

PL-5-INV 15:30-16:10
SUPERCONDUCTIVITY FOR FUTURE ENERGY TECHNOLOGY
M. Noe (Karlsruhe Institute of Technology)

PL-6-INV 16:10-16:50
DEVELOPMENT OF REBCO POWER TRANSFORMER
H. Hayashi (Kyushu Electric Power Co., Inc.)

Oct. 24 (Mon.) Special Plenary Lecture Big Hall (5F)

Chairperson:
K.R. Marken (Los Alamos National Laboratory)

SPL-1-INV 16:50-17:30
THE EARLY HISTORY OF SUPERCONDUCTIVITY
P. Kes (Leiden University)

Oct. 25 (Tue.) Wires, Tapes and Characterization Big Hall (5F)

Chairpersons:
V. Selvamanickam (University of Houston)
S. Awaji (Tohoku University)

WT-1-INV 9:20-9:45
PROGRESS IN COATED CONDUCTOR RESEARCH IN EUROPE
X. Obradors (Institute of Materials Science of Barcelona)

WT-2-INV 9:45-10:10
REACTIVE CO-EVAPORATION PROCESS FOR LONG LENGTH GdBCO COATED CONDUCTOR
S.H. Moon (SuNAM Co. LTD.)

WT-3-INV 10:10-10:35
STATUS OF COATED CONDUCTOR ACTIVITIES IN THE U.S.
K.R. Marken (Los Alamos National Laboratory)

WT-4-INV 10:35-11:00
FABRICATION AND EVALUATION OF FUJIKURA'S GdBCO TAPE
S. Hanyu, K. Kakimoto, R. Kikutake, R. Suzuki, M. Daibo, Y. Iijima, M. Itoh, T. Saitoh
(Fujikura Ltd.)

11:00-11:20 —Coffee Break—

Chairpersons:

X. Obradors(Institute of Materials Science of Barcelona)

Y. Yoshida(Nagoya University)

WT-5-INV 11:20-11:45

DEVELOPMENT OF GdBCO COATED CONDUCTOR BY CLAD-PLD PROCESS

K. Ohmatsu, Y. Shingai, T. Yamaguchi, M. Konishi (Sumitomo Electric Industries, Ltd.)

WT-6-INV 11:45-12:10

IMPROVEMENT OF IN-FIELDS I_c CHARACTERISTICS BY BHO(=BaHfO₃) DOPING INTO PLD-GdBCO COATED CONDUCTORS

H. Tobita¹, A. Ibi¹, T. Kato², K. Kaneko³, M. Yoshizumi¹, T. Izumi¹, Y. Shiohara¹

(¹Superconductivity Research Laboratory, ISTECC, ²Japan Fine Ceramics Center,

³Kyushu University)

WT-7-INV 12:10-12:35

ADVANCEMENTS IN COATED CONDUCTORS FOR MAGNETIC AND POWER APPLICATIONS

V. Selvamanickam¹, Y. Chen², G. Majkic¹, I. Kesgin¹, Y. Yao¹, N. Khatri¹, X. Tao¹, Y. Liu¹, T. Shi¹,

Y. Bi¹, X. Cai¹, Y. Zhang¹, E. Galstyan¹, S. Sambandam², X. Xiong²

(¹University of Houston, ²SuperPower Inc.)

WT-8 12:35-12:55

PREPARATION OF BZO DOPED YGdBCO COATED CONDUCTOR WITH HIGH INFIELD- I_c BY TFA-MOD PROCESS

Y. Takahashi¹, K. Nakaoka¹, Y. Takagi¹, M. Yoshizumi¹, T. Izumi¹, Y. Shiohara¹, N. Aoki²,

T. Hasegawa², T. Kato³, T. Hirayama³ (¹Superconductivity Research Laboratory, ISTECC,

²SWCC SHOWA CABLE SYSTEMS Co., Ltd., ³Japan Fine Ceramics Center)

12:55-14:00 —Lunch Time—

Chairpersons:

H.W. Weijers(National High Magnetic Field Laboratory / Florida State University)

T. Kiss(Kyushu University)

WT-9-INV 14:00-14:25

EFFECTS OF 1D ARTIFICIAL PINNING CENTERS ON J_c PROPERTIES OF RE123 COATED CONDUCTORS AT LOW TEMPERATURE AND HIGH MAGNETIC FIELD

S. Awaji¹, T. Suzuki¹, K. Watanabe¹, A. Ibi², M. Yoshizumi², H. Tobita², T. Izumi², Y. Shiohara²

(¹Tohoku University, ²Superconductivity Research Laboratory, ISTECC)

WT-10-INV 14:25-14:50

CHARACTERIZATION OF HTS CONDUCTORS FOR HIGH FIELD MAGNET APPLICATIONS

H.W. Weijers, D.V. Abraimov, R.P. Walsh, A. Xu, U.P. Trociewitz, J.J. Jaroszynski,

A.A. Polyanskii, W.D. Markiewicz, D.C. Larbalestier

(National High Magnetic Field Laboratory / Florida State University)

WT-11-INV 14:50-15:15

EVALUATION OF REBCO COATED CONDUCTORS AND Bi-2223 TAPES

M. Inoue, T. Kiss (Kyushu University)

WT-12 15:15-15:35

ADHESION STRENGTH STUDY OF IBAD-MOCVD-BASED 2G HTS WIRES USING A PEEL TEST

Y. Zhang¹, D.W. Hazelton¹, A.R. Knoll¹, J.M. Duval¹, G. Majkic², V. Selvamanickam²
(¹SuperPower Inc., ²University of Houston)

WT-13 15:35-15:55

REVERSIBLE STRAIN EFFECT ON CRITICAL CURRENT IN GdBCO COATED CONDUCTORS WITH DIFFERENT CRYSTAL ORIENTATIONS

M. Sugano¹, S. Machiya², K. Shikimachi³, T. Watanabe³, N. Hirano³, S. Nagaya³, T. Saito⁴,
T. Izumi⁵ (¹High Energy Accelerator Research Organization, ²Daido University,
³Chubu Electric Power Co., Inc., ⁴Fujikura Ltd.,
⁵Superconductivity Research Laboratory, ISTEC)

15:55-16:20 —Coffee Break—

Chairpersons:

Z. Jiang(Industrial Research Limited)

M. Inoue(Kyushu University)

WT-14-INV 16:20-16:45

FILAMENTARIZATION OF COATED CONDUCTORS BY USING MODIFIED LASER SCRIBING METHOD

T. Machi, K. Nakao, K. Tanabe (Superconductivity Research Laboratory, ISTEC)

WT-15-INV 16:45-17:10

FABRICATION AND PROPERTIES OF YBCO ROEBEL CABLE

R.G. Buckley (Industrial Research Limited)

WT-16-INV 17:10-17:35

AC LOSS ANALYSES OF SUPERCONDUCTING POWER TRANSMISSION CABLES CONSIDERING THEIR THREE-DIMENSIONAL GEOMETRIES

N. Amemiya¹, R. Nishino¹, K. Takeuchi¹, T. Nakamura¹, T. Okuma²
(¹Kyoto University, ²Superconductivity Research Laboratory, ISTEC)

WT-17 17:35-17:55

AC FLUX PENETRATION INTO COATED CONDUCTORS AND TWO STRAND ROEBEL LOOPS

J. Emhofer¹, M. Eisterer¹, E. Pardo², H.W. Weber¹
(¹Vienna University of Technology, ²Slovak Academy of Sciences)

Oct. 25 (Tue.) Physics and Chemistry Room "Zuiun" (2F)

Chairpersons:

G. Wang (Chinese Academy of Sciences)

S. Fujimoto (Kyoto University)

PC-1-INV 9:30-9:55

**TRANSPORT ANISOTROPY AND NEMATIC SUSCEPTIBILITY OF
Fe-PNICTIDE SUPERCONDUCTORS**

J. Analytis (Stanford Linear Accelerator Center)

PC-2-INV 9:55-10:20

ELASTIC PROPERTIES OF IRON-BASED SUPERCONDUCTORS

M. Yoshizawa (Iwate University)

PC-3-INV 10:20-10:45

**ELECTRONIC NEMATIC ORDER IN IRON-BASED
SUPERCONDUCTORS**

R.M. Fernandes (Columbia University)

PC-4 10:45-11:00

**ORBITAL ORDERING AND CHARGE PROFILE DEFORMATION IN
IRON-BASED SUPERCONDUCTORS**

M. Machida, H. Nakamura (Japan Atomic Energy Agency)

11:00-11:20 —Coffee Break—

Chairpersons:

J. Analytis (Stanford Linear Accelerator Center)

M. Machida (Japan Atomic Energy Agency)

PC-5-INV 11:20-11:45

**QUANTUM CRITICALITY IN IRON-PNICTIDES AS SEEN IN
ISOVALENTLY DOPED $\text{BaFe}_2(\text{As}_{1-x}\text{P}_x)_2$ SUPERCONDUCTORS**

S. Kasahara (Kyoto University)

PC-6 11:45-12:00

**PROXIMITY OF IRON PNICTIDE SUPERCONDUCTORS TO A
QUANTUM TRICRITICAL POINT**

C. Ortix¹, G. Giovannetti², M. Marsman³, M. Capone², J. van den Brink¹, J. Lorenzana²

(¹IFW Dresden, ²Sapienza University of Rome, ³University of Vienna)

PC-27 12:00-12:15

**CONTRASTING DOPING EFFECTS IN THE BaFe_2As_2 SYSTEM AND
 $\text{K}_{0.8}\text{Fe}_{2-y}\text{Se}_2$ SYSTEM**

H. Huang, M. Tan, X. Hu, P. Ji (Hefei University)

PC-8 12:15-12:30

**SUPERCONDUCTIVITY SUPPRESSION OF $\text{Ba}_{0.6}\text{K}_{0.4}\text{Fe}_{2-x}\text{M}_x\text{As}_2$
SINGLE CRYSTALS BY SUBSTITUTION OF TRANSITION-METAL**

J.J. Li^{1,2}, Y. Guo¹, S. Zhang¹, Y. Tsujimoto¹, X.X. Wang^{1,2}, C.I. Sathish^{1,2}, S. Yu¹, W. Yi¹,
K. Yamaura^{1,2}, E. Takayama-Muromachi^{1,2} (¹National Institute for Materials Science,
²Hokkaido University)

PC-9 12:30-12:45

**Co DOPING EFFECTS ON SUPERCONDUCTIVITY OF $\text{FeSe}_{0.4}\text{Te}_{0.6}$
SINGLE CRYSTALS**

F. Nabeshima¹, Y. Kobayashi¹, Y. Imai¹, I. Tsukada², A. Maeda¹
(¹The University of Tokyo, ²Central Research Institute of Electric Power Industry)

PC-10 12:45-13:00

**NON-MAGNETIC IMPURITY EFFECT ON SUPPRESSION OF T_c AND
GAP EVOLUTION IN THE TWO-GAP SUPERCONDUCTOR $\text{Lu}_2\text{Fe}_3\text{Si}_5$**

Y. Nakajima, H. Hidaka, T. Tamegai (The University of Tokyo)

13:00-14:00 —Lunch Time—

Chairpersons:

K. van der Beek (Ecole Polytechnique)

M. Yoshizawa (Iwate University)

PC-11-INV 14:00-14:25

**UNCONVENTIONAL SUPERCONDUCTIVITY IN THE NOVEL HEAVY-
FERMION COMPOUND Ce_2PdIn_8**

D. Kaczorowski (Polish Academy of Sciences)

PC-12-INV 14:25-14:50

**COEXISTENCE OF SUPERCONDUCTIVITY AND
ANTIFERROQUADRUPOLE ORDER IN A $4f^2$ ELECTRON SYSTEM**

T. Onimaru (Hiroshima University)

PC-13-INV 14:50-15:15

PHYSICAL PROPERTIES OF THE BULK-SUPERCONDUCTING $\text{Cu}_x\text{Bi}_2\text{Se}_3$

K. Segawa (Osaka University)

PC-14-INV 15:15-15:40

**TIME REVERSAL SYMMETRY AND INVERSION SYMMETRY IN
TOPOLOGICAL SUPERCONDUCTORS**

S. Fujimoto (Kyoto University)

PC-15 15:40-15:55

**AMPLIFICATION OF SPIN HALL EFFECT IN SUPERCONDUCTOR/
NORMAL METAL JUNCTION**

S. Hikino, S. Yunoki (RIKEN)

15:55-16:20 —Coffee Break—

Chairpersons:
D. Kaczorowski(Polish Academy of Sciences)
K. Segawa(Osaka University)

PC-16-INV 16:20-16:45

SUPERCONDUCTIVITY IN THE IRON SELENIDE $K_xFe_2Se_2$

J. Guo¹, S. Jin¹, G. Wang¹, T. Zhou¹, X. Lai¹, M. He², X. Chen¹

(¹Chinese Academy of Sciences, ²National Centre for Nanoscience and Technology of China)

PC-17 16:45-17:00

**EXAFS STUDY ON THE LOCAL LATTICE STRUCTURE OF
TRANSITION-METAL DOPED $K_{0.8}Fe_{2-yx}TM_xSe_2$**

C. Zhang, D. Tan, G. Feng, Y. Zhang (Chinese Academy of Sciences)

PC-18 17:00-17:15

**SYNTHESIS AND CHARACTERIZATION OF “A1-42622” AND “A1-32522”
NEW SUPERCONDUCTORS**

P.M. Shirage, K. Kihou, H. Kito, H. Eisaki, A. Iyo

(National Institute of Advanced Industrial Science and Technology)

PC-19 17:15-17:30

**SUPERCONDUCTING PROPERTIES IN SINGLE CRYSTALS OF
 $Sr_2VFeAsO_3$ SUPERCONDUCTORS**

T. Katagiri, T. Sasagawa (Tokyo Institute of Technology)

PC-20 17:30-17:45

**SUPERCONDUCTING PROPERTIES OF $Ca_{1-x}RE_xFe_2As_2$
(*RE*: RARE EARTHS)**

T. Tamegai, Q.-P. Ding, T. Ishibashi, Y. Nakajima (The University of Tokyo)

PC-21 17:45-18:00

**MICROWAVE SURFACE IMPEDANCE MEASUREMENTS OF LiFeAs
SINGLE CRYSTAL UNDER FINITE MAGNETIC FIELDS**

T. Okada, H. Takahashi, Y. Imai, K. Kitagawa, K. Matsubayashi, M. Takigawa, Y. Uwatoko,
A. Maeda (The University of Tokyo / TRIP-JST)

Oct. 25 (Tue.) Bulks and Characterization Room "Heian" (2F)

Chairpersons:
F.N. Werfel(Adelwitz Technologiezentrum GmbH)
R. Kita(Shizuoka University)

BL-1-INV 9:30-9:55

**CONCEPTS FOR USING TRAPPED-FLUX BULK HTS IN MOTORS AND
GENERATORS**

J.R. Hull, M. Strasik (Boeing Research & Technology)

BL-2-INV 9:55-10:20

BULK SUPERCONDUCTORS FOR MAGNETIC APPLICATIONS

M. Tomita, Y. Fukumoto, K. Suzuki, A. Ishihara, M. Muralidhar
(Railway Technical Research Institute)

BL-3 10:20-10:40

BULK RE-Ba-Cu-O SUPERCONDUCTOR MAGNETS FOR NOVEL DRUG STAY APPLICATIONS

M. Murakami¹, H. Seki², K. Inoue¹, C. Nakayama¹, N. Saho¹, N. Koshizuka¹, T. Maruyama²
(¹Shibaura Institute of Technology, ²Awaji Materia Co., Ltd.)

BL-4 10:40-11:00

LEVITATION PERFORMANCE OF A MAGNETIZED BULK HIGH- T_c SUPERCONDUCTOR WITH DIFFERENT DEMAGNETIZATION PROCESS

W. Liu, J. Wang, C. Ye, S. Zheng, G. Ma, J. Zheng, S. Wang (Southwest Jiaotong University)

11:00-11:20 —Coffee Break—

Chairpersons:

J.R. Hull(Boeing Research & Technology)

H. Ikuta(Nagoya University)

BL-5 11:20-11:40

NUMERICAL SIMULATION OF FLUX DYNAMICS IN A SUPERCONDUCTING BULK MAGNETIZED BY PULSED FIELD

H. Fujishiro, T. Naito, M. Oyama (Iwate University)

BL-6 11:40-12:00

RECENT PROGRESS ON BATCH PROCESSED LARGE SIZE LRE-123 BULK SUPERCONDUCTORS USING A NAVAL THIN FILM Nd-123 SEEDS

M. Miryala, K. Suzuki, Y. Fukumoto, A. Ishihara, M. Tomita
(Railway Technical Research Institute)

BL-7 12:00-12:20

GROWTH OF HIGH PERFORMANCE REBCO (RE=Sm, Nd) BULK SUPERCONDUCTOR WITH THE ADDITION OF Ba-RICH RE242 PHASE

L. Cheng¹, L. Sun¹, X. Yao¹, H. Ikuta² (¹Shanghai Jiao Tong University, ²Nagoya University)

BL-8 Cancelled

BL-9 12:20-12:40

**DOPING AND SUBSTITUTIONS IN LnFeAsO SINGLE CRYSTALS:
INFLUENCE ON SUPERCONDUCTING PROPERTIES AND
STRUCTURE**

J. Karpinski¹, N.D. Zhigadlo¹, S. Katrych¹, P. Moll¹, B. Batlogg¹, S. Weyeneth², H. Keller²,
M. Tortello³, R. Gonnelli³, F. Balakirev⁴ (¹Swiss Federal Institute of Technology Zurich,
²Physics Institute University of Zurich, ³Politecnico di Torino,
⁴Los Alamos National Laboratory)

12:40-14:00 —Lunch Time—

Oct. 25 (Tue.) Films, Junctions and Electronic Devices Room "Heian" (2F)

Chairpersons:

K. Tanabe(Superconductivity Research Laboratory, ISTEC)
M. Naito(Tokyo University of Agriculture and Technology)

FD-1 14:00-14:20

DEVELOPMENT OF IRON-BASED SUPERCONDUCTING DEVICES

P. Seidel¹, S. Doering¹, S. Schmidt¹, F. Schmidl¹, V. Tympel¹, S. Haindl², F. Kurth², I. Moench²,
K. Iida², B. Holzapfel² (¹Friedrich Schiller University Jena, ²IFW Dresden)

FD-2 14:20-14:40

**GROWTH OF BaFe₂(As,P)₂ THIN FILMS BY MOLECULAR BEAM
EPITAXY**

T. Kawaguchi, A. Sakagami, M. Tabuchi, T. Ujihara, Y. Takeda, H. Ikuta
(Nagoya University / TRIP-JST)

FD-3 14:40-15:00

**GROWTH OF SUPERCONDUCTING SmFeAsO EPITAXIAL FILMS
BY F DIFFUSION**

S. Takeda, S. Ueda, S. Takano, M. Naito (Tokyo University of Agriculture and Technology)

FD-4 15:00-15:20

**FABRICATING Ba_{1-x}K_xFe₂As₂ FILMS BY A POST ANNEALING
TECHNIQUE**

W.N. Kang, N.H. Lee, O.Y. Lee, S.-G. Jung (Sungkyunkwan University)

FD-5 15:20-15:40

THIN FILMS GROWTH OF FeSe_{1-x}Te_x ON FLUORIDE SUBSTRATES

I. Tsukada¹, M. Hanawa¹, S. Komiya¹, A. Ichinose¹, F. Nabeshima², T. Akiike², Y. Imai²,
A. Maeda² (¹Central Research Institute of Electric Power Industry, ²The University of Tokyo)

FD-6 15:40-16:00

**SEARCH FOR ARSENIC FREE Pnictide SUPERCONDUCTORS:
A THIN FILM APPROACH**

K. Jose, A. Buckow, R. Retzlaff, L. Alff (Technical University of Darmstadt)

16:00-16:20 —Coffee Break—

Chairpersons:

Y. Hatsukade (Toyohashi University of Technology)

A. Kandori (Hitachi, Ltd.)

FD-7-INV 16:20-16:45

COMPACT AC AND DC MAGNETOMETERS USING HTS-SQUIDS

K. Tsukada¹, S. Maeda¹, M. Mawardi¹, K. Sakai¹, T. Kiwa¹, A. Tsukamoto², S. Adachi²,
K. Tanabe², A. Kandori³

(¹Okayama University, ²Superconductivity Research Laboratory, ISTECS, ³Hitachi, Ltd.)

FD-8 16:45-17:05

**HIGHLY SENSITIVE MAGNETOMETER COMPOSED OF HTS SQUID
AND PICKUP COIL MADE OF LITZ WIRE**

K. Enpuku¹, R. Momotomi¹, T. Mihaya¹, T. Yoshida¹, A. Kandori², K. Tanabe³, S. Adachi³,
A. Tsukamoto³

(¹Kyushu University, ²Hitachi, Ltd., ³Superconductivity Research Laboratory, ISTECS)

FD-9 17:05-17:25

**DEVELOPMENT OF NON-DESTRUCTIVE EVALUATION SYSTEM
USING AN HTS-SQUID GRADIOMETER FOR MAGNETIZED
MATERIALS**

J. Kawano¹, A. Tsukamoto¹, S. Adachi¹, Y. Oshikubo¹, T. Hato¹, K. Tanabe¹, T. Okamura²

(¹International Superconductivity Technology Center, ²Tokyo Institute of Technology)

FD-10 17:25-17:45

**FABRICATION OF SQUID CHIP FOR LARGE PLANER GRADIOMETER
USING HTS COATED-CONDUCTOR**

S. Adachi, A. Tsukamoto, Y. Oshikubo, T. Hato, K. Tanabe

(Superconductivity Research Laboratory, ISTECS)

FD-11 17:45-18:05

FABRICATION OF WEAK-LINK NANOSQUIDS BY FIB PROCESS

H. Kashiwaya¹, Y. Shibata², R. Ishiguro³, S. Nomura², H. Takayanagi^{3,4}, S. Kashiwaya¹

(¹National Institute of Advanced Industrial Science and Technology, ²University of Tsukuba,
³Tokyo University of Science, ⁴National Institute for Materials Science)

Oct. 25 (Tue.) Large Scale System Applications Room "Fukuju" (2F)

Chairpersons:

L. Xiao(Chinese Academy of Sciences)

Y. Shirai(Kyoto University)

SA-1-INV 9:30-9:55

MAGNET TECHNOLOGY FOR YBCO-COATED CONDUCTORS

Y. Yanagisawa^{1,2}, H. Nakagome², T. Takematsu³, T. Takao³, H. Maeda¹

(¹RIKEN, ²Chiba University, ³Sophia University)

SA-2-INV 9:55-10:20

**DEVELOPMENT OF 4.7 TESLA CONDUCTION-COOLED YBCO COIL
COMPOSED OF STACK OF TWELVE SINGLE PANCAKES**

H. Miyazaki, S. Iwai, T. Tosaka, K. Tasaki, S. Hanai, M. Urata, S. Ioka, Y. Ishii

(TOSHIBA Corporation)

SA-3-INV 10:20-10:45

**EXPERIMENTAL STUDY OF HIGH-TEMPERATURE
SUPERCONDUCTING MAGNET FOR MAGLEV**

K. Nagashima (Railway Technical Research Institute)

SA-4-INV 10:45-11:10

**ADVANCED SUPERCONDUCTING POWER CONDITIONING SYSTEM
WITH SMES FOR EFFECTIVE USE OF RENEWABLE ENERGY**

T. Hamajima¹, M. Tsuda¹, D. Miyagi¹, H. Amata¹, T. Iwasaki¹, K. Son¹, N. Atomura¹,
T. Shintomi², Y. Makida³, T. Takao⁴, K. Munakata⁵, M. Kajiwara⁵ (¹Tohoku University, ²Nihon
University, ³High Energy Accelerator Research Organization, ⁴Sophia University,
⁵Iwatani Corporation)

11:10-11:20 —Coffee Break—

Chairpersons:

A. Morandi(University of Bologna)

K. Nagashima(Railway Technical Research Institute)

SA-5 11:20-11:40

**MAGNETIC SEPARATION FOR Ni PRECIPITATES FROM PLATING
WASTE SOLUTION USING HTS BULK MAGNET**

O. Oka¹, T. Kimura¹, D. Mimura¹, H. Fukazawa¹, S. Fukui¹, J. Ogawa¹, T. Sato¹, M. Ooizumi¹,
K. Yokoyama², M. Tsujimura³, T. Terazawa⁴ (¹Niigata University,
²Ashikaga Institute of Technology, ³Aichi Giken Co., Ltd., ⁴IMRA Material R&D Co., Ltd.)

SA-6 11:40-12:00

**FEASIBILITY OF LARGE-CURRENT CAPACITY YBCO CONDUCTORS
WITH ON-DEMAND TRANSPOSITION**

N. Yanagi¹, T. Mito¹, H. Noguchi¹, Y. Terazaki¹, H. Tamura¹, M. Iwakuma², Y. Aoki³, T. Izumi⁴,
Y. Shiohara⁴ (¹National Institute for Fusion Science, ²Kyushu University, ³SWCC SHOWA
CABLE SYSTEMS Co., Ltd., ⁴Superconductivity Research Laboratory, ISTECC)

SA-7 12:00-12:20

RESEARCH ON THE RELATIONSHIP OF TRAPPED FLUX AND LEVITATION FORCE OF YBCO BULK HTSs IN ZERO-FIELDING-COOLING AND FIELD-COOLING CASES

C. Ye¹, Z. Deng², W. Liu¹, X. Liao¹, J. Wang¹, S. Wang¹

(¹Southwest Jiaotong University, ²Tokyo University of Marine Science and Technology)

SA-8 12:20-12:40

THE STUDY ON THE OPTIMIZATION OF THE STACK STRUCTURE OF THE YBCO THIN FILMS FOR COMPACT NMR MAGNETS

S.B. Kim¹, T. Kimoto¹, S. Hahn², Y. Iwasa², M. Tomita³, J. Voccio⁴ (¹Okayama University,

²Massachusetts Institute of Technology, ³Railway Technical Research Institute, ⁴AMSC)

SA-9 12:40-13:00

RESPONSE OF HIGH TEMPERATURE SUPERCONDUCTING MAGLEV VEHICLE WITH DIFFERENTIAL SIDESWAY

D. Jiang, J. Wang, J. Zheng, Y. Xu, G. Ma, S. Wang (Southwest Jiaotong University)

13:00-14:00 —Lunch Time—

Chairpersons:

J.J. Gannon Jr.(American Superconductor Corporation)

H. Miyazaki(TOSHIBA Corporation)

SA-10-INV 14:00-14:25

RECENT PROGRESS OF SUPERCONDUCTING POWER TECHNOLOGY IN CHINA UNDER THE BACKGROUND OF NEW ENERGY DEVELOPMENT

L. Xiao (Chinese Academy of Sciences)

SA-11 14:25-14:45

THE SHORT-CIRCUIT TEST RESULTS OF 6.9 kV/2.3 kV 400 kVA-CLASS YBCO MODEL TRANSFORMER WITH FAULT CURRENT LIMITING FUNCTION

A. Tomioka¹, T. Bohno¹, S. Kakami¹, M. Isozaki¹, K. Watanabe¹, K. Toyama¹, M. Konno¹, H. Okamoto², H. Hayashi², T. Tsutsumi³, M. Iwakuma³, T. Saito⁴, Y. Gosho⁵, K. Tanabe⁵,

Y. Shiohara⁵ (¹Fuji Electric Co., Ltd., ²Kyushu Electric Power Co., Inc., ³Kyushu University,

⁴Fujikura Ltd., ⁵Superconductivity Research Laboratory, ISTEC)

SA-12-INV 14:45-15:10

THE ROLE OF SUPERCONDUCTING FAULT CURRENT LIMITERS IN FUTURE POWER SYSTEMS

A. Morandi (University of Bologna)

SA-13 15:10-15:30

CURRENT LIMITING PERFORMANCE TEST OF 3-PHASE TRI-AXIAL TRANSFORMER-TYPE SFCL WITH RE-WOUND STRUCTURE AT 3LG FAULT IN LAB-SCALE TRANSMISSION SYSTEM

Y. Shirai¹, S. Noda¹, K. Yamabe¹, H. Hattori², J. Baba², S. Kobayashi³, K. Sato³

(¹Kyoto University, ²The University of Tokyo, ³Sumitomo Electric Industries, Ltd.)

SA-14 15:30-15:50
**FACTORY TESTS OF A 220kV/300MVA STATURED IRON-CORE
SUPERCONDUCTING FAULT CURRENT LIMITER**

W. Gong, X. Niu, H. Wang, J. Wang, Y. Sun, J. Cui, Y. Xin
(Beijing Innopower Superconductor Cable Co., Ltd.)

15:50-16:20 —Coffee Break—

Chairpersons:

M. Park(Changwon National University)

Y. Yamada(Superconductivity Research Laboratory, ISTEC)

SA-15-INV 16:20-16:45
**OPPORTUNITIES OF YBCO CONDUCTORS FOR LARGE SCALE
APPLICATIONS**

P. Tixador (Grenoble INP/Institut Néel-G2Elab)

SA-16 16:45-17:05
**LOAD TEST ANALYSIS OF HIGH-TEMPERATURE
SUPERCONDUCTING SYNCHRONOUS MOTORS**

S.K. Baik, Y. Kwon (Korea Electrotechnology Research Institute)

SA-17 17:05-17:25
**ELECTROMAGNETIC DESIGN & ANALYSIS OF A HIGH
TEMPERATURE SUPERCONDUCTOR LINEAR INDUCTION MOTOR**

J. Fang, L. Sheng, D. Li, W. Lu, W. Qin, S. Li, C. Wu, L. Guo, Y. Fan
(Beijing Jiaotong University)

SA-18-INV 17:25-17:50
**10 MW DIRECT DRIVE WIND TURBINE HTS GENERATOR
DEVELOPMENT**

G. Snitchler, B. Gamble, J.J. Gannon Jr. (American Superconductor Corporation)

SA-19 17:50-18:10
**OPTIMAL DESIGN OF 10 MW CLASS SUPERCONDUCTING
SYNCHRONOUS GENERATOR FOR WIND POWER GENERATION
SYSTEM**

I.-K. Yu¹, G.-H. Kim¹, K.-M. Kim¹, N. Kim¹, S. Kim¹, M. Park¹, S. Lee², T.-J. Park³

(¹Changwon National University, ²Uiduk University,

³Research Institute of Industrial Science and Technology)

Oct. 26 (Wed.) Wires, Tapes and Characterization Big Hall (5F)

HISTORIES OF SUPERCONDUCTING WIRES AND TAPES – Discovery and Development (WT-18-INV~WT-24-INV) –

Chairpersons:

K.R. Marken(Los Alamos National Laboratory)

T. Izumi(Superconductivity Research Laboratory, ISTEC)

Aim of Special Session 9:30-9:40

T. Izumi (Superconductivity Research Laboratory, ISTEC)

WT-18-INV 9:40-10:05

PROGRESS OF METALLIC SUPERCONDUCTORS IN JAPAN

K. Tachikawa (Tokai University)

WT-19-INV 10:05-10:30

DISCOVERY OF MgB_2 AND ITS LATEST DEVELOPMENTS

J. Akimitsu (Aoyama Gakuin University)

WT-20-INV 10:30-10:55

PROGRESS OF MgB_2 WIRES AND TAPES

H. Kumakura (National Institute for Materials Science)

10:55-11:20 —Coffee Break—

Chairpersons:

R.G. Buckley(Industrial Research Limited)

N. Amemiya(Kyoto University)

WT-21-INV 11:20-11:45

DISCOVERY AND OBVIOUS DEVELOPMENTS OF Bi-BASED HIGH- T_c SUPERCONDUCTORS

H. Maeda (National Institute for Materials Science)

WT-22-INV 11:45-12:10

PROGRESS AND COMMERCIALIZATION OF Bi2223 SUPERCONDUCTING WIRES AND THEIR APPLICATIONS

K. Hayashi (Sumitomo Electric Industries, Ltd.)

WT-23-INV 12:10-12:35

SUGGESTION, STRUGGLE, AND REALIZATION FOR RE123 COATED CONDUCTORS

Y. Iijima (Fujikura Ltd.)

WT-24-INV 12:35-13:00

ROAD FOR MARKETABLE COATED CONDUCTORS

T. Izumi (Superconductivity Research Laboratory, ISTEC)

13:00-14:00 —Lunch Time—

Chairpersons:

Y. Ma(Chinese Academy of Sciences)

H. Kumakura(National Institute for Materials Science)

WT-25-INV 14:00-14:25

**RECENT R&D PROGRESS ON DI-BSCCO WIRES
WITH HIGH CRITICAL CURRENT PROPERTIES**

T. Kagiya¹, S. Kobayashi¹, K. Yamazaki¹, M. Kikuchi¹, S. Yamade¹, T. Nakashima¹,
K. Hayashi¹, K. Sato¹, J. Shimoyama², H. Kitaguchi³ (¹Sumitomo Electric Industries, Ltd.,

²The University of Tokyo, ³National Institute for Materials Science)

WT-26-INV 14:25-14:50

PREPARATION OF HIGH J_c MgB₂ AND Bi2223 THIN FILMS

T. Doi¹, K. Yoshiwara², Y. Hakuraku², T. Fujiyoshi³,

A. Matsumoto⁴, H. Kitaguchi⁴, S. Hara⁵, M. Miyake¹, T. Hitato¹ (¹Kyoto University,

²Kagoshima University, ³Kumamoto University, ⁴National Institute for Materials Science,

⁵Kyushu University)

WT-27-INV 14:50-15:15

**DEVELOPMENT OF IRON-BASED SUPERCONDUCTING WIRES AND
TAPES**

Y. Ma (Chinese Academy of Sciences)

WT-28-INV 15:15-15:40

**EPITAXIAL GROWTH OF SUPERCONDUCTING Co-DOPED Ba-122
THIN FILMS ON TECHNICAL IBAD-MgO SUBSTRATES**

K. Iida¹, J. Haenisch¹, S. Trommler¹, S. Haindl¹, F. Kurth¹, V. Matias², T. Thersleff³, E. Reich¹,
R. Huehne¹, I. Lucas del Pozo⁴, L. Schultz¹, B. Holzapfel¹ (¹IFW Dresden,

²Los Alamos National Laboratory, ³Uppsala University, ⁴The University of Zaragoza)

15:40-16:00 —Coffee Break—

Oct. 26 (Wed.) Closing Address Big Hall (5F)

Chairpersons:

K.R. Marken(Los Alamos National Laboratory)

K. Enpuku(Kyushu University)

CA-1 16:00-16:15

Physics and Chemistry/Vortex Physics

P.H. Kes (Leiden University)

CA-2 16:15-16:30

Bulks and Characterization

J.R. Hull (Boeing Research & Technology)

CA-3 16:30-16:45
Wire, Tapes and Characterization
X. Obradors (Institute of Materials Science of Barcelona)

CA-4 16:45-17:00
Film, Junctions, and Electronic Devices
P. Seidel (Friedrich Schiller University Jena)

CA-5 17:00-17:15
Large Scale System Applications
H. Maeda (RIKEN)

Oct. 26 (Wed.) Closing Remarks Big Hall (5F)

Closing Speech 17:15-17:30
Y. Kiyokawa (ISTEC)

Oct. 26 (Wed.) Physics and Chemistry Room "Zuiun" (2F)

Chairpersons:
R. Fernandes (Columbia University)
T. Tamegai (University of Tokyo)

PC-22-INV 9:30-9:55

VISUALIZING THE INTERPLAY BETWEEN DIFFERENT BROKEN ELECTRONIC SYMMETRIES IN THE CUPRATE PSEUDOGAP STATES

K. Fujita^{1,2,3}, A. Mesaros^{1,4}, H. Eisaki⁵, S. Uchida³, S. Sachdev⁷, J. Zaanen⁴, M.J. Lawler^{1,8}, Eun-Ah Kim¹, J.C. Davis^{1,2,6} (¹Cornell University, ²Brookhaven National Laboratory, ³The University of Tokyo, ⁴Universiteit Leiden, ⁵Institute of Advanced Industrial Science and Technology, ⁶University of St. Andrews, ⁷Harvard University, ⁸Binghamton University)

PC-23 9:55-10:10

PREPARATION OF SUPERCONDUCTING Pr₂CuO₄ AND Nd₂CuO₄ BY MOLECULAR BEAM EPITAXY

H. Yamamoto¹, Y. Krockenberger¹, M. Mitsuhashi¹, K. Yamagami¹, M. Naito² (¹NTT Corporation, ²Tokyo University of Agriculture and Technology)

PC-24 10:10-10:25

RE-123 CATEGORY (RE=Nd, Y) AND OXYGEN PARTIAL PRESSURE EFFECTS ON THE THERMAL STABILITY OF RE-123 THIN FILMS

S. Yan, L. Sun, T. Li, Y. Chen, L. Cheng, X. Yao (Shanghai Jiao Tong University)

PC-25 10:25-10:40

CONVERSION INTO *n*-TYPE METALLIC STATES IN YBa₂Cu₃O_y FILMS USING AN ELECTROCHEMICAL TECHNIQUE

T. Nojima¹, H. Tada¹, S. Nakamura¹, N. Kobayashi¹, H. Shimotani¹, Y. Iwasa^{2,3} (¹Tohoku University, ²The University of Tokyo, ³RIKEN)

PC-26 10:40-10:55
PHASE FLUCTUATION IN MULTI-BAND SUPERCONDUCTORS
Y. Tanaka (National Institute of Advanced Industrial Science and Technology)

10:55-11:20 —Coffee Break—

Oct. 26 (Wed.) Vortex Physics Room "Zuiun" (2F)

Chairpersons:

P.M. Shirage (National Institute of Advanced Industrial Science and Technology)

T. Nojima (Tohoku University)

VP-1-INV 11:20-11:45
FLUX PINNING AND NANO-SCALE DISORDER IN IRON-BASED SUPERCONDUCTORS

K. van der Beek¹, S. Demirdis¹, M. Konczykowski¹, Y. Fasano², N.R. Cejas Bolecek²,
H. Pastoriza², D. Colson³, F. Rullier-Albenque³, S. Kasahara⁴, T. Terashima⁴, R. Okazaki⁴,
T. Shibauchi⁴, Y. Matsuda⁴ (¹Laboratoire des Solides Irradiés,
CNRS UMR 7642 / CEA-DSM-IRAMIS, Ecole Polytechnique, ²Centro Atómico Bariloche /
Instituto Balseiro, ³Service de Physique de l'Etat Condensé, CEA-DSM-IRAMIS,
⁴Kyoto University)

VP-2 11:45-12:00
EFFECT OF SUBSTITUTION SITE ON CRITICAL CURRENT AND VORTEX DYNAMICS OF "Ba122" Pnictide Superconductor

N. Chikumoto¹, T. Kobayashi², W. Hirata², S. Miyasaka², S. Tajima², K. Tanabe¹
(¹Superconductivity Research Laboratory, ISTEK, ²Osaka University)

VP-3 12:00-12:15
DIRECT OBSERVATION OF VORTICES BY SCANNING SQUID MICROSCOPE ON SMALL SUPERCONDUCTING MoGe CIRCLES

T.H. Ho¹, Y. Baba¹, M. Hayashi², M. Kato¹, T. Yotsuya¹, T. Ishida¹
(¹Osaka Prefecture University, ²Akita University)

VP-4-INV 12:15-12:40
VORTEX STATES IN TYPE-1.5 SUPERCONDUCTORS

T. Nishio¹, V.H. Dao², V.V. Moshchalkov³
(¹Tokyo University of Science, ²Bordeaux University, ³Katholieke Universiteit Leuven)

VP-5 12:40-12:55
NONLOCAL GINZBURG-LANDAU THEORY FOR SUPERCONDUCTORS

T. Koyama¹, M. Machida² (¹Tohoku University, ²Japan Atomic Energy Agency)

VP-6 12:55-13:10

VORTEX DYNAMICS IN CORBINO DISKS; MOLECULAR DYNAMICS SIMULATION WITH THERMAL EFFECT

D.E. Fujibayashi, M. Kato (Osaka Prefecture University)

13:10-14:00 —Lunch Time—

Oct. 26 (Wed.) Films, Junctions and Electronic Devices Room "Heian" (2F)

Chairpersons:

P. Febvre (University of Savoie)

Y. Mizugaki (The University of Electro - Communications)

FD-12-INV 9:30-9:55

OVERDAMPED JOSEPHSON JUNCTIONS FOR DIGITAL APPLICATIONS

P. Febvre¹, N. de Leo², M. Fretto², A. Sosso², R. Collot¹, V. Lacquaniti²

(¹IMEP-LAHC/CNRS UMR5130/University of Savoie,

²Istituto Nazionale di Ricerca Metrologica)

FD-13-INV 9:55-10:20

AN ENERGY-EFFICIENT HIGH-PERFORMANCE PROCESSOR WITH RECONFIGURABLE DATA-PATHS USING RSFQ CIRCUITS

N. Takagi (Kyoto University)

FD-14 10:20-10:40

ULTRA LOW-POWER OPERATION OF SINGLE FLUX QUANTUM CIRCUITS WITH REDUCED DYNAMIC POWER CONSUMPTION

A. Kitayama, T. Kouketsu, M. Ito, M. Tanaka, A. Fujimaki (Nagoya University)

FD-15 10:40-11:00

INVESTIGATION OF ROBUSTNESS OF LOGIC GATES USING ULTRA-LOW-POWER ADIABATIC QUANTUM FLUX PARAMETRON

N. Yoshikawa, K. Ehara, K. Inoue, Y. Yamanashi (Yokohama National University)

11:00-11:20 —Coffee Break—

Chairpersons:

M. Ohkubo (National Institute of Advanced Industrial Science and Technology)

S. Ariyoshi (RIKEN)

FD-16-INV 11:20-11:45

HIGH SPEED QUANTUM KEY DISTRIBUTION SYSTEM USING SSPD

M. Fujiwara¹, A. Tanaka², K. Yoshino², S. Takahashi², Y. Nambu², A. Tajima², A. Tomita³,

S. Miki¹, T. Yamashita¹, Z. Wang¹, M. Sasaki¹ (¹National Institute of Information and

Communications Technology, ²NEC Corporation, ³Hokkaido University)

FD-17-INV 11:45-12:10

EVALUATION OF SSPD USING LOW TEMPERATURE SEM

S.N. Dorenbos¹, M. Rosticher², F.R. Ladan², J.P. Maneval², A. Lupascu^{2,3}, G. Nogues^{2,4},
H.A. Azzouz¹, D. de Vries¹, T. Zijlstra¹, T.M. Klapwijk¹, V. Zwiller¹ (¹Delft University of
Technology, ²Ecole Normale Supérieure, ³University of Waterloo, ⁴Université Joseph Fourier)

FD-18-INV 12:10-12:35

**FLUORESCENCE YIELD X-RAY ABSORPTION FINE STRUCTURE
SPECTROSCOPY USING 100-PIXEL SUPERCONDUCTING-TUNNEL-
JUNCTION ARRAY DETECTOR**

S. Shiki¹, M. Ukibe¹, Y. Kitajima², M. Ohkubo¹ (¹National Institute of Advanced Industrial
Science and Technology, ²High Energy Accelerator Research Organization)

FD-19 12:35-12:55

**OBSERVATION OF MEANDER PATTERN IN SIGNALS FROM
SUPERCONDUCTING MgB₂ DETECTOR BY SCANNING PULSED LASER
IMAGING**

T. Ishida¹, I. Yagi¹, N. Yoshioka¹, T. Yotsuya¹, H. Shimakage², S. Miki³, Z. Wang³
(¹Osaka Prefecture University, ²Ibaraki University,
³National Institute of Information and Communications Technology)

FD-20 12:55-13:15

TRUE MASS SPECTROMETRY INSTEAD OF M/Z SEPARATION

M. Ohkubo¹, M. Ukibe¹, S. Shiki¹, K. Chiba¹, N. Zen¹, S. Tomita², S. Hayakawa³
(¹National Institute of Advanced Industrial Science and Technology, ²University of Tsukuba,
³Osaka Prefecture University)

13:15-14:00 —Lunch Time—

Oct. 26 (Wed.) Large Scale System Applications Room "Fukujyu" (2F)

Chairpersons:

I.-K. Yu (Changwon National University)

H. Lee (Korea University)

SA-20-INV 9:30-9:55

**PROGRESS AND EXPECTATIONS IN ULTRA-HIGH FIELD MRI: THE
MAGNETIC BRAIN**

D. Le Bihan (NeuroSpin, CEA)

SA-21 Moved to SAP-96

SA-28-INV 9:55-10:15

●(Tentative)

M. Sekino (The University of Tokyo)

SA-22 10:15-10:35

MAGNETIC FORCE ON A MAGNETIC PARTICLE WITHIN A HIGH GRADIENT MAGNETIC SEPARATOR

S.K. Baik, D.W. Ha, J.M. Kwon, Y.J. Lee, R.K. Ko
(Korea Electrotechnology Research Institute)

SA-23 10:35-10:55

A PROPOSAL OF MULTI-STAGE CURRENT LEAD FOR REDUCTION OF HEAT LEAK

S. Yamaguchi¹, M. Emoto², T. Kawahara¹, M. Hamabe¹, H. Watanabe¹, Yu. Ivanov¹, J. Sun¹,
A. Iiyoshi¹ (¹Chubu University, ²National Institute for Fusion Science)

10:55-11:20 —Coffee Break—

Chairpersons:

P. Tixador(Grenoble INP)

N. Hayakawa(Nagoya University)

SA-24-INV 11:20-11:45

HTS POWER APPLICATION TO THE REAL GRID IN KOREA

M. Park (Changwon National University)

SA-25-INV 11:45-12:10

DEVELOPMENT OF 66 kV CLASS REBCO SUPERCONDUCTING CABLE

M. Ohya¹, T. Masuda¹, N. Amemiya², A. Ishiyama³, O. Maruyama⁴, T. Ohkuma⁴
(¹Sumitomo Electric Industries, Ltd., ²Kyoto University, ³Waseda University,
⁴Superconductivity Research Laboratory, ISTEC)

SA-26-INV 12:10-12:35

DESIGN AND EVALUATION OF 275 kV-3 kA HTS POWER CABLE

M. Yagi¹, S. Mukoyama¹, T. Mitsuhashi¹, N. Amemiya², A. Ishiyama³, N. Aoki⁴, T. Saito⁵,
O. Maruyama⁶, T. Ohkuma⁶ (¹Furukawa Electric Co., Ltd., ²Kyoto University,
³Waseda University, ⁴SWCC, ⁵Fujikura Ltd., ⁶Superconductivity Research Laboratory, ISTEC)

SA-27 12:35-12:55

AC LOSS REDUCTION OF DIAMETER FIXED SUPERCONDUCTING POWER TRANSMISSION CABLES USING NARROW COATED CONDUCTORS

Q. Li¹, N. Amemiya¹, R. Nishino¹, T. Nakamura¹, T. Okuma² (¹Kyoto University,
²Superconductivity Research Laboratory, ISTEC)

12:55-14:00 —Lunch Time—

Poster Sessions

Poster Session I

Oct. 25 (Tue.) 18:00 - 20:00 Exhibition Hall 1, 2 (1F)

Wires, Tapes and Characterization

Chairpersons:

T. Kato (Japan Fine Ceramics Center)

M. Yoshizumi (Superconductivity Research Laboratory, ISTEC)

WTP-1 CHARACTERISTICS OF $\text{YBa}_2\text{Cu}_3\text{O}_y$ COATED CONDUCTORS PREPARED BY IN-PLUME PLD METHOD

T. Shibamoto¹, H. Kubo¹, Y. Ichino¹, Y. Yoshida¹, M. Yoshizumi², T. Izumi², Y. Shiohara²
(¹Nagoya University, ²Superconductivity Research Laboratory, ISTEC)

WTP-2 HIGH-MATERIAL YIELD FABRICATION OF YBCO COATED CONDUCTORS BY MULTI-TURN Nd:YAG-PLD SYSTEM

I. Ono¹, Y. Ichino¹, Y. Yoshida¹, M. Yoshizumi², T. Izumi², Y. Shiohara²
(¹Nagoya University, ²Superconductivity Research Laboratory, ISTEC)

WTP-3 DEVELOPMENT OF HIGH PERFORMANCE IBAD/PLD LONG REBCO COATED CONDUCTORS

A. Ibi, S. Lee, N. Chikumoto, H. Tobita, S. Miyata, M. Yoshizumi, Y. Yamada, T. Izumi, K. Tanabe, Y. Shiohara (Superconductivity Research Laboratory, ISTEC)

WTP-4 INFLUENCE OF SUPERCONDUCTING LAYER THICKNESS ON CRITICAL CURRENT PROPERTIES IN PLD PROCESSED GdBCO COATED CONDUCTORS WITH NANORODS

T. Koida¹, J. Wada¹, M. Kiuchi¹, S.E. Otabe¹, T. Matsushita¹, S. Awaji², K. Watanabe², S. Miyata³, A. Ibi³, T. Izumi³ (¹Kyushu Institute of Technology, ²Tohoku University, ³Superconductivity Research Laboratory, ISTEC)

WTP-5 INFLUENCE OF SUPERCONDUCTING LAYER THICKNESS ON CRITICAL CURRENT DENSITY PROPERTIES IN GdBCO COATED CONDUCTORS USING Ni-CLAD SUBSTRATE

J. Wada¹, H. Nagamizu¹, M. Kiuchi¹, S.E. Otabe¹, T. Matsushita¹, K. Ohmatsu²
(¹Kyushu Institute of Technology, ²Sumitomo Electric Industries, Ltd.)

WTP-6 PHASE STABILITY OF $\text{GdBa}_2\text{Cu}_3\text{O}_{7-\delta}$ IN LOW OXYGEN PRESSURES

J.-W. Lee¹, Y.-C. Kim¹, J.-H. Lee², S.-H. Moon², S.-I. Yoo¹
(¹Seoul National University, ²Superconductor, Nano & Advanced Materials Corporation)

WTP-7 THREE-DIMENSIONAL CHARACTERIZATION BY STEM-TOMOGRAPHY OF BZO IN YGdBCO

T. Nishiyama¹, K. Yamada¹, K. Kaneko¹, T. Kato², T. Izumi³, Y. Shiohara³
(¹Kyushu University, ²Japan Fine Ceramics Center, ³Superconductivity Research Laboratory, ISTEC)

WTP-8 FLUX PINNING PROPERTIES IN NANOENGINEERED REBCO FILMS GROWN BY LTG AND MOD
M. Miura¹, S. Awaji², Y. Yoshida³, T. Izumi⁴, Y. Shiohara⁴ (¹Seikei University, ²Tohoku University, ³Nagoya University, ⁴Superconductivity Research Laboratory, ISTECE)

WTP-9 INFLUENCE OF LAYER THICKNESS AND GROWTH TEMPERATURE ON IN-FIELD J_C IN $BaZrO_3$ / $YBa_2Cu_3O_y$ QUASI-MULTILAYERED FILMS
T. Sueyoshi, M. Mori, K. Tsuchiya, K. Yonekura, T. Fujiyoshi, F. Mitsugi, T. Ikegami (Kumamoto University)

WTP-10 HIGH CRITICAL CURRENT DENSITY AND ITS MAGNETIC FIELDS DEPENDENCE IN $(Sm, Eu, Gd)Ba_2Cu_3O_y$ FILMS BY LOW-TEMPERATURE GROWTH TECHNIQUE
Y. Takahashi¹, A. Tsuruta¹, Y. Ichino¹, Y. Yoshida¹, S. Awaji², A. Ichinose³, K. Matsumoto⁴ (¹Nagoya University, ²Tohoku University, ³Central Research Institute of Energy Engineering and Science, ⁴Kyushu Institute of Technology)

WTP-11 PREPARATION OF YBCO THIN FILMS INCLUDING ARTIFICIAL PINNING CENTERS MADE OF Ba-BASED OXIDES BY USING COMBINATORIAL-PLD MEHODS
Y. Ichino, T. Yoshimura, Y. Yoshida (Nagoya University)

WTP-12 NANOSTRUCTURAL CHARACTERIZATION OF $Y_xGd_{1-x}Ba_2Cu_3O_y$ LAYERS CONTAINING DISPERSED $BaZrO_3$ PARTICLES FABRICATED BY METAL ORGANIC DEPOSITION
T. Kato¹, Y. Takahashi², M. Yoshizumi², T. Izumi², T. Hirayama¹, Y. Shiohara² (¹Japan Fine Ceramics Center, ²Superconductivity Research Laboratory, ISTECE)

WTP-13 VARIATION OF APPLIED FIELD ANGULAR DEPENDENCE OF CRITICAL CURRENT DENSITY IN YBCO THIN FILMS AGAINST DEPOSITION TEMPERATURE AND COMPOSITION
T. Matsunami¹, Y. Ichino¹, Y. Yoshida¹, A. Ichinose², K. Matsumoto³ (¹Nagoya University, ²Central Research Institute of Electric Power Industry, ³Kyushu Institute of Technology)

WTP-14 DEPOSITION TEMPERATUE DEPENDENT VORTEX-BOSE-GLASS STATE IN Nd:YAG-PLD $REBa_2Cu_3O_y$ THIN FILMS WITH NANORODS
M. Haruta, N. Fujita, Y. Ogura, T. Maeda, S. Horii (Kochi University of Technology)

WTP-15 FABRICATION AND CRITICAL CURRENT PROPERTIES IN Nd:YAG-PLD $REBa_2Cu_3O_y$ (RE= Y AND Er) THIN FILMS
S. Horii, N. Fujita, Y. Ogura, T. Maeda, M. Haruta (Kochi University of Technology)

WTP-16 FLUX PINNING PROPERTIES OF YBCO FILMS WITH NANO-PARTICLES BY TFA-MOD METHOD
Y. Masuda¹, R. Teranishi¹, M. Matsuyama¹, K. Yamada¹, T. Kiss¹, S. Munetoh¹, M. Yoshizumi², T. Izumi² (¹Kyushu University, ²Superconductivity Research Laboratory, ISTECE)

WTP-17 MULTILAYERED FILMS CONSISTING OF SmBCO AND BSO DOPED SmBCO LAYERS AIMING TO FORM BSO NANO-RODS TO ACT AS 3D-APC

A. Tsuruta¹, Y. Takahashi¹, Y. Ichino¹, Y. Yoshida¹, A. Ichinose², S. Awaji³, K. Matsumoto⁴
(¹Nagoya University, ²Central Research Institute of Electric Power Industry, ³Tohoku University, ⁴Kyushu Institute of Technology)

WTP-18 CHARACTERIZATION OF THE PINNING CENTERS IN Sn-DOPED YBCO FILM BY MOD

S.-M. Choi, Y.-S. Joo, G.-M. Shin, S.-I. Yoo (Seoul National University)

WTP-19 GROWTH PROCESS OF BZO DOPED YBCO FILM BY TFA-MOD PROCESS

K. Konya¹, Y. Masuda¹, R. Teranishi¹, T. Kiss¹, S. Munetoh¹, M. Yoshizumi², T. Izumi²
(¹Kyushu University, ²Superconductivity Research Laboratory, ISTECC)

WTP-20 IMPROVEMENT OF MAGNETIC PROPERTIES OF TFA-MOD PROCESSED REBCO COATED CONDUCTORS

K. Kimura¹, R. Hironaga¹, T. Koizumi¹, T. Nakamura¹, T. Nakanishi¹, N. Aoki¹, T. Hasegawa¹, Y. Takahashi², M. Yoshizumi², T. Izumi², Y. Shiohara² (¹SWCC SHOWA CABLE SYSTEMS Co., Ltd., ²Superconductivity Research Laboratory, ISTECC)

WTP-21 MOD-PROCESSED YBa₂Cu₃O₇₋₆ FILMS WITH YBa₂SnO_{5.5} NANOPARTICLE INCLUSIONS

Y.-S. Joo, J.-W. Lee, S.-M. Choi, S.-I. Yoo (Seoul National University)

WTP-22 INFLUENCE OF CALCINATION TEMPERATURE ON GROWTH OF GdBa₂Cu₃O_y FABRICATED BY F-FREE MOD

K. Yamada¹, K. Kaneko¹, Y. Yoshida¹, R. Teranishi¹, K. Suzuki², M. Ito², O. Miura³, R. Kita²
(¹Kyushu University, ²Shizuoka University, ³Tokyo Metropolitan University)

WTP-23 HIGH-RATE FABRICATION OF YBCO COATED CONDUCTORS USING TFA-MOD METHOD

K. Nakaoka, M. Yoshizumi, Y. Usui, T. Izumi,
Y. Shiohara (Superconductivity Research Laboratory, ISTECC)

WTP-24 DEVELOPMENT OF HIGH-I_c PROCESSING FOR LOW COST YBaCO COATED CONDUCTOR BY A MULTI-TURN REEL-TO-REEL CRYSTALLIZATION LARGE FURNACE FOR TFA-MOD PROCESS

Y. Takagi, Y. Takahashi, K. Nakaoka, M. Yoshizumi, N. Akagi, S. Takahashi, T. Izumi, Y. Shiohara
(Superconductivity Research Laboratory, ISTECC)

WTP-25 INTRODUCTION OF CONTROLLED NANOSCALE DEFECTS IN YBCO FILMS PREPARED BY FLUORINE-FREE METALORGANIC DEPOSITION

K. Develos-Bagarinao, H. Matsui
(National Institute of Advanced Industrial Science and Technology)

WTP-26 DEPOSITION OF REBCO THIN FILM BY AEROSOL ASSISTED SPRAY PYROLYSIS USING NITRATE PRECURSORS

B.J. Kim¹, J.B. Lee¹, J.H. Lee², S.H. Moon², H.G. Lee¹, G.W. Hong¹
(¹Korea Polytechnic University, ²SuNAM Co., LTD.)

WTP-27 FABRICATION OF BUFFER LAYERS BY MOD USING 2-ETHYLHEXANATES

M. Ito¹, R. Kita¹, S. Kubota², K. Shima², N. Kashima³,
T. Watanabe³, S. Nagaya³, T. Kato⁴ (¹Shizuoka University, ²Tanaka Kikinzoku Kogyo K.K.,
³Chubu Electric Power Co., Inc., ⁴Japan Fine Ceramics Center)

WTP-28 FABRICATION OF EPITAXIAL Sm_{0.2}Ce_{0.8}O_{1.9} SINGLE BUFFER LAYER ON TEXTURED Ni-5%W SUBSTRATE VIA SLOT-DIE COATING METHOD

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WTP-29 PREPARATION OF BaZrO₃ BUFFER LAYER FOR COATED CONDUCTORS WITH POLYMER-ASSISTED CSD METHOD

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WTP-30 PLANARIZATION OF SUS310 METAL SUBSTRATE USED FOR COATED CONDUCTOR SUBSTRATE BY CHEMICAL SOLUTION COATING METHOD

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WTP-31 INFLUENCE OF TWIST PITCH LENGTHS ON TRANSPORT PROPERTIES AND AC LOSSES IN Bi2223 TAPES WITH RESISTIVE BARRIERS

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WTP-32 PHASE AND TEXTURE EVOLUTION OF MONOFILAMENT, AG/NI COMPOSITELY SHEATHED (Pb,Bi)₂Sr₂Ca₂Cu₃O_x TAPES WITH DIFFERENT THICKNESS

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WTP-33 EFFECT OF SINTERING TEMPERATURE ON THE MICROSTRUCTURE AND CRITICAL CURRENT OF Bi-2223/Ag/Ni COMPOSITELY SHEATHED TAPES

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WTP-34 MICROSTRUCTURE AND SUPERCONDUCTING PROPERTIES OF Bi-2223/Ag TAPES FABRICATED IN THE VARIATION-TEMPERATURE-SINTERING PROCESS

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- WTP-35 RELATION OF n -VALUE TO CRITICAL CURRENT IN BENT-DAMAGED Bi2223 COMPOSITE TAPE**
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³Research Institute for Applied Sciences, ⁴National Institute for Materials Science)
- WTP-36 EFFECT OF THE OXYGEN PARTIAL PRESSURE ON THE FORMATION OF Bi-2223 PHASE IN Bi-2223/Ag/Ni TAPES**
J. Liu¹, M. Li¹, C. Ye¹, X. Chen² (¹Northeastern University, ²Chongqing University)
- WTP-37 STUDY ON THE HEAT TREATMENT PROCESS AND PROPERTIES OF Bi-2223/Ag/Ni SUPERCONDUCTING TAPES**
M. Li¹, C. Ye¹, J. Liu¹, X. Chen², H. Sun³ (¹Northeastern University, ²Chongqing University,
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- WTP-38 ANISOTROPIC THERMAL TRANSPORT IN Bi2223/Ag SUPERCONDUCTING TAPE WITH SANDWICHED STRUCTURE**
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- WTP-39 MODIFIED HEAT TREATMENT PROCESS OF PRECURSOR POWDERS FOR Bi-2212 TAPES PREPARATION**
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- WTP-40 CRITICAL CURRENT DENSITY AND MICROSTRUCTURE OF IN-SITU PIT MgB₂ WIRES BY HIGH-PRESSURE DIFFUSION PROCESS**
S. Chono, O. Miura, K. Kishimoto (Tokyo Metropolitan University)
- WTP-41 EFFECT OF CUBIC ANVIL HOT PRESSING ON THE CRITICAL CURRENT DENSITIES FOR IN-SITU PIT MgB₂ TAPES**
K. Kishimoto, S. Chono, O. Miura (Tokyo Metropolitan University)
- WTP-42 COMPARISON OF SiC AND/OR TOLUENE ADDITIVES TO THE CRITICAL CURRENT DENSITY OF INTERNAL Mg DIFFUSION-PROCESSED MgB₂ WIRES**
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- WTP-43 FABRICATION AND PROPERTIES OF MgB₂ WIRES AND TYPES FOR MRI APPLICATION**
Q. Wang¹, P. Zhang¹, A. Sulpice², X. Xiong¹, G. Liu¹,
G. Jiao¹, C. Li¹, G. Yan¹ (¹Northwest Institute for Nonferrous Metal Research,
²Institut NEEL/CNRS-UJF)
- WTP-44 FABRICATION OF HIGH-PERFORMANCE (Ba,K)Fe₂As₂ SUPERCONDUCTING WIRES BY POWDER-IN-TUBE METHOD**
Q.-P. Ding, T. Prombood, S. Mohan, Y. Nakajima, T. Tamegai (The University of Tokyo)

WTP-45 EFFECT OF SHEATH MATERIALS ON THE SUPERCONDUCTING PROPERTIES OF Fe(Te_{1-x}Se_x) SUPERCONDUCTING WIRE

T. Prombood, Q.P. Ding, Y. Tsuchiya, Y. Nakajima, T. Tamegai (The University of Tokyo)

WTP-46 FABRICATION AND CRITICAL CURRENT PROPERTIES OF SUPERCONDUCTING WIRE FOR FeSe FAMILY

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WTP-47 EVOLUTION OF TETRAGONAL PHASE IN THE FeSe WIRE FABRICATED BY A NOVEL CHEMICAL-TRANSFORMATION PIT PROCESS

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WTP-48 MODE I TYPE INTERLAMINAR FRACTURE TOUGHNESS OF Cu PLATED Gd-YBCO COATED CONDUCTOR

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WTP-49 Cancelled

WTP-50 GEOMETRIC EFFECT OF CONSTITUENT LAYERS ON THE I_c DEGRADATION BEHAVIOR

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WTP-51 INFLUENCE OF DEFECT ON DELAMINATION OF RE123 COATED CONDUCTOR

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WTP-52 THE EXPERIMENTAL RESEARCH & ANALYSIS ON THE QUENCH PROPAGATION OF YBCO COATED CONDUCTOR & COIL

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WTP-53 DEVELOPMENT OF HIGH-STRENGTH COATED CONDUCTOR

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WTP-54 BENDING STRAIN CHARACTERISTICS OF RE123 WIRES MADE BY VARIOUS PROCESSES 2

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WTP-55 DIFFUSION JOINT PROPERTIES OF Ag STABILIZING LAYER IN GdBCO COATED CONDUCTOR

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WTP-56 EFFECTS OF MELTING DIFFUSION ON THE RECRYSTALLIZATION OF A GdBCO COATED CONDUCTOR

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WTP-57 THE INFLUENCE OF GRAINS ALIGNMENT ON CRITICAL CURRENT IN YBCO COATED CONDUCTORS, DEPOSITED ON CLAD-TEXTURED SUBSTRATES

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WTP-58 HIGH-SPEED SCANNING HALL-PROBE MICROSCOPY FOR TWO-DIMENSIONAL CHARACTERIZATION OF LOCAL CRITICAL CURRENT DENSITY IN LONG-LENGTH COATED CONDUCTOR

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WTP-59 DEVELOPMENT OF HIGH SPEED CONTINUOUS TRANSPORT CRITICAL CURRENT MEASUREMENT SYSTEM FOR LONG PIECE OF HTS CONDUCTOR

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WTP-60 TRANSPORT AC LOSS MEASUREMENTS IN MULTI-LAYER MULTI-TURN PARALLEL COATED CONDUCTOR ARRAYS

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WTP-61 ESTIMATION OF AC LOSS IN CYLINDRICAL SUPERCONDUCTOR WITH RIPPLE CURRENT

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WTP-62 FINITE ELEMENT ANALYSIS OF MAGNETIZATION IN SUPERCONDUCTING TAPE EXPOSED TO MULTIPLE EXTERNAL MAGNETIC FIELDS

K. Kajikawa, K. Funaki (Kyushu University)

WTP-63 EVALUATION OF UNCERTAINTY IN THE INDUCTIVE MEASUREMENT OF CRITICAL CURRENT DENSITIES OF SUPERCONDUCTING FILMS USING THIRD HARMONIC VOLTAGES

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WTP-64 PARAMETRIC ANALYSIS OF FLUX FLOW MODEL BY USING GENETIC ALGORITHM

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WTP-65 MEASUREMENT OF IN-PLANE MAGNETIC RELAXATION IN RE-123 COATED CONDUCTORS BY USE OF SCANNING HALL PROBE MICROSCOPY

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WTP-66 THE STRUCTURE & ELECTROMAGNETIC CHARACTERISTICS OPTIMAL DESIGN OF COLD-DIELECTRIC HIGH TEMPERATURE SUPERCONDUCTING CABLES

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WTP-67 AC LOSS REDUCTION OF TFA-MOD COATED CONDUCTORS IN LONG LENGTH BY LASER SCRIBING TECHNIQUE

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WTP-68 INFLUENCE OF CUTTING BY MECHANICAL SLITTER ON LATERAL CRITICAL CURRENT DENSITY DISTRIBUTION OF COATED CONDUCTORS

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WTP-69 MEASUREMENT OF AC TRANSPORT CURRENT LOSSES IN YBCO COATED CONDUCTOR

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Large Scale System Applications

Chairpersons:

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SAP-1 OBSERVATION OF THE THERMAL SIPHON EFFECT IN THE CIRCULATION OF LIQUID NITROGEN IN HTS CABLE COOLING SYSTEM

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SAP-2 **Cancelled**

SAP-3 CHARACTERIZATION OF 2G SUPERCONDUCTING DC CABLE COOLED BY CRYOGENIC HELIUM GAS

J.-H. Kim, C.H. Kim, S. Pamidi (Florida State University)

SAP-4 FAULT ANALYSIS OF SUPERCONDUCTING DC TRANSMISSION SYSTEM USING REAL TIME DIGITAL SIMULATOR

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SAP-5 TRI-AXIAL CORE DESIGN OF A 22.9 kV/50 MVA CLASS HTS CABLE

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SAP-6 SPECIFICATIONS OF 22.9kV HTS CABLE AND SFCL IN KOREAN POWER SYSTEM

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SAP-7 TRANSIENT STATE ANALYSIS OF A REAL MANUFACTURED HTS POWER MODEL CABLE USING RTDS CONSIDERING BOTH CONDUCTING AND SHIELD LAYERS

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SAP-8 PERFORMANCE ANALYSIS OF A MODEL-SIZED SUPERCONDUCTING DC TRANSMISSION SYSTEM BASED VSC TRANSMISSION TECHNOLOGIES USING RTDS

C.M. Dinh, C.-H. Ju, S.-K. Kim, J.-G. Kim, M. Park, I.-K. Yu
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SAP-9 A NEW LAYOUT OF HTS TAPES AND ITS CRITICAL CURRENTS FOR DC POWER CABLES

J. Sun, H. Watanabe, M. Hamabe, T. Kawahara, A. Iiyoshi, S. Yamaguchi (Chubu University)

SAP-10 COOLING OF THE 200m SUPERCONDUCTING DC POWER TRANSMISSION SYSTEM AT CHUBU UNIVERSITY

H. Watanabe, J. Sun, Yu. Ivanov, M. Hamabe, T. Kawahara, S. Yamaguchi (Chubu University)

SAP-11 POSSIBILITY OF THE GAS COOLED PELTIER CURRENT LEAD IN 200 m-CLASS SUPERCONDUCTING DIRECT CURRENT TRANSMISSION AND DISTRIBUTION SYSTEM OF CASER-2

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SAP-12 A RESEARCH FOR SITE DETECTION SCHEME FOR THE HIGH TEMPERATURE SUPERCONDUCTING CABLE FROM THE ELECTRICAL POINT OF VIEW

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SAP-13 AN HTS MAGNET DESIGN BASED ON THE OPTIMIZED SYSTEM USING MAGNET FIELD VALUES

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SAP-14 FUNDAMENTAL CHARGING PERFORMANCES OF HTS MAGNET WITH SOLAR GENERATING SYSTEM

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SAP-15 CONCEPTUAL DESIGN OF MgB₂ COIL FOR THE 100 MJ SMES OF ASPCS

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SAP-16 MODELING AND TEST VALIDATION OF THE MOVABLE SUPERCONDUCTING MAGNETIC ENERGY STORAGE PROTOTYPE

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SAP-17 OPTIMAL SMES CAPACITY DETERMINATION CONSIDERING THE BLADE INERTIA FOR OUTPUT POWER SMOOTHING OF WIND POWER GENERATION SYSTEM

H.-G. Lee, G.-H. Kim, M. Park, I.-K. Yu (Changwon National University)

SAP-18 TECHNO-ECONOMIC EVALUATION OF HYBRID ENERGY STORAGE TECHNOLOGIES FOR A SOLAR-WIND GENERATION SYSTEM

L. Ren, Y. Tang, J. Shi, J. Dou (Huazhong University of Science and Technology)

SAP-19 SIMULATION OF CHAIN OF QUENCHES ON TOROIDAL HTS-SMES TAKING ACCOUNT OF THERMAL AND ELECTROMAGNETIC CHARACTERISTICS

Y. Oga, S. Noguchi, H. Igarashi (Hokkaido University)

SAP-20 STRUCTURAL ANALYSIS OF HTS TOROIDAL MAGNETS FOR A SUPERCONDUCTING MAGNETIC ENERGY STORAGE

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SAP-21 COOLING TEST OF THE TOROIDAL CONFIGURATION OF THE HTS SMES

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SAP-22 PROBABILISTIC ASSESSMENT OF POWER SYSTEM TRANSIENT STABILITY INCORPORATING SMES

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SAP-23 HTS SMES APPLICATION FOR FREQUENCY CONTROL DURING ISLANDED MICROGRID OPERATION

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SAP-24 SIMULATION ANALYSIS FOR INSTANTANEOUS AC LOSS OF HTS SMES WITH COMMERCIAL FEM TOOL

A.-R. Kim, K. Seokho, M. Park, I.-K. Yu (Changwon National University)

SAP-25 SOLID NITROGEN AND LIQUID NEON MIXED COOLING SYSTEMS FOR HIGH-TEMPERATURE SUPERCONDUCTING MAGNETIC ENERGY STORAGE SYSTEMS

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SAP-26 INTRODUCTION OF THE SUPERCONDUCTING DC MAGNETIZATION COIL FOR THE 220 kV/300MVA FCL

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SAP-27 ANALYSIS ON CURRENT LIMITING AND VOLTAGE SAG SUPPRESSING CHARACTERISTICS OF A SFCL DUE TO ITS APPLICATION LOCATION IN A POWER DISTRIBUTION SYSTEM

S.-H. Lim, J.-C. Kim (Soongsil University)

SAP-28 ANALYSIS ON CURRENT LIMITING CHARACTERISTICS OF A TRANSFORMER TYPE SFCL WITH TWO TRIGGERING CURRENT LEVELS

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SAP-29 FEASIBILITY RESEARCH ON IMPROVING THE PULSED CURRENT OUTPUT OF SUPERCONDUCTING INDUCTOR BY USING HTS AIR-CORE TRANSFORMER

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SAP-30 ANALYSIS IN OPERATION CHARACTERISTIC BY FUSION OF A SFCL AND EXISTING TRANSFORMER

K.H. Ha, H.S. Choi, Y.S. Cho, H.M. Park, B.I. Jung, S.G. Choi (Chosun University)

SAP-31 COMPARISON OF RECOVERY CHARACTERISTIC BETWEEN THREE-PHASE RESISTANCE TYPE SFCL AND TRANSFORMER TYPE SFCL ACCORDING TO RECLOSING SYSTEM AND A SINGLE LINE-TO-GROUND FAULT

S.G. Choi, H.-S. Choi, Y.-S. Cho, H.-M. Park, B.-I. Jung, K.-H. Ha (Chosun University)

SAP-32 COMPARISON OF QUENCHING AND RECOVERY CHARACTERISTICS ABOUT INTEGRATED AND SEPARATED THREE-PHASE FLUX-COUPPLING TYPE SFCL ACCORDING TO FAULT TYPES

B.I. Jung, Y.-S. Cho, K.-H. Ha, S.-G. Choi, H.-S. Choi, H.-M. Park, D.-C. Chung (Chosun University)

SAP-33 CURRENT LIMITING PERFORMANCES OF IMPROVED FLUX-LOCK TYPE SFCL WITH WINDING DIRECTION OF SECOND COIL

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SAP-34 EMPIRICAL MODELING OF CRYOGENIC SYSTEM FOR HYBRID SFCL USING SUPPORT VECTOR REGRESSION

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SAP-35 ANALYSIS ON CURRENT LIMITING AND RECOVERY CHARACTERISTICS OF A FLUX-LOCK TYPE SFCL WITH TWO TRIGGERING CURRENT LEVELS

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SAP-36 ANALYSIS ON FAULT CURRENT LIMITING AND RECOVERY CHARACTERISTICS OF A FLUX-LOCK TYPE SFCL WITH AN ISOLATED TRANSFORMER

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**SAP-37 TECHNOLOGY DEVELOPMENT TO FUSE THE
COMMERCIALIZED TRANSFORMER AND SFCL BASE ON THE HIGH-
SPEED INTERRUPTER**

Y.-S. Cho¹, B.-I. Jung¹, K.H. Ha¹, S.-G. Choi¹, H.-S. Choi¹, H.-M. Park¹, D.-C. Chung²
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**SAP-38 ENHANCEMENT OF OPERATIONAL CHARACTERISTICS
IN LINE-COMMUTATION TYPE SUPERCONDUCTING FAULT
CURRENT LIMITER**

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**SAP-39 THERMAL&ELECTROMAGNETIC ANALYSIS OF AN
IRONLESS HTS LINEAR INDUCTION MOTOR**

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**SAP-40 DESIGN AND TEST CHARACTERISTICS OF A FULLY
SUPERCONDUCTING 10HP HOMOPOLAR MOTOR**

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**SAP-41 DESIGN AND OPERATING CHARACTERISTIC ANALYSIS
OF AN INSULATIONLESS SUPERCONDUCTING GENERATOR**

K. Kim, S.-J. Jung, G.-H. Kim, N. Kim, M. Park, I.-K. Yu (Changwon National University)

**SAP-42 DESIGN STUDY OF HTS BULK GENERATORS FOR WIND
TURBINE GENERATORS**

N. Shinohara, N. Maki, M. Izumi (Tokyo University of Marine Science and Technology)

**SAP-43 THE INFLUENCE OF ROTOR STRUCTURES ON
MAGNETIC FIELD DISTRIBUTION IN A SUPERCONDUCTING
SYNCHRONOUS MOTOR**

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**SAP-44 ANALYSIS ON THE 3-D TEMPERATURE FIELD IN A
SUPERCONDUCTING SYNCHRONOUS MOTOR**

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**SAP-45 AC FIELD EFFECT ON THE TRAPPED MAGNETIC FLUX
ON THE BULK HTS WITH THE LOW-TEMPERATURE OPERATION OF
SYNCHRONOUS ROTATING MACHINE**

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M. Izumi¹ (¹Tokyo University of Marine Science and Technology,
²Shibaura Institute of Technology)

- SAP-46 ANALYSIS OF A HOMOPOLAR HIGH-TEMPERATURE SUPERCONDUCTING ROTARY MACHINE**
S.K. Baik, Y. Kwon (Korea Electrotechnology Research Institute)
- SAP-47 CHARACTERISTIC AND MAGNETIC FIELD ANALYSIS OF A HTS AXIAL-FLUX CORELESS INDUCTION MAGLEV MOTOR**
W. Qin, Y. Fan, G.G. Li, J. Fang, G. Lv (Beijing Jiaotong University)
- SAP-48 STRUCTURAL PARAMETERS AND CHARACTERISTIC ANALYSIS OF A HTS AXIAL-FLUX INDUCTION MAGLEV MOTOR**
S. Li, Y. Fan, J. Fang, W. Qin, G. Lv (Beijing Jiaotong University)
- SAP-49 PULSED FIELD MAGNETIZATION FOR BULK Gd-Ba-Cu-O FIELD POLES IN ROTATING MACHINES**
S. Kawabe¹, M. Warasaki², K. Tsuzuki², M. Motohiro², B. Felder², M. Murakami¹, M. Izumi²
(¹Shibaura Institute of Technology, ²Tokyo University of Marine Science and Technology)
- SAP-50 THE FUNDAMENTAL STUDY TO IMPROVE THE FIELD HOMOGENEITY OF THE COMPACT NMR MAGNETS USING STAKED HTS BULK ANNULI BY ACTIVE SHIMMING**
Y. Yano¹, S.B. Kim¹, T. Kimoto¹, K. Tsutsui¹, N. Hayashi¹, S. Hahn², Y. Iwasa², M. Tomita³
(¹Okayama University, ²Massachusetts Institute of Technology, ³Railway Technical Research Institute)
- SAP-51 NUMERICAL SIMULATION OF SCREENING CURRENT DISTRIBUTION IN HTS TAPE OF HIGH FIELD MAGNET**
R. Itoh, Y. Oga, S. Noguchi, H. Igarashi (Hokkaido University)
- SAP-52 STUDY ON CRITERION FOR QUENCH DETECTION/ PROTECTION OF SUPERCONDUCTING MAGNET BASED ON ACTIVE POWER METHOD**
W. Asai, N. Nanato, S. Murase (Okayama University)
- SAP-53 DEVELOPMENT OF QUENCH DETECTION/ PROTECTION SYSTEM BASED ON ACTIVE POWER METHOD FOR SUPERCONDUCTING MAGNET BY USING CAPACITOR CIRCUIT**
T. Otsuka, S. Hesaka, N. Nanato, S. Murase (Okayama University)
- SAP-54 STUDY ON EDDY CURRENT EFFECT APPLYING FOR APPLICATION OF EARTHQUAKE SHOCK ABSORPTION DEVICE**
T.H. Sung, H. Jang, M.S. Woo, D. Song, S.B. Kim, T.H. Sung (Hanyang University)
- SAP-55 INTRODUCTION AND VALIDATION OF A METHOD OF DETERMINING THE CRITICAL CURRENT OF HTS MAGNETS NAMED MAGNETIC VECTOR ANALYSIS METHOD**
F. Jiao, Y. Tang, J. Dou, Q. Sun, L. Ren, J. Li, J. Shi
(Huazhong University of Science and Technology)

SAP-56 CENTRAL MAGNETIC FIELD IMPROVEMENT OF A PANCAKE-STACKED HTS MAGNET BY CHANGING OUTER DIAMETER OF EACH PANCAKE

M.C. Ahn¹, H.C. Jo², S. Lee³, T.K. Ko², H. Lee⁴

(¹Kunsan National University, ²Yonsei University, ³Uiduk University, ⁴Korea University)

SAP-57 CHARACTERISTICS EVALUATION OF INSULATIONLESS SUPERCONDUCTING COIL UNDER EXTERNAL MAGNETIC FIELD

S.-J. Jung, K.-M. Kim, K.-H. Kim, N. Kim, M. Park, I.-K. Yu

(Changwon National University)

SAP-58 FABRICATION AND FUNDAMENTAL OPERATING ANALYSIS OF ADVANCED LINEAR TYPE MAGNETIC FLUX PUMP

Y.D. Chung¹, J.B. Nah², Y.S. Yoon³, T.K. Ko²

(¹University of Suwon, ²Yonsei University, ³Shin Ansan University)

SAP-59 THE STUDY ON IMPROVING THE SELF-PROTECTION ABILITY OF HTS COILS BY REMOVING THE INSULATION AND LAMINATING THE VARIOUS METAL TAPES

T. Kaneko¹, S.B. Kim¹, A. Saitou¹, H. Kajikawa¹, J.H. Joo², J.M. Jo², Y.J. Han², H.S. Jeong²

(¹Okayama University, ²Korea Railroad Research Institute)

SAP-60 CHARACTERISTICS OF CONDUCTION-COOLED RACETRACK COILS USING REBCO COATED CONDUCTOR

M. Daibo, S. Fujita, H. Hidaka, M. Haraguchi, Y. Iijima, M. Itoh, T. Saitoh (Fujikura Ltd.)

SAP-61 DETECTION AND FREQUENCY ANALYSIS OF AE SIGNALS IN HTS COIL BY USING TIME-FREQUENCY VISUALIZATION METHOD

D. Aoki, Y. Nakagawa, N. Nanato, S. Murase (Okayama University)

SAP-62 FABRICATION, EXPERIMENT AND SIMULATION OF A YBCO HTS COIL

J. Dou, Y. Tang, F. Jiao, L. Ren, J. Li, J. Shi (Huazhong University of Science and Technology)

SAP-63 THERMAL AND ELECTRICAL ANALYSIS OF A SOLID CRYOGEN-COOLED GdBCO RACETRACK PANCAKE COIL

H. Lee, J.-B. Song, K.L. Kim, D.G. Yang, O.J. Kwon (Korea University)

SAP-64 ELECTRICAL BEHAVIOR OF GdBCO PANCAKE COILS WITH PARTIAL INSULATION UNDER AN AC POWER CONDITION

H. Lee¹, Y.H. Choi¹, S. Hahn² (¹Korea University, ²Massachusetts Institute of Technology)

SAP-65 THERMAL AND ELECTRICAL STABILITIES OF A GdBCO COATED CONDUCTOR RACETRACK PANCAKE COIL WITH RESPECT TO LOCATIONS OF LOCAL HOT-SPOTS

H. Lee, D.G. Yang, J.-B. Song, K.L. Kim, Y.H. Choi (Korea University)

SAP-66 INVESTIGATION ON THE ELECTROMAGNETIC AND THERMAL MODELING OF NON-INSULATED HTS MAGNETS
S. Kim¹, K. Kim¹, H. Jeong¹, M. Park¹, I.-K. Yu¹, S. Lee², T.-J. Park³, S. Hahn⁴
(¹Changwon National University, ²Uiduk University, ³Research Institute of Industrial Science and Technology, ⁴Massachusetts Institute of Technology)

SAP-67 DESIGN AND FABRICATION OF DOUBLE PANCAKE COIL USING 2G WIRE FOR CONDUCTION COOLED SUPERCONDUCTING MAGNET WITH LARGE ROOM TEMP BORE OF 100 mm
S.W. Yoon¹, H.J. Lee¹, S.H. Moon¹, S.H. Park², K.D. Choi², G.W. Hong²
(¹SuNAM Co.,LTD., ²Korea Polytechnic University)

SAP-68 QUENCH DETECTION/PROTECTION OF CRYOCOOLED NbTi SUPERCONDUCTING MAGNETS BY USING ACTIVE POWER METHOD
N. Nanato¹, S. Murase¹, G. Nishijima², K. Tamakawa³, M. Amaya³
(¹Okayama University, ²National Institute for Materials Science, ³Tamakawa Co., Ltd.)

SAP-69 DESIGNING A PIEZOELECTRIC ENERGY HARVESTING SYSTEM FOR THE SUPERCONDUCTOR MAGLEV
D. Song, H. Jang, S.B. Kim, T.H. Sung (Hanyang University)

SAP-70 DEVELOPMENT OF PELTIER CURRENT LEAD FOR DC CABLE
H. Sugane¹, Y. Hikichi¹, M. Minowa¹, M. Hamabe², H. Watanabe², T. Kawahara², S. Yamaguchi²
(¹SWCC SHOWA CABLE SYSTEMS Co., Ltd, ²Chubu University)

SAP-71 EVALUATION OF HTS CURRENT LEADS FOR SOLID CRYOGEN COOLING SYSTEMS
H. Lee, O.J. Kwon, J.-B. Song, K.L. Kim, Y.-G. Kim (Korea University)

SAP-72 AC LOSS CHARACTERISTICS OF EACH LAYER IN A DOUBLE LAYER CYLINDRICAL SAMPLE FOR VARIOUS CURRENT DISTRIBUTIONS
Z.Y. Li¹, K.W. Ryu¹, S.R. Oh², S. Hwang²
(¹Chonnam National University, ²Korea Electric Power Research Institute)

SAP-73 EVALUATION ON RECOVERY PROPERTIES OF 2G WIRE WITH INSULATION LAYER
H.-I. Du, B.S. Han, S.S. Song (Chonbuk National University)

SAP-74 IMPROVEMENT OF THE LEVITATION STABILITY OF THE HTSC - PERMANENT MAGNET HYBRID BEARING BY USING THE NEW ARRANGEMENT OF THE PERMANENT MAGNET
M. Sakedai, K. Emoto, R. Sugiyama, S. Ohashi (Kansai University)

SAP-75 FUNDAMENTAL STUDY ON MAGNETIC SEPARATION OF ORGANIC DYES USING SUPERCONDUCTING BULK MAGNETS
N. Kondo¹, S. Hosaka¹, K. Yokoyama²
(¹Gunma University, ²Ashikaga Institute of Technology)

SAP-76 FIELD PROFILE COMPUTATION OF AN UNDULATOR WITH BULK HTS

M. Tsuchimoto (Hokkaido Institute of Technology)

SAP-77 THE WAVEFORM CONTROL PULSE MAGNETIZATION TECHNIQUE TO BE ADAPTED FOR HTS BULK

T. Ida¹, M. Watasaki², Y. Sakai¹, K. Tsuzuki², M. Izumi² (¹Hiroshima National College of Maritime Technology, ²Tokyo University of Marine Science and Technology)

SAP-78 EFFECT OF SUPERCONDUCTING LEVITATION FORCE FOR PIEZOELECTRIC ENERGY HARVESTING SYSTEM

S.B. Kim, D. Song, H. Jang, T.H. Sung (Hanyang University)

SAP-79 Cancelled

SAP-80 STUDY ON THE CHARACTERISTICS OF THE MAGNETIC LEVITATION FOR FERROMAGNETIC MATERIALS AND THE PERMANENT MAGNETS WITH VARIOUS SIZES USING HTS BULK LEVITATION SYSTEM

J. Matsunaga¹, S.B. Kim¹, A. Doi¹, T. Ikegami¹, H. Onodera²
(¹Okayama University, ²CREST-JST)

SAP-81 IMPROVEMENT OF THE PROPULSION FORCE FOR THE HTSC-PERMANENT MAGNET HYBRID MAGNETICALLY LEVITATED CARRYING SYSTEM BY USING THE PINNED FLUX OF THE HTSC

M. Ikeda, R. Sasaki, T. Ueno, S. Ohashi (Kansai University)

SAP-82 THE DYNAMIC CHARACTERISTICS OF THE HTS BULK SUPERCONDUCTING ACTUATORS WITH THE QUADRILATERAL ELECTROMAGNETS

R. Kawamoto, S.B. Kim, Y. Uwani, J.H. Joo (Okayama University)

SAP-83 RECYCLING OF PHOSPHORUS FROM TREATED SEWAGE WATER BY SUPERCONDUCTING MAGNETIC SEPARATION USING ZIRCONIUM FERRITE ADSORBENT

K. Shimizu, O. Miura, K. Hosomi (Tokyo Metropolitan University)

SAP-84 RESEARCH ON MAGNETIC SEPARATION OF PNEUMATIC CONVEYED POWDER PRODUCTS; INVESTIGATION FROM THE VIEWPOINT OF INTERPARTICLE INTERACTIONS

K. Senkawa, Y. Nakai, F. Mishima, Y. Akiyama, S. Nishijima (Osaka University)

SAP-85 WATER PURIFICATION BY SUPERCONDUCTING MAGNETIC SEPARATOR WITH MAGNETIC ACTIVATED CARBON

M. Yamaguchi, O. Miura (Tokyo Metropolitan University)

SAP-86 SURFACE FLASHOVER CHARACTERISTICS OF GFRP IN LIQUID NITROGEN AND SF₆/CF₄ GAS INSULATED CRYOGENIC ENVIRONMENT

B.-W. Lee, W.-J. Shin, J.-K. Seong, T.-G. Park, J.-S. Hwang, S.-H. Lee (Hanyang University)

- SAP-87 ASSESSMENT OF BREAKDOWN CHARACTERISTICS OF LIQUID NITROGEN MIXTURE WITH SF₆ GAS AND CF₄ GAS FOR CRYOGENIC INSULATION**
B.-W. Lee, J.-K. Seong, W.-J. Shin, T.-G. Park, J.-S. Hwang (Hanyang University)
- SAP-88 STRUCTURAL DESIGN OF STRESS-CONE BASED ON HTS CABLE TERMINAL**
C. Wu, J. Fang, W. Lu, L. Guo, X. Huang, H. Zhang, M. Qiu (Beijing Jiaotong University)
- SAP-89 THE INSULATION COORDINATION AND SURGE ARRESTER DESIGN FOR HTS CABLE SYSTEM IN ICHEON SUBSTATION**
H. Lee¹, C. Jung², S.-R. Lee³, B.-M. Yang⁴, G. Jang¹ (¹Korea University, ²PTS, ³Korea Electrotechnology Research Institute, ⁴Korea Electric Power Research Institute)
- SAP-90 INSULATION DESIGN OF CRYOGENIC BUSHING FOR SUPERCONDUCTING ELECTRIC POWER APPLICATIONS**
S.-H. Lee¹, B.-Y. Kim¹, W.-J. Shin², J.-Y. Koo², B.-W. Lee² (¹Korea Institute of Nuclear Safety, ²Hanyang University)
- SAP-91 THERMAL PROPERTY OF INSULATION MATERIAL FOR SUPERCONDUCTING APPLICATIONS**
Y.S. Choi (Korea Basic Science Institute)
- SAP-92 STUDY ON THE DIELECTRIC CHARACTERISTICS OF GASEOUS NITROGEN AND CRYOGENIC EPOXY RESIN FOR DESIGNING HIGH VOLTAGE SUPERCONDUCTING APPARATUSES WITH A SUB-COOLED LN₂ COOLING SYSTEM**
H. Kang¹, J.B. Na², T.K. Ko² (¹Chungju National University, ²Yonsei University)
- SAP-93 ELECTRIC FIELD CRITERION OF LIQUID NITROGEN WITH THE LIGHTNING IMPULSE IN ACCORDANCE WITH FIELD UTILIZATION FACTOR**
J.B. Na¹, H. Kang², T.K. Ko¹ (¹Yonsei University, ²Chungju National University)
- SAP-94 DEVELOPMENT AND TEST OF MODEL APPARATUS OF NON-CONTACT SPIN PROCESSOR FOR PHOTO MASK PRODUCTION APPLYING RADIAL-TYPE SUPERCONDUCTING MAGNETIC BEARING**
K. Saito^{1,2}, S. Fukui¹, J. Ogawa¹, T. Oka¹, T. Sato¹ (¹Niigata University, ²MTC Co. LTD.)
- SAP-95 PULSED-FIELD MAGNETIZATION OF A BULK SUPERCONDUCTOR WITH SMALL HOLES**
K. Yokoyama¹, T. Oka², N. Kondo³, S. Hosaka³ (¹Ashikaga Institute of Technology, ²Niigata University, ³Gunma University)
- SAP-96 MERCURY REMOVAL PROPERTY FROM SOLUTION BY HIGH GRADIENT SUPERCONDUCTING MAGNETIC SEPARATION WITH MAGNETIC ACTIVATED CARBON**
S. Tachibana, O. Miura (Tokyo Metropolitan University)

Poster Session II

Oct. 26 (Wed.) 13:40 - 15:40 Exhibition Hall 1,2 (1F)

Physics and Chemistry

Chairperson:

S. Okuma (Tokyo Institute of Technology)

PCP-1 **SYNTHESIS AND PROPERTIES OF $(\text{Pb,Co})\text{Sr}_2(\text{Y,Ca})\text{Cu}_2\text{O}_z$**

T. Tashiro, R. Abe, S. Takechi, T. Takahashi, M. Haruta, S. Horii, T. Maeda
(Kochi University of Technology)

PCP-2 **SYNTHESIS AND CHARACTERIZATION OF $(\text{Bi,M})\text{Sr}_2(\text{Dy,Ca})\text{Cu}_2\text{O}_z$ (M: Fe, Co, Ni)**

T. Maeda, T. Tashiro, S. Yabe, Y. Takahashi, M. Haruta, S. Horii
(Kochi University of Technology)

PCP-3 **OPTIMIZATION OF ANNEALING PROCESSES FOR SUPERCONDUCTIVITY OF $\text{FeSr}_2\text{YCuO}_{6+y}$**

K. Yamaguchi¹, Y. Hata¹, T. Mochiku², H. Yasuoka¹ (¹National Defense Academy, ²National Institute for Materials Science)

PCP-4 **Ag-ASSISTED LOW-TEMPERATURE SYNTHESIS OF $\text{T}^2\text{-La}_2\text{CuO}_4$ FILMS BY METAL ORGANIC DECOMPOSITION**

A. Ikeda¹, H. Yamamoto², T. Manabe³, M. Naito¹
(¹Tokyo University of Agriculture and Technology, ²NTT Corporation, ³National Institute of Advanced Industrial Science and Technology)

PCP-5 **SINGLE CRYSTAL GROWTH OF $\text{RuSr}_2\text{GdCu}_2\text{O}_8$**

K. Ishii¹, T. Mochiku², H. Takeya², K. Hirata² (¹Hokkaido University, ²National Institute for Materials Science)

PCP-6 **SUPERCONDUCTING PROPERTY OF Zr-Cu-Al-Ni-Nb ALLOYS**

D. Okai¹, G. Motoyama¹, H. Kimura², A. Inoue²
(¹University of Hyogo, ²Tohoku University)

PCP-7 **MAGNETIC AND TRANSPORT PROPERTIES IN POLYMER BONDED $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$ COMPOSITES**

L.Q. Yang¹, X.S. Yang¹, C.H. Cheng², L. Lv¹, Y. Zhao¹
(¹Southwest Jiaotong University, ²University of New South Wales)

PCP-8 **NOVEL CHEMICAL SYNTHESIS OF SUPERCONDUCTING FeSe FILMS**

S. Demura¹, H. Hara², Y. Kawasaki^{1,2}, K. Deguchi^{1,2}, T. Watanabe^{1,2}, Y. Mizuguchi³, H. Okazaki², T. Ozaki², T. Yamaguchi², H. Takeya², Y. Takano^{1,2} (¹University of Tsukuba, ²National Institute for Materials Science, ³Tokyo Metropolitan University)

PCP-9 NEW SYNTHESIS METHOD OF 11 TYPE IRON-BASED SUPERCONDUCTORS

Y. Takano (National Institute for Materials Science)

PCP-10 FABRICATION AND PHYSICAL PROPERTIES OF FeTe-BASED THIN CRYSTALS USING THE SCOTCH-TAPE METHOD

Y. Mizuguchi¹, K. Hamada¹, H. Okazaki², T. Yamaguchi², Y. Takano², O. Miura¹

(¹Tokyo Metropolitan University, ²National Institute for Materials Science)

PCP-11 EFFECT OF SOAKING IN ALCOHOLIC BEVERAGE ON SUPERCONDUCTING PROPERTY IN Fe(Te,S)

K. Deguchi^{1,2,3}, Y. Kawasaki^{1,2,3}, H. Hara¹, S. Demura^{1,2}, T. Watanabe^{1,2}, H. Okazaki¹,

T. Ozaki^{1,3}, T. Yamaguchi^{1,3}, H. Takeya¹, Y. Takano^{1,2,3}

(¹National Institute for Materials Science, ²University of Tsukuba, ³TRIP-JST)

PCP-12 PHASE DIAGRAM OF FeTe_{1-x}Se_x

Y. Kawasaki^{1,2}, K. Deguchi^{1,2}, H. Hara¹, S. Demura^{1,2}, T. Watanabe^{1,2}, H. Okazaki¹, T. Ozaki¹,

T. Yamaguchi¹, H. Takeya¹, Y. Takano¹

(¹National Institute for Materials Science, ²University of Tsukuba)

PCP-13 EFFECT OF EXCESS Fe ON PHYSICAL PROPERTIES IN Fe_{1+δ}Te

T. Machida¹, D. Morohoshi¹, K. Takimoto¹, H. Nakamura¹, H. Takeya², T. Mochiku², S. Ooi²,

Y. Mizuguchi³, Y. Takano², K. Hirata², H. Sakata¹ (¹Tokyo University of Science,

²National Institute for Materials Science, ³Tokyo Metropolitan University)

PCP-14 IMPROVEMENT OF INTERGRAIN PROPERTIES IN Sr_{0.6}K_{0.4}Fe₂As₂ SUPERCONDUCTORS WITH Ag ADDITION

S. Setoyama¹, J. Kinoshita¹, T. Akune¹, N. Sakamoto¹, K. Murakami², N. Yoshida²,

M. Kiuchi^{2,3}, S.E. Otabe^{2,3}, T. Matsushita², J. Ge⁴, B. Ni^{3,4}, L. Wang⁵, Y. Qi⁵, X. Zhang⁵,

Z. Gao⁵, Y. Ma⁵ (¹Kyushu Sangyo University, ²Kyushu Institute of Technology, ³TRIP-JST,

⁴Fukuoka Institute of Technology, ⁵Chinese Academy of Science)

PCP-15 Moved to PC-27

PCP-16 FIRST-PRINCIPLES STUDY OF Ca-Fe-Pt-As-TYPE IRON-BASED SUPERCONDUCTORS

H. Nakamura, M. Masahiko (Japan Atomic Energy Agency)

PCP-17 STM/STS MEASUREMENTS ON THE SINGLE CRYSTALS OF FeSe_{1-x}Te_x (x = 0.2~1.0)

R. Ukita, A. Sugimoto, T. Ekino (Hiroshima University)

PCP-18 UNIAXIAL PRESSURE EFFECT OF IRON-BASED SUPERCONDUCTORS

M. Meikan, T. Katagiri, T. Sasagawa (Tokyo Institute of Technology)

PCP-19 Cancelled

- PCP-20 **MAGNETIC AND ELECTRICAL PROPERTIES OF
BaFe_{2-x}Zn_xAs₂ CRYSTALS (x=0-0.4)**
Y. Guo¹, X. Wang², J. Li², S. Zhang¹, K. Yamaura², E. Takayama-Muromachi^{1,2}
(¹MANA-National Institute for Materials Science, ²Hokkaido University)
- PCP-21 **FLUX PINNING BEHAVIOR OF MgB₂ DOPED WITH Fe AND
Fe₂O₃ NANOWIRES**
C. Ke¹, C.H. Cheng², Y. Zhang¹, Y. Zhao¹
(¹Southwest Jiaotong University, ²University of New South Wales)
- PCP-22 **EFFECT OF Ru-ADDITION ON PINNING PROPERTY OF MgB₂**
M. Takeda, Y. Nozaki, Y. Takikawa, M. Migita, K. Sugai, M. Uehara, K. Tetsuji, Y. Kimishima
(Yokohama National University)
- PCP-23 **Cancelled**
- PCP-24 **SUPERCONDUCTING-STATE IN BORO-SILICIDES
TM₅SiB₂ (TM = Mo, W)**
M. Fukuma, K. Kawashima, J. Akimitsu (Aoyama Gakuin University)
- PCP-25 **SUPERCONDUCTIVITY IN Ba(TM,Si)₂ WITH
AIB₂-TYPE STRUCTURE**
K. Inoue, K. Kawashima, T. Ishikawa, M. Fukuma, T. Okumura, T. Muranaka, J. Akimitsu
(Aoyama Gakuin University)
- PCP-26 **SUPERCONDUCTIVITY AND FERROMAGNETISM IN
Mn-DOPED (La,Pr)_{1.8}Ce_{0.1}Sr_{0.1}Cu_{1-x}Mn_xO₄**
Y. Zhang¹, C.H. Cheng², F.S. Wang¹, C. Ke¹, Y. Zhao¹
(¹Southwest Jiaotong University, ²University of New South Wales)
- PCP-27 **THE SYNTHESIS AND PHYSICAL PROPERTIES OF THE
ANTIPEROVSKITE Mn₃XN (X=Zn AND In)**
Y. Sun, Y. Guo, X. Wang, W. Yi, J. Li, A. Belik, K. Yamaura
(National Institute for Materials Science)
- PCP-28 **MAGNETORESISTANCE, ELECTRORESISTANCE AND
NONLINEAR ELECTRICAL BEHAVIOR IN NANOPOLYCRYSTALLINE
La_{2/3}Sr_{1/3}MnO₃**
X. Yang, L. Yang, Y. Zhao (Southwest Jiaotong University)
- PCP-29 **MAGNETIC FIELD RESPONCES OF EDGE STATES OF
Sr₂RuO₄**
S. Kashiwaya¹, H. Kashiwaya¹, K. Saito¹, H. Kambara², Y. Tanaka³, Y. Maeno⁴
(¹National Institute of Advanced Industrial Science and Technology, ²Shinshu University,
³Nagoya University, ⁴Kyoto University)
- PCP-30 **EFFECT OF Y DOPING ON THE MAGNETIC PROPERTIES
OF THE POSTLAYERED PEROVSKITE Sr₃Co₂O₆**
X. Wang^{1,2}, Y. Guo¹, Y. Shi¹, J. Li², S. Zhang¹, K. Yamaura²
(¹MANA-National Institute for Materials Science, ²Hokkaido University)

- PCP-31 **ELECTRONIC BAND STRUCTURE OF LaPt_2Si_2**
I. Hase, T. Yanagisawa (National Institute of Advanced Industrial Science and Technology)
- PCP-32 **CRYSTAL STRUCTURE AND SUPERCONDUCTING PROPERTIES OF MoC_{1-6}**
C.I Sathish, Y.F Guo, X.X Wang, J.J Li, Y. Tsujimoto, K. Yamaura
(National Institute for Materials Science)
- PCP-33 **LARGE MAGNETIC ENTROPY CHANGE IN ANTIFERROMAGNETIC BOROCARBIDE $\text{RNi}_2\text{B}_2\text{C}$ SUPERCONDUCTORS**
L. Li¹, M. Kadowaga¹, M. Sho¹, D. Huo², Z. Qian², K. Nishimura¹
(¹University of Toyama, ²Hangzhou Dianzi University)
- PCP-34 **TRIPLET SUPERCONDUCTIVITY AND TIME REVERSAL SYMMETRY BREAKING IN LaNiC_2**
T. Yanagisawa, I. Hase (National Institute of Advanced Industrial Science and Technology)
- PCP-35 **TUNNELING BREAK-JUNCTION MEASUREMENTS OF THE SUPERCONDUCTING GAP IN Y_2C_3**
T. Ekino¹, A. Sugimoto¹, A.M. Gabovich², J. Akimitsu³
(¹Hiroshima University, ²National Academy of Sciences of Ukraine, ³Aoyama Gakuin University)
- PCP-36 **EFFECT OF SHORT-RANGE ANTIFERROMAGNETIC CORRELATION ON DOPED MOTT INSULATORS**
H. Yokoyama¹, T. Miyagawa¹, S. Tamura¹, K. Kobayashi², M. Ogata³
(¹Tohoku University, ²Chiba Institute of Technology, ³The University of Tokyo)
- PCP-37 **GROWTH AND PHYSICAL PROPERTIES OF $\text{YBa}_2\text{Cu}_4\text{O}_8$ SINGLE CRYSTALS**
H. Hara^{1,2}, Y. Kawasaki², S. Demura², K. Deguchi², T. Watanabe², H. Okazaki², T. Ozaki², T. Yamaguchi², H. Takeya², Y. Takano^{1,2}
(¹Tokyo University of Science, ²National Institute for Materials Science)
- PCP-38 **SUPERCONDUCTING GROUND STATE OF T'-CUPRATES**
Y. Krockenberger, H. Yamamoto (NTT Corporation)
- PCP-39 **T'- AND T''-DEPENDENCES OF A STRIPE PHASE IN A TWO-DIMENSIONAL HUBBARD MODEL**
M. Miyazaki¹, K. Yamaji², T. Yanagisawa², R. Kadono³
(¹Hakodate National College of Technology, ²National Institute of Advanced Industrial Science and Technology, ³High Energy Accelerator Research Organization)
- PCP-40 **SUPERCONDUCTIVITY IN REDUCTION-TREATED MIXTURES OF $\text{PrBa}_2\text{Cu}_4\text{O}_8$ AND $\text{PrBa}_2\text{Cu}_3\text{O}_{7-6}$ CERAMICS**
K. Koyama¹, R. Nakashima¹, K. Magishi¹, T. Saito¹, T. Shima², M. Hagiwara²
(¹The University of Tokushima, ²Kyoto Institute of Technology)

- PCP-41 **MIXED ELECTRONIC STATES OF HIGH T_c CUPRATES SUPERCONDUCTORS**
K. Nishi (Toyohashi University of Technology)
- PCP-42 **MICROWAVE SURFACE RESISTANCE OF YBCO SUPERCONDUCTING THIN FILMS UNDER HIGH MAGNETIC FIELD**
T. Honma, S. Sato, K. Sato, M. Watanabe, A. Saito, K. Koike, H. Kato, S. Ohshima (Yamagata University)
- PCP-43 **INTERPLAY OF DOUBLONS AND HOLONS IN d -WAVE SUPERCONDUCTORS AS DOPED MOTT INSULATORS**
T. Miyagawa, S. Tamura, H. Yokoyama (Tohoku University)
- PCP-44 **PERIODIC MODULATION IN UNDERDOPED Bi2223**
C. Nakashima¹, T. Iye², A. Matsuda¹ (¹Waseda University, ²Kyoto University)
- PCP-45 **SUPERCONDUCTING FLUCTUATION OF SPECIFIC HEAT IN SHORT-WAVELENGTH FLUCTUATION REGIME**
N. Mori¹, H. Enomoto², Y. Takano³, N. Coton⁴, M.V. Ramallo⁴ (¹Oyama National College of Technology, ²Osaka Electro-Communication University, ³Nihon University, ⁴University of Santiago)
- PCP-46 **SUPERCONDUCTIVITY IN IONIC-HUBBARD MODEL ON HONEYCOMB LATTICE**
T. Watanabe¹, S. Ishihara² (¹Chiba Institute of Technology, ²Tohoku University)
- PCP-47 **SUPERFLUIDITY AND SPECTRAL PROPERTIES OF TRAPPED 2-LEG OPTICAL LATTICE**
A. Yamamoto, S. Yamada, M. Machida (Japan Atomic Energy Agency)
- PCP-48 **SPECTRAL-DENSITY POLYNOMIAL EXPANSION FOR TWO-PARTICLE GREEN'S FUNCTION IN BdG FRAMEWORK**
Y. Nagai, Y. Ota, M. Machida (Japan Atomic Energy Agency)
- PCP-49 **VARIATIONAL MONTE CARLO STUDY OF BCS-BEC CROSSOVER AND PSEUDOGAP IN TWO-DIMENSIONAL ATTRACTIVE HUBBARD MODEL**
S. Tamura, H. Yokoyama, T. Miyagawa (Tohoku University)
- PCP-50 **NUMERICAL SIMULATION OF THz EMISSION FROM TWO MESA-STRUCTURED INTRINSIC JOSEPHSON JUNCTIONS**
H. Asai¹, M. Tachiki¹, H. Minami¹, T. Yamamoto², K. Kadowaki¹ (¹University of Tsukuba, ²Japan Atomic Energy Agency)
- PCP-51 **JUNCTION SIZE DEPENDENCE OF JOSEPHSON CURRENT IN s -WAVE SUPERCONDUCTOR/ Sr_2RuO_4 MICRO-JOSEPHSON JUNCTIONS**
K. Saitoh¹, S. Kashiwaya¹, M. Koyanagi¹, H. Kashiwaya¹, Y. Tanaka², Y. Maeno³ (¹National Institute of Advanced Industrial Science and Technology, ²Nagoya University, ³Kyoto University)

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S. Okuma (Tokyo Institute of Technology)

VPP-1 **ENHANCED FLUX PINNING IN IR PLD GROWN Y-DOPED Bi-2212 FILMS**

G.R.S. Blanca, J.C. de Vero, W.O. Garcia, R.V. Sarmago (University of the Philippines)

VPP-2 **UNUSUAL PEAK NEAR ZERO FIELD IN FLUX PINNING FORCE OF SINGLE CRYSTALLINE MgB₂ THIN FILMS**

S.-G. Jung, W.K. Seong, W.N. Kang (Sungkyunkwan University)

VPP-3 **FORCE-DISPLACEMENT CHARACTERISTICS OF FLUXOIDS IN SUPERCONDUCTING MgB₂ TAPES**

B. Ni¹, W. Sun¹, A. Matsumoto², H. Kumakura² (¹Fukuoka Institute of Technology, ²National Institute for Materials Science)

VPP-4 **CROSSOVER FROM CROSSING TO TILTED VORTEX PHASE IN Bi₂Sr₂CaCu₂O_{8+d} SINGLE CRYSTALS NEAR *ab*-PLANE**

J. Mirkovic¹, T. Kashiwagi², T. Yamamoto², K. Kadowaki² (¹University of Montenegro, ²University of Tsukuba)

VPP-5 **NUMERICAL EXPERIMENT OF JOULE HEAT DAMAGE IN SUPERCONDUCTING TRANSPORT**

K. Kobayashi¹, Y. Ota², M. Machida¹ (¹Japan Atomic Energy Agency, ²RIKEN)

VPP-6 **EFFECTS OF IRRADIATION-PARTICLE ENERGY ON CRITICAL CURRENT DENSITY IN Co-DOPED BaFe₂As₂**

T. Taen¹, H. Yagyuda¹, Y. Nakajima¹, T. Tamegai¹, S. Okayasu², H. Kitamura³, T. Murakami³ (¹The University of Tokyo, ²Japan Atomic Energy Agency, ³National Institute of Radiological Sciences)

VPP-7 **INVESTIGATION OF FLUX TURBULENCE IN IRON-BASED SUPERCONDUCTORS**

S. Mohan, T. Ishibashi, Y. Nakajima, Y. Tsuchiya, T. Tamegai (The University of Tokyo)

VPP-8 **IRREVERSIBLE MAGNETIZATION IN ISOVALENTLY DOPED Ba(Fe_{1-x}Ru_x)₂As₂**

T. Ishibashi, Y. Nakajima, T. Tamegai (The University of Tokyo)

VPP-9 **SUBSTITUTION EFFECTS OF Ag INTO FeSe_{0.5}Te_{0.5} SUPERCONDUCTOR**

Y. Kimishima¹, M. Migita¹, Y. Takikawa¹, K. Sugai¹, M. Takeda¹, Y. Nozaki¹, M. Uehara¹, T. Kuramoto¹, Y. Takano², Y. Mizuguchi², Y. Kimishima¹ (¹Yokohama National University, ²National Institute for Materials Science)

**VPP-10 INTRINSIC PINNING PROPERTY OF KFe_2Se_2
SUPERCONDUCTOR**

Y. Takikawa¹, M. Migita¹, K. Sugai¹, M. Takeda¹, Y. Nozaki¹,
M. Uehara¹, T. Kuramoto¹, Y. Takano², Y. Mizuguchi², H. Takeya², Y. Kimishima¹
(¹Yokohama National University, ²National Institute for Materials Science)

**VPP-11 ANISOTROPY OF CRITICAL CURRENT DENSITY IN
SUPERCONDUCTING NETWORKS**

Y. Tsuchiya¹, Y. Nakajima¹, T. Tamegai¹, S. Nagasawa², M. Hidaka²
(¹The University of Tokyo, ²Superconductivity Research Laboratory, ISTEC)

**VPP-12 VORTEX STATES AT LOW TEMPERATURE IN THIN
AMORPHOUS FILMS PROBED BY MODE-LOCKING RESONANCE**

H. Sato, S. Okuma (Tokyo Institute of Technology)

**VPP-13 CRITICAL DYNAMICS FOR DEPINNING TRANSITION IN
SHEARED VORTEX SOLIDS**

S. Okuma, A. Motohashi (Tokyo Institute of Technology)

**VPP-14 ONSET OF IRREVERSIBILITY AND DISLOCATIONS IN
VORTEX LATTICE**

S. Okuma, Y. Tsugawa, Y. Kawamura (Tokyo Institute of Technology)

**VPP-15 ORIENTATION OF FAST DRIVEN VORTEX LATTICE AND
QUASIPARTICLE LIFETIME**

S. Okuma¹, D. Shimamoto¹, N. Kokubo²
(¹Tokyo Institute of Technology, ²Kyushu University)

**VPP-16 TEMPERATURE INDUCED SYMMETRY TRANSITION OF
VORTEX ARRANGEMENT ON A MESOSCOPIC SUPERCONDUCTING
PLATE WITH 2×2 ANTI-DOTS**

O. Sato, M. Kato (Osaka Prefecture University)

**VPP-17 VORTEX STATES OF $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+y}$ WITH ANTIDOT
ARRAY PROBED BY *c*-AXIS TRANSPORT MEASUREMENTS**

S. Ooi, T. Mochiku, K. Hirata (National Institute for Materials Science)

**VPP-18 TRANSITION TEMPERATURE OF NANO-SIZED
SUPERCONDUCTORS**

M. Kato^{1,2}, H. Suematsu¹, T. Ishida¹ (¹Osaka Prefecture University, ²CREST-JST)

VPP-19 VORTEX STATES IN NANO-STRUCTURED MgB_2

Y. Niwa, M. Kato (Osaka Prefecture University)

**VPP-20 ANOMALOUS QUADRUPOLE FEATURE IN THE MIXED
STATE OF THE $\text{YNi}_2\text{B}_2\text{C}$**

P. Das¹, C.V. Tomy², H. Takeya³, S. Ramakrishnan⁴, A.K. Grover⁴
(¹University of Tsukuba, ²Indian Institute of Technology Bombay,
³National Institute for Materials Science, ⁴Tata Institute of Fundamental Research)

VPP-21 PHASE-SENSITIVE FLUX-FLOW RESISTIVITY IN UNCONVENTIONAL SUPERCONDUCTORS

Y. Higashi¹, Y. Nagai², M. Machida², N. Hayashi¹

(¹Osaka Prefecture University, ²Japan Atomic Energy Agency)

VPP-22 SIMULATION OF PHASE-LOCKING MOTION OF JOSEPHSON VORTICES IN INTRINSIC JOSEPHSON JUNCTION STACK

Y. Yamada¹, K. Nakajima² (¹Oyama National College of Technology, ²Yamagata University)

VPP-23 SPATIOTEMPORAL DYNAMICS OF A JOSEPHSON JUNCTION NETWORK

T. Kawaguchi (University of Yamanashi)

VPP-24 IMPURITY EFFECT ON THE VORTEX CORE STRUCTURE IN AN s^{\pm} -WAVE SUPERCONDUCTOR

N. Hayashi, Y. Higashi, N. Nakai, H. Suematsu (Osaka Prefecture University)

Bulks and Characterization

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M. Izumi (Tokyo University of Marine Science and Technology)

BLP-1 EFFECTS OF TFA ADDITION ON THE GROWTH OF SINTERED $\text{YBa}_2\text{Cu}_3\text{O}_y$ SUPERCONDUCTORS

R. Kita¹, K. Kuroda¹, O. Miura², K. Yamada³, K. Kaneko³

(¹Shizuoka University, ²Tokyo Metropolitan University, ³Kyusyu University)

BLP-2 FABRICATION OF Dy-123 SYSTEM SUPERCONDUCTOR COMPOSED WITH Pt WIRES

H. Shimada¹, H. Fujimoto², S. Yoshizawa¹

(¹Meisei University, ²Railway Technical Research Institute)

BLP-3 SUPERCONDUCTIVITY OF Dy-123 SUPERCONDUCTOR COMPOSED WITH Pt-Rh ALLOY WIRES IN AIR

H. Shimada¹, H. Fujimoto², S. Yamazaki³, S. Yoshizawa¹

(¹Meisei University, ²Railway Technical Research Institute, ³Kogakuin University)

BLP-4 SUPERCONDUCTING PROPERTIES OF Y-Ba-Cu-O BULK WITH BaSnO_3 ADDITION

M. Iwasaki, M. Murakami, N. Koshizuka, H. Seki (Shibaura Institute of Technology)

BLP-5 EFFECT OF MAGNETIC PARTICLE ADDITIONS ON FLUX PINNING IN BULK Y-Ba-Cu-O SUPERCONDUCTORS

T. Tsuchiya, T. Kikuchi, S. Takano, N. Koshizuka, M. Murakami

(Shibaura Institute of Technology)

BLP-6 FRACTURE STRENGTH PROPERTIES OF Gd123 LARGE SINGLE-GRAIN BULK WITH CeO₂ ADDITION

A. Murakami¹, H. Fujimoto², A. Iwamoto³ (¹Ichinoseki National College of Technology, ²Railway Technical Research Institute, ³National Institute for Fusion Science)

BLP-7 THE INFLUENCE OF HfO₂ DOPING ON THE SUPERCONDUCTING PROPERTIES OF GdBa₂Cu₃O_{7-δ} BULK SUPERCONDUCTORS

K. Xu, B. Li, D. Zhou, S. Hara, M. Izumi
(Tokyo University of Marine Science and Technology)

BLP-8 ENHANCEMENT OF CRITICAL CURRENT DENSITY AND TRAPPED MAGNETIC FLUX OF Gd-Ba-Cu-O BULK SUPERCONDUCTORS BY Fe-CONTAINING ALLOY PARTICLES DOPING

S. Hara, K. Xu, D. Zhou, K. Tsuzuki, M. Izumi
(Tokyo University of Marine Science and Technology)

BLP-9 EFFECTS OF Nd123 AND Nd422 ADDITION IN Gd-Ba-Cu-O BULK SUPERCONDUCTORS

Z. Difan, X. Kun, L. Beizhan, T. Tsuzuki, M. Izumi
(Tokyo University of Marine Science and Technology)

BLP-10 ENHANCED BOTH FIRST AND SECOND PEAK EFFECT IN AIR-PROCESSED Gd123 BULK SUPERCONDUCTORS WITH BARIUM TITANATE ADDITION

B. Li, K. Xu, S. Hara, D. Zhou, M. Izumi
(Tokyo University of Marine Science and Technology)

BLP-11 PROCESSING OF (Nd,Eu,Gd)-Ba-Cu-O SUPERCONDUCTORS

T. Kikuchi, Y. Homma, K. Suzuki, N. Koshizuka, M. Murakami
(Shibaura Institute of Technology)

BLP-12 RELATIONSHIP BETWEEN DEGREES OF ORIENTATION AND ROTATING SPEED IN MAGNETICALLY TRI-AXIAL-ORIENTED RE-Ba-Cu-O SUPERCONDUCTORS

M. Yamaki¹, S. Horii¹, M. Haruta¹, J. Shimoyama²
(¹Kochi University of Technology, ²The University of Tokyo)

BLP-13 DETERMINATION FACTOR OF MAGNETIC ANISOTROPY IN LAYERED IRON-BASED Pnictide AND ITS RELATED COMPOUNDS

K. Aoki¹, S. Horii¹, M. Haruta¹, H. Ogino², J. Shimoyama²
(¹Kochi University of Technology, ²The University of Tokyo)

BLP-14 EVALUATION OF THE CRYSTAL GROWTH ALONG THE c-AXIS DIRECTION IN BULK Y-Ba-Cu-O SUPERCONDUCTORS

S. Kawabe, Y. Homma, M. Iwasaki, T. Kinoshita, K. Kihara, T. Tutiya, N. Kosizuka, M. Murakami
(Shibaura Institute of Technology)

BLP-15 OPTIMIZATION OF THE BINDER ADDITION METHODS FOR BULK Y-Ba-Cu-O SUPERCONDUCTORS

Y. Ikeda¹, S. Umakoshi¹, T. Kikuchi¹, S. Takano¹, H. Seki², T. Maruyama², N. Koshizuka¹, M. Murakami¹ (¹Shibaura Institute of Technology, ²Awaji Materia Co., Ltd.)

BLP-16 IMPROVEMENT OF TRAPPED FIELD IN DyBaCuO BULK BY PROTON IRRADIATION

R. Kinjo, T. Kii, N. Kimura, M. Bakr, M. Omer, Y.W. Choi, K. Yoshida, K. Ishida, H. Imon, T. Komai, M. Shibata, K. Shimahashi, H. Zen, T. Sonobe, K. Masuda, K. Nagasaki, H. Ohgaki (Kyoto University)

BLP-17 REINFORCEMENT OF BULK YBaCuO SUPERCONDUCTORS BY USING FeMnSi SHAPE MEMORY ALLOY RING

H. Seki¹, Y. Honma², Y. Nomura¹, C. Nakayama², N. Koshizuka², T. Maruyama¹, M. Murakami² (¹Awaji Materia Co., Ltd., ²Shibaura Institute of Technology)

BLP-18 MAGNETIC SHIELDING PROPERTIES OF GdBCO BULKS WITH DIFFERENT CRYSTAL ORIENTATION

Z.Y. Zhang^{1,2}, S. Matsumoto², R. Teranishi¹, T. Kiyoshi^{1,2} (¹Kyushu University, ²National Institute for Materials Science)

BLP-19 RELAXATION PROPERTIES OF THE TRAPPED FLUX OF BULK HIGH-TEMPERATURE SUPERCONDUCTORS AT DIFFERENT MAGNETIZATION LEVELS

Z. Deng, K. Tsuzuki, M. Miki, B. Felder, S. Hara, M. Izumi (Tokyo University of Marine Science and Technology)

BLP-20 POSITION DEPENDENCE OF IRREVERSIBILITY LINE ON THIN PLATE Gd-Ba-Cu-O BULK SUPERCONDUCTOR

T. Naito¹, D. Furuta¹, T. Arayashiki¹, H. Fujishiro¹, Y. Yanagi², Y. Itoh² (¹Iwate University, ²IMRA Material R&D Co., Ltd.)

BLP-21 NUMERICAL INVESTIGATIONS ON INFLUENCE OF HOLE ON PERMANENT MAGNET METHOD

S. Ikuno¹, T. Takayama², A. Kamitani² (¹Tokyo University of Technology, ²Yamagata University)

BLP-22 MAGNETIZING TECHNIQUE FOR PERMANENT MAGNETS BY INTENSE STATIC FIELDS GENERATED BY HTS BULK MAGNETS

N. Kawasaki¹, T. Oka¹, S. Fukui¹, J. Ogawa¹, T. Terasawa², Y. Itoh² (¹Niigata University, ²IMRA Material R&D Co., Ltd.)

BLP-23 PRECISE CONTROL OF THE DRUG KINETICS BY MEANS OF NONINVASIVE MAGNETIC DRUG DELIVERY SYSTEM

M. Chuzawa, K. Nakagawa, F. Mishima, Y. Akiyama, S. Nishijima (Osaka University)

BLP-24 A SUPERCONDUCTING CONVEYER SYSTEM USING MULTIPLE BULK Y-Ba-Cu-O SUPERCONDUCTORS AND PERMANENT MAGNETS

T. Kinoshita¹, M. Murakami¹, N. Koshizuka¹, K. Nagashima²

(¹Shibaura Institute of Technology, ²Railway Technical Research Institute)

BLP-25 LOW TEMPERATURE SYNTHESIS OF Li AND Cl ADDED Bi-2212 SUPERCONDUCTORS

N. Masaki, H. Ando, H. Murotani, T. Sugiura, T. Tsukamoto

(Toyota National College of Technology)

BLP-26 EFFECTS OF COMBINED ADDITIONS OF C AND TiH₂ ON THE SUPERCONDUCTING PROPERTIES OF MgB₂ SUPERCONDUCTORS

K. Kihara, S. Takano, T. Kikuchi, N. Koshizuka, M. Murakami

(Shibaura Institute of Technology)

BLP-27 EFFECT OF MALIC ACID DOPING ON STRUCTURAL AND SUPERCONDUCTING PROPERTIES OF DENSE MgB₂ FABRICATED BY A Mg DIFFUSION PROCESS

M. Maeda¹, J.H. Kim², S.X. Dou², Y. Nakayama¹, Y. Takano¹

(¹Nihon University, ²University of Wollongong)

BLP-28 SUPERCONDUCTING PROPERTIES OF Ti₃SiC₂-DOPED BULK MgB₂ SUPERCONDUCTOR

D. Shan¹, G. Yan², L. Zhou², C. Li², Q. Wang², S. Zhang², G. Liu², X. Xiong², G. Jiao², P. Ji²

(¹Northwestern Polytechnical University, ²Northwest Institute for Nonferrous Metal Research)

BLP-29 MICROSTRUCTURE AND CRITICAL CURRENT DENSITY OF SINTERED *EX-SITU* MgB₂ POLYCRYSTALS

H. Tanaka, A. Yamamoto, J. Shimoyama, H. Ogino, K. Kishio (The University of Tokyo)

BLP-30 INFLUENCE OF OXYGEN CONTENT ON SUPERCONDUCTING PROPERTIES OF DOPED Bi-2212 BULK

S. Zhang, C. Li, B. Hao, H. Liu (Northwest Institute for Nonferrous Metal Research)

Films, Junctions and Electronic Devices

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H. Terai(National Institute of Information and Communications Technology)

FDP-1 FABRICATION AND EVALUATION OF HETERO-EPITAXIAL MULTILAYER FILMS OF Nb/AlN/Nb/NbN FOR SIS JUNCTION

M. Konno¹, T. Sawada¹, M. Murata¹, A. Kawakami^{2,3}, A. Saito¹, S. Ohshima¹

(¹Yamagata University, ²Kobe Advanced ICT Research Center, ³National Institute of Information and Communications Technology)

**FDP-2 THEORY OF FINITE TEMPERATURE JOSEPHSON
CURRENT THROUGH A FERROMAGNETIC-INSULATOR**

S. Nakamura¹, S. Souma¹, M. Ogawa¹, S. Kawabata²

(¹Kobe University, ²National Institute of Advanced Industrial Science and Technology)

**FDP-3 NUMERICAL SIMULATION ABOUT NANO-FABRICATED
JOSEPHSON JUNCTION OF ANISOTROPIC SUPERCONDUCTORS**

H. Suematsu¹, N. Hayashi¹, M. Machida²

(¹Osaka Prefecture University, ²Japan Atomic Energy Agency)

**FDP-4 TERAHERTZ ELECTROMAGNETIC RADIATION FROM
Bi₂Sr₂CaCu₂O_y INTRINSIC JOSEPHSON JUNCTION STACK**

D. Oikawa, A. Irie, K. Yamaki, G. Oya (Utsunomiya University)

**FDP-5 FABRICATION OF SINGLE-CRYSTAL FILMS BY
MOLECULAR BEAM EPITAXY FOR SUPERCONDUCTING TUNNEL
JUNCTIONS**

S. Ariyoshi¹, T. Hamao², T. Taino², K. Koga^{1,3}, N. Furukawa¹, C. Otani^{1,3}

(¹RIKEN, ²Saitama University, ³Tohoku University)

**FDP-6 TWO-DIMENSIONAL ARRAYS OF SUPERCONDUCTING
STRIPS FOR DC MAGNETIC METAMATERIALS**

Y. Mawatari¹, C. Navau², A. Sanchez², N. del-Valle², D.-X. Chen²

(¹National Institute of Advanced Industrial Science and Technology,

²Universitat Autònoma de Barcelona)

**FDP-7 DESIGN AND FABRICATION OF CENTER FREQUENCY
AND BANDWIDTH TUNABLE HTS FILTER**

N. Sekiya¹, S. Ohshima² (¹University of Yamanashi, ²Yamagata University)

**FDP-8 IMPROVEMENT OF POWER HANDLING CAPABILITY
AND OUT-BAND REJECTION FOR HTS STRIPLINE FILTER WITH
SHUTTLE-SHAPED RESONATOR**

T. Horiuchi¹, N. Sekiya¹, S. Kakio¹, S. Ohshima²

(¹University of Yamanashi, ²Yamagata University)

**FDP-9 INFLUENCE OF COUPLING STATE ON POWER
HANDLING CAPABILITY OF SUPERCONDUCTING TRANSMIT
FILTERS USING STRIPLINE STRUCTURE**

N. Sekiya¹, M. Nagao¹, S. Kakio¹, A. Saito², S. Ohshima² (¹University of Yamanashi,

²Yamagata University)

**FDP-10 POWER HANDLING CAPABILITY IMPROVEMENT OF HTS
TRANSMIT FILTER WITH DOUBLE-LAYER COUPLED DUAL-MODE
RESONATOR AND FEED LINE**

N. Imai¹, N. Sekiya¹, S. Kakio¹, S. Ohshima²

(¹University of Yamanashi, ²Yamagata University)

FDP-11 ENHANCEMENT OF IN-FIELD CRITICAL-CURRENT-DENSITY BY IRRADIATION OF MeV-ENERGY IONS IN YBCO FILMS PREPARED BY METAL ORGANIC DEPOSITION

H. Matsui, H. Ogiso, H. Yamasaki, M. Sohma, I. Yamaguchi, T. Kumagai, T. Manabe
(National Institute of Advanced Industrial Science and Technology)

FDP-12 FABRICATION PROCESS OF YBCO THIN FILM MICROSTRIP LINES STARTING FROM AMORPHOUS FILM

J. Muyari, N. Kobayashi, S. Takahashi, K. Hayashi, A. Saito, S. Ohshima
(Yamagata University)

FDP-13 NUMERICAL INVESTIGATION ON SCANNING PERMANENT MAGNET METHOD: INFLUENCE OF CRACK ON RESOLUTION AND ACCURACY

T. Takayama¹, A. Saitoh², A. Kamitani¹ (¹Yamagata University, ²University of Hyogo)

FDP-14 LARGE-AREA YBCO FILMS WITH LOW- R_s PREPARED BY EXCIMER-LASER-ASSISTED MOD (ELAMOD) ON SAPPHIRE SUBSTRATES

M. Sohma¹, T. Tsuchiya¹, I. Yamaguchi¹, H. Matsui¹, T. Kumagai¹, T. Manabe¹, K. Terao², N. Kitada², R. Sato², T. Nakamura², N. Hirota², T. Ebisawa², H. Ohtsu²
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FDP-15 FABRICARION OF Ca-DOPED REBa₂Cu₄O₈ FILMS BY THE MOLTEN HYDROXIDE METHOD.

S. Funaki, F. Nakayama, Y. Yamada (Shimane University)

FDP-16 SUPERCONDUCTING PROPERTIES OF APC-DOPED YBa₂Cu₃O_{7-x} THIN FILMS ON IBAD-MgO SUBSTRATES

Y. Nakagawa¹, K. Matsumoto¹, M. Yoshizumi², T. Izumi², Y. Shiohara², P. Mele³
(¹Kyushu Institute of Technology, ²Superconductivity Research Laboratory, ISTECC, ³Hiroshima University)

FDP-17 SUPERCONDUCTING PROPERTIES OF BaSnO₃ NANOROD LENGTH CONTROLLED PLD-YBCO THIN FILMS

I. Tanaka¹, P. Mele², K. Matsumoto¹, A. Ichinose³, Y. Yosida⁴, Y. Ichino⁴
(¹Kyushu Institute of Technology, ²Hiroshima University, ³Central Research Institute of Electric Power Industry, ⁴Nagoya University)

FDP-18 FABRICATION OF SUBMICRON Bi-2212 FILMS VIA SEDIMENTATION-DEPOSITION TECHNIQUE

J. I.L. Bugante, B.D. Villaflor, R.V. Sarmago (University of the Philippines)

FDP-19 PREPARATION OF Bi_{1.6}Pb_{0.4}Sr₂Ca₂Cu₃O_{10+δ} FILMS USING SEDIMENTATION PROCESS AND MELT-QUENCH METHOD

J.L. Tacneng, R.V. Sarmago (University of the Philippines)

FDP-20 INFLUENCE OF CRYSTAL GRAIN-BOUNDARY ON IN-FIELD J_c IN YBCO THIN FILMS MEASURED BY THE THIRD HARMONIC VOLTAGE METHOD

K. Okita, Y. Hatanaka, T. Fujiyoshi, T. Sueyoshi (Kumamoto University)

FDP-21 SHIELDING CURRENT ANALYSIS IN HTS FILM CONTAINING CRACKS: APPLICATION TO CONTACTLESS MEASUREMENT METHOD OF CRITICAL CURRENT DENSITY

A. Kamitani¹, T. Takayama¹, S. Ikuno², A. Saitoh³

(¹Yamagata University, ²Tokyo University of Technology, ³University of Hyogo)

FDP-22 STUDY ON THE EFFECT OF POST HEAT TREATMENTS ON Bi-Sr-Ca-Cu-O AND Y-Ba-Cu-O FILMS PRODUCED BY IR Nd:YAG PLD

J.C. de Vero, R.A. Lopez, W.O. Garcia, R.V. Sarmago (University of the Philippines)

FDP-23 FABRICATION OF Bi-2212 FILM ON Ag SUBSTRATE BY DIP-COATING METHOD

J. Xu, M. Li, X. Wang, J. Liu (Northeastern University)

FDP-24 ELECTRON-DOPED $Sr_{1-x}La_xCuO_2$ THIN FILMS GROWN ON $LaAlO_3$ SUBSTRATES WITH AND WITHOUT $Ba_xSr_{1-x}TiO_3$ BUFFER LAYERS

K. Sakuma, H. Akatsuka, K. Ueda, H. Asano (Nagoya University)

FDP-25 EPITAXIAL GROWTH OF HIGH- T_c Fe-Te-Se SUPERCONDUCTING FILMS ON CaF_2 SINGLE CRYSTAL SUBSTRATES

K. Fujita¹, H. Nagayoshi¹, P. Mele², K. Mastumoto¹, Y. Yoshida^{3,4}, A. Ichinose^{4,5}, T. Kiss^{4,6}, M. Mukaida^{4,6} (¹Kyushu Institute of Technology, ²Hiroshima University, ³Nagoya University, ⁴TRIP-JST, ⁵Central Research Institute of Electric Power Industry, ⁶Kyushu University)

FDP-26 EPITAXIAL GROWTH OF Fe-Se AND KFe_2Se_2 SUPERCONDUCTING FILMS BY USING PULSED LASER DEPOSITION AND INTERCALATION TECHNIQUE

H. Nagayoshi¹, K. Fujita¹, P. Mele², K. Matsumoto¹, Y. Yoshida^{3,4}, T. Kiss^{4,5}, M. Mukaida^{4,5}, A. Ichinose^{4,6} (¹Kyushu Institute of Technology, ²Hiroshima University, ³Nagoya University, ⁴TRIP-JST, ⁵Kyushu University, ⁶Central Research Institute of Electric Power Industry)

FDP-27 EPITAXIAL THIN FILMS OF ARSENIC FREE Pnictide SUPERCONDUCTORS GROWN BY MOLECULAR BEAM EPITAXY

A. Buckow, J. Kurian, L. Alff (Darmstadt University of Technology)

FDP-28 MBE GROWTH OF $LaNiBiO_{1-x}$ THIN FILMS

K. Jose, A. Buckow, R. Retzlaff, L. Alff (Technical University of Darmstadt)

FDP-29 MBE GROWTH AND JUNCTION FABRICATION OF $LnFeAs(O,F)$ THIN FILMS

T. Ohno, T. Kawaguchi, H. Uemura, M. Tabuchi, T. Ujihara, Y. Takeda, H. Ikuta (Nagoya University/TRIP-JST)

FDP-30 MICROSTRUCTURES OF Fe11-BASED THIN FILMS ON VARIOUS SUBSTRATES

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FDP-31 SUBSTRATE EFFECT ON SmFeAsO THIN FILMS

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FDP-32 NOISE PROPERTIES OF HIGH-QUALITY FeTe_{0.5}Se_{0.5} THIN FILMS

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FDP-33 COMPARISON OF THE SUPERCONDUCTING PROPERTIES OF NdFeAs(O, F) SUPERCONDUCTING THIN FILMS GROWN ON VARIOUS SUBSTRATES

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FDP-34 MBE GROWTH AND CHARACTERIZATION OF Ba(Fe,Co)₂As₂ AND BaFe₂(As,P)₂ THIN FILMS

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FDP-35 LAYER-NUMBER-CONTROL OF FeTe_{1-x}Se_x BY SCOTCH-TAPE METHOD

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FDP-36 SQUID GRADIOMETER ARRAY SYSTEM FOR NDE OF COATED CONDUCTORS STRIATED INTO 10-FILAMENTARY LINES

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FDP-37 PHASE MAPPING IN SOLAR PANELS USING HIGH-T_c SQUID

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FDP-38 DEVELOPMENT OF A COMPACT MOVING-SAMPLE MAGNETOMETER USING HIGH-T_c SQUID

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FDP-39 DEVELOPMENT OF A HTS-SQUID SYSTEM FOR TISSUE ENGINEERING AND ANIMAL EXPERIMENT

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FDP-40 WIRELESS MODULE TYPE FLUX-LOCKED LOOP CIRCUIT FOR OPERATING HIGH T_c SQUID

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FDP-41 LTS SQUID SYSTEM WITH WIDE PICKUP COIL FOR DETECTING SMALL METALLIC PARTICLE

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FDP-42 HTS PLANAR GRADIOMETER CONSISTING OF SQUID WITH MULTI-TURN INPUT COIL AND LARGE PICKUP COIL MADE OF GdBCO COATED CONDUCTOR

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FDP-43 SQUID MICROSCOPY OBSERVATION OF MAGNETIC FIELD INDUCED ON SOLAR CELL BY LASER SPOT

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FDP-44 NONDESTRUCTIVE EVALUATION OF $\pm 45^\circ$ FLAT BRAIDED CARBON FIBER REINFORCED POLYMERS WITH CARBON NANOFIBERS USING HTS-SQUID GRADIOMETER

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FDP-45 NOISE PROPERTIES OF HTS-SQUID GRADIOMETER IN AN ELEVATED MAGNETIC FIELD

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FDP-46 NON-DESTRUCTIVE TESTING USING SQUID SYSTEM FOR DETECTION OF WHITE LAYER ON RAIL

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FDP-47 NUMERICAL SIMULATION OF SQUID MAGNETOMETER CONSIDERING JOSEPHSON JUNCTION AS EQUIVALENCE CIRCUIT

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FDP-48 ULF-NMR/MRI SYSTEM USING HTS-SQUID AND PERMANENT MAGNET

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FDP-49 IMPROVEMENT OF SIGNAL TO NOISE RATIO OF HTS-rf-SQUID FOR ULTRA-LOW FIELD NMR / MRI BY 77K LC RESONANT CIRCUIT

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FDP-50 ESTIMATION OF A SURFACE RESISTANCE OF YBCO THIN FILMS FOR APPLICATION OF NMR PICK-UP COILS

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FDP-51 FABRICATION OF TiN-MKID_s FOR CMB POLARIZATION OBSERVATIONS

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FDP-52 DIRECT NUMERICAL SIMULATION FOR NON-EQUILIBRIUM TRANSPORT PHENOMENA IN SUPERCONDUCTING DETECTORS

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FDP-53 OPTICAL CHARACTERIZATION OF MgB₂ NANOWIRE WITH VARIOUS DIMENSIONS

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FDP-54 LOW-TEMPERATURE THERMAL CONDUCTANCE OF A PERIODICALLY PERFORATED SILICON NITRIDE MEMBRANE AS A PHONONIC CRYSTAL

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FDP-55 INTEGRATED SINGLE PHOTON DETECTOR AND AMPLIFIER BASED ON SUPERCONDUCTING NANOWIRES

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FDP-56 OPTIMIZATION OF 1×1 mm² SUPERCONDUCTING STRIPLINE DETECTORS (SSLD) FOR TIME OF FLIGHT MASS SPECTROMETERS (TOF MS)

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FDP-57 RESEARCH OF SUPERCONDUCTING MICRO-STRIPLINE DETECTORS FOR TERAHERTZ WAVES

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FDP-58 MALFUNCTION ANALYSIS ON SFQ SHIFT RESISTER CIRCUITS

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FDP-59 SWITCHING-CURRENT MEASUREMENT AND SWITCHING-PROBABILITY MEASUREMENT OF RESONANT PEAKS IN A SUPERCONDUCTING FLUX QUBIT

Y. Shimazu, M. Nakajima, M. Takahashi, N. Okamura, K. Yoshiyama
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FDP-60 EFFECT OF CHARGING ENERGY ON CRITICAL CURRENT OF DC-SQUID COMPRISING TWO SUB-MICRON ALUMINUM JOSEPHSON JUNCTIONS

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FDP-61 COOLED Cu PICKUP COIL COUPLED TO HTS SQUID FOR HIGH SENSITIVE MEASUREMENT OF AC MAGNETIC FIELD

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