China

10:00 4M-LS-O5
Turbo-Brayton cryogenic refrigerator
Gondrand C.[1], *Durand F.*[1], Delcayre F.[1]
[1]Air Liquide Advanced Technologies - France

4M-MA1: Pinning and Flux Dynamics II
Thursday, September 19 @ 08:30 in Room Levante e Ponente
Chair: *Teresa Puig, Boris Maiorov*

08:30 4M-MA1-I1

Influence of the field orientation on the in-plane critical currents in Ba-122 single crystals

Eisterer M.[1], Mishev V.[1], Zehetmayer M.[1], Nakajima M.[2], Eisaki H.[2]
[1]Atominstitut, Vienna University of Technology - Austria, [2]Electronics and Photonics Research Institute, National Institute of Advanced Industrial Science and - Japan

09:00 4M-MA1-I2

Vortex Pinning and dynamics in CSD YBCO nanocomposites

Palau A.[1], Rouco V.[1], Coll M.[1], Cayado P.[1], Gázquez J.[1], Guzmán R.[1], Obradors X.[1], Puig T.[1]
[1]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain

09:30 4M-MA1-O1

Strain-mediated self-assembly of secondary phase nanostructures in YBCO films: kinetics and dynamics

Wu J.[1], Baca J.[1], Haugan T.J.[2], Shi J.[1], Lu R.[1], Holesinger T.[3], Maiorov B.[3]
[1]University of Kansas - United States, [2]US Air Force Research Laboratory, Wright Patterson AFB - United States, [3]Los Alamos National Laboratory - United States

09:45 4M-MA1-O2

Direct imaging of the interplay between pinning and confinement of vortices in nano-scale superconductors

Serrier-Garcia L.[1], Cren T.[1], Brun C.[1], Debontridder F.[1], Roditchev D.[1]
[1]INSP/CNRS - France

10:00 4M-MA1-O3

Fe-based superconducting wires realized by ex-situ P.I.T. method: fabrication and characterization

Malagoli A.[1], Pani M.[2], Wiesenmayer E.[3], Nitsche F.[3], Johrendt D.[4], Braccini V.[1], Palombo M.[5], Putti M.[6]
[1]CNR-SPIN, Genova - Italy, [2]Chemistry and Industrial Chemistry Dept., University of Genova - Italy, [3]Department Chemie, Ludwig-Maximilians-Universität München - Germany, [4]LMU Munich - Germany, [5]Department of Chemistry and Industrial Chemistry, University of Genova - Italy, [6]Physics Department, University of Genova - Italy

4M-MA2: HTS Films and Multilayers II

Thursday, September 19 @ 08:30 in Room Maestrale
Chair: *Enrico Giannini, Hiroshi Ikuta*

08:30 4M-MA2-I1

New strategies of solution processed YBCO nanocomposites for enhanced pinning forces

Coll M.[1], Cayado P.[1], Garzón A.[2], Garcés P.[1], Guzmán R.[1], Gazquez J.[1],

Rouco V.[1], Palau A.[1], Ricart S.[1], Ros J.[1], Obradors X.[1], Puig T.[1]
[1]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain, [2]UAB - Spain

09:00 4M-MA2-O1

$YBa_2Cu_3O_{7-\delta}$ thick films by Infiltration Growth Process

Namburi D.K.[1], Raphaël C.[1], Wera L.[2], Vanderbemden P.[3], Rudi C.[4], Benédicte V.[4]
[1]S.U.P.R.A.T.E.C.S., University of Liège - Belgium, [2]SUPRATECS, University of Liege - Belgium, [3]SUPRATECS, Dept. of Electrical Engineering (B28), University of Liège - Belgium, [4]S.U.P.R.A.T.E.C.S., University of Liege - Belgium

09:15 4M-MA2-O2

Study of the firing process of $YBa_2Cu_3O_{7-\delta}$ thin films obtained by low fluorine MOD for coated conductors applications

Angrisani Armenio A.[1], Augieri A.[1], Celentano G.[1], Mancini A.[1], Galluzzi V.[1], Rizzo F.[1], Rufoloni A.[1], Vannozzi A.[1], Bemporad E.[2], Sotgiu G.[2], Pompeo N.[2], Silva E.[2], Fabbri F.[1]
[1]ENEA - Italy, [2]Dipartimento di Ingegneria, Università Roma Tre - Italy

09:30 4M-MA2-O3

Solution design for ReBCO CSD-MOD route

Ricart S.[1], Palmer X.[1], Solano E.[2], Nasui M.[3], Pop C.[1], Sanchez C.F.[1], Cayado P.[1], Cieontea L.[3], Ros J.[2], Yanez R.[2], Roura P.[4], Farjas J.[4], Palau A.[1], Guzmán R.[1], Arbiol J.[1], Coll M.[1], Obradors X.[1], Puig T.[1]
[1]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain, [2]UAB - Spain, [3]Technical University of Cluj-Napoca - Romania, [4]Universitat de Girona - Spain

09:45 4M-MA2-O4

Significant Reduction on Thermal Decomposition Time for Chemical Solution Deposition of YBaCuO

Zhang Q.[1], Zhao S.[1], Liu Z.[1], Rui R.[1], Li M.[1], Hao W.[1], Cai C.[2]
[1]Shanghai University - China, [2]Research Center for Superconductors and Applied Technologies, Shanghai University - China

10:00 4M-MA2-O5

High pinning performance of $YBa_2Cu_3O_{7-x}$ films added with Y_2O_3 nanoparticulate defects

Mele P.[1], Matsumoto K.[2], Gazquez J.[3], Guzmán R.[3], Puig T.[3], Obradors X.[3], Mukaida M.[4], Yoshida Y.[5], Ichinose A.[6], Horii S.[7]
[1]Hiroshima University - Japan, [2]Kyushu Institute of Technology - Japan, [3]Institut de Ciència de Materials de Barcelona (ICMAB), Barcelona - Spain, [4]Kyushu University - Japan, [5]Nagoya University - Japan, [6]CRIEPI - Japan, [7]Kochi University of Technology - Japan

4M-WT: BSCCO and Fe-based Wires

Thursday, September 19 @ 08:30 in Room Libeccio
Chair: *Yanwei Ma, Andrea Malagoli*

08:30 4M-WT-I1

Where does the current flow in macroscopically untextured Bi2212 round wires?

Kametani F.[1], Jiang J.[1], Hellstrom E.[1], Larbalestier D.[1]

[1]Applied Superconductivity Center, NHMFL, Florida State University - United States

09:00 4M-WT-O1

Bi-2212 Round Wire Development for High Field Applications

Miao H.[1], Huang Y.[1], Hong S.[1], Parrell J.[1]

[1]Oxford Superconducting Technology - United States

09:15 4M-WT-O2

Overpressure heat treatment processing: The key to high critical current density in coil length $Bi_2Sr_2CaCu_2O_{8-x}$ (Bi-2212) wires

Matras M.R.[1], Jiang J.[1], Craig N.C.[1], Chen P.[1], Dalban-Canassy M.[2], Kametani F.[1], Lee P.J.[1], Trociewitz U.P.[1], Hellstrom E.[1], Larbalestier D.[1], Scheuerlein C.[3]

[1]Applied Superconductivity Center, NHMFL, Florida State University - United States, [2]NHMFL/ASC - United States, [3]CERN - Switzerland

09:30 4M-WT-O3

Effect of cation composition on the doping state optimizing critical current densities in Bi-2212 conductors

Rikel M.[1], Ehrenberg J.[1], Bock J.[1], Hobl A.[1], Scheuerlein C.[2], Ballarino A.[3], Bottura L.[2], Miao H.[4], Huang Y.[4], Parrell J.[4], Jiang J.[5], Hellstrom E.[5], Larbalestier D.[5]

[1]Nexans SuperConductors - Germany, [2]CERN - Switzerland, [3]CERN, Technology Department - Switzerland, [4]Oxford Superconducting Technology - United States, [5]Applied Superconductivity Center, NHMFL, Florida State University - United States

09:45 4M-WT-O4

Recent progress in DI-BSCCO for practical use

Yamazaki K.[1], Kagiyama T.[1], Kikuchi M.[1], Nakashima T.[1], Takeda S.[1], Kobayashi S.I.[1], Hayashi K.[1], Sato K.I.[1]

[1]Sumitomo Electric Industries Ltd. - Japan

10:00 4M-WT-O5

High critical current density obtained in Ba(Sr)-122/Ag tapes by intermediate annealing process

Gao Z.[1], Togano K.[1], Matsumoto A.[1], Kumakura H.[1]

[1]National Institute for Materials Science - Japan

PLENARY SESSION 4

4PL: Plenary Session IV
Thursday, September 19 @ 11:00 in Room Maestrale
Chair: *Carlo Ferdeghini (4PL01), Bernhard Holzapfel (4PL02)*

11:00 4PL01
Vortex physics and evaluation on the application of the iron based superconductors
Wen H.H.[1]
[1]Department of Physics, Nanjing University - China

11:40 4PL02
Potentials of iron-based superconductors for practical materials in future
Shimoyama J.I.[1]
[1]Department of Applied Chemistry, University of Tokyo - Japan