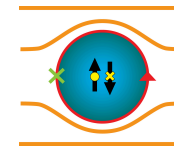


Technical Program

**8th Workshop on the Mechanical and Electromagnetic Properties
of Composite Superconductors
March 21-23, 2016
Tallahassee, Florida, USA**

Sponsored by:



MEM 2016 - March 21 - 23, 2016, Tallahassee, FL, USA

Monday, March 21

Time	Minutes	Last	First	Affiliation	Title
8:00	5				Opening remarks

Session 1 Magnet drivers and general aspects - Chair: Danko van der Laan (Advanced Conductor Technologies)

8:05	30	Dixon	Iain	NHMFL	Mechanical Design of the Superconducting Outsert Coil of the 26 T and 36 T Series-Connected Hybrid Magnets
8:35	30	Felice	Helene	CEA-Saclay	Mechanical design of Nb3Sn accelerator magnets: A review
9:05	30	Kirby	Glyn	CERN	Challenges in mechanical and electrical design of EUCARD2 HTS insert

9:35 20 Coffee

Session 2 Cables - Chairs: Arno Godeke (NHMFL) and David Larbalestier (NHMFL)

9:55	30	Oguro	Hidetoshi	Tohoku University	Mechanical and superconducting properties of CuNb reinforced Nb3Sn superconducting wires and Rutherford cables
10:25	20	Sanabria	Carlos	NHMFL	The Importance of Strand Surface Roughness in Long Twist Pitch ITER Conductors as Revealed by Metallography
10:45	30	van der Laan	Danko	Advanced Conductor Technologies	Achievements in CORC cables made possible by proper strain management
11:15	20	Long	Nick	Univ. of Wellington	Critical current retention of potted and unpotted REBCO Roebel cables with transverse pressure
11:35	20	Molodyk	Alexander	SuperOx	"Punch-and-Coat": a novel approach to mechanically strong 2G HTS Roebel cables

11:55 90 Lunch

13:25	30	Bykovsky	Nikolay	PSI Villingen	Performance evolution of 60 kA HTS cable prototypes in EDIPO test facility
13:55	20	Weiss	Jeremy	Advanced Conductor Technologies	Enhanced flexibility of round HTS CORC™ wires for high-field magnet applications
14:15	20	Konstantopoulou	Konstantina	CERN	Electro-mechanical characterization of MgB2 wires for the Superconducting Link Project at CERN
14:35	20	Solovyov	Vyacheslav	Brookhaven Technology Group	Electrical and mechanical properties bundles of exfoliated YBCO filaments

14:55 20 Coffee

15:15	30	Dhalle	Marc	University of Twente	REBCO Roebel cables under high transverse stress
15:45	20	Wolf	Michael	KIT	Progress in HTS CrossConductor fabrication and characterization

Session 3 Parametric studies and modeling - Chair: Damian Hampshire (Durham University)

16:05	30	Nijhuis	Arend	University of Twente	Optimization of superconductors for fusion
16:35	20	Yagotintsev	Konstantin	University of Twente	Electro mechanical modeling of CORC, CroCO and Twisted Stacked REBCO conductors
16:55	20	Raine	Mark	Durham University	An overview of Durham's facilities, their role in ITER and a detailed comparison of their Nb3Sn verification test results with those of the strand manufacturers'

Tuesday, March 22

Time	Minutes Last	First	Affiliation	Title
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Session 4 LTS and BSCCO wires and tapes - Chairs: Kozo Osamura (RIAS) and Arend Nijhuis (University of Twente)

8:00	30	Cheggour	Najib	NIST	The Strain Irreversibility Cliff in Nb3Sn RRP Wires and its Ramifications
8:30	20	Brown	Michael	NHMFL	Correlation of filament distortion and RRR degradation in drawn and rolled PIT and RRP Nb3Sn wires
8:50	30	Osabe	Goro	SEI	Development of high strength Ag sheath Bi-2223 wire
9:20	20	Kitaguchi	Hitoshi	NIMS	High field performance of high strength Bi-2223 HTS tape at 4.2 K
9:40	20	Marshall	Scott	NHMFL	Investigation of the strain limit of Bi-2223 Type HT-NX conductor and its impact on high field coil design
10:00	20	Coffee			
10:20	30	Shen	Tengming	LBNL	Strain effect of Ag/Bi2212 wires and its impact on quench protection
10:50	20	Otto	Alexander	SMS	Development and Production of Long-Length, Strong Bi2212 Wires for High-Field Magnets
11:10	20	Boebinger	Matt	GA Tech and NHMFL	Examination of the Effects of Composition and Heat Treatment on the hardness of Ag/Mg and Ag/Al Sheaths of Bi-2212 wires
11:30	20	Sanaia	Ekaterine	Iliia Vekua Sukhumi Inst. of Physics and Technology	Fabrication of MgB2 targets

11:50	55	Lunch			
12:45	15	Board bus			
13:00	30	Bus to Wakula Springs			
13:30	110	Tour of Wakula Springs			
15:20	10	Board bus			
15:30	30	Bus to NHMFL			
16:00	120	Tour of NHMFL			
18:00	60	Bus to Double Tree hotel and preparation for dinner			
19:00		Dinner Harry's of Tallahassee (short walk from Double Tree hotel)			

Wednesday, March 23

Time Minutes Last First Affiliation Title

Session 5 Microscopic studies of strain effects - Chair: Satoshi Awaji (Tohoku University)

8:00	30	Osamura	Kozo	RIAS	Non-invasive Measurements of Local Strain in Practical Superconducting Wires
8:30	20	Hampshire	Damian	Durham University	Flux flow along Channels in High-Field Superconductors under Strain
8:50	20	Machiya	Shutaro	Daido University	Recent Progress of Local Strain Measurements in Practical Superconducting Wires and Conductors using Quantum Beam Techniques
9:10	20	Scheuerlein	Christian	CERN	Crystallographic changes in different types of Powder-in-Tube superconductors under application of external stress

9:30 20 Coffee

Session 6 REBCO coated conductors - Chairs: Yifei Zhang (Superpower) and Hyung-Seop Shin (Andong National University)

9:50	30	Zhang	Yifei	Superpower	Detailed studies of tensile and delamination properties of REBCO coated conductors
10:20	20	Polyanskii	Anatolii	NHMFL	Magneto-Optical (MO) and SEM/FIB characterization of defected structure in IBAD-MOCVD tapes for cable and magnet applications
10:40	20	Awaji	Satoshi	Tohoku University	Axial strain effects of superconducting properties in de-twinned RE123 coated conductors
11:00	20	Gorospe	Alking	Andong Nat. Univ.	Critical current degradation behavior of GdBCO CC tapes subjected under torsion and tension-torsion loading
11:20	20	Hu	Xinbo	NHMFL	Reel-to-Reel Studies of Supercurrent Variation in Coated Conductors
11:40	20	Osamura	Kozo	RIAS	Stress-Strain Relation and Tensile Stress Dependence of Critical Current of Practical REBCO Wires

12:00 90 Lunch

13:30	30	Shin	Hyung-Seop	Andong Nat. Univ.	Electromechanical investigation of resistive REBCO coated conductor joints with low joint resistance
14:00	20	Rogers	Samuel	NCSU	Fatigue Properties of IBAD-MOCVD YBa ₂ Cu ₃ O _{7.3x} /Hastelloy Coated Conductor
14:20	20	Scheuerlein	Christian	CERN	Electromechanical behaviour of REBCO tape lap splices under transverse
14:40	20	Walsh	Robert	NHMFL	Tensile and fatigue characterization of production YBCO conductors and joints for use in NHMFL 32 T All Superconducting Magnet

15:00 20 Coffee

Session 7 VAMAS, Standards, Benchmarks, and Special Characterizations - Chair: Bob Walsh (NHMFL)

15:20	30	Nishijima	Gen	NIMS	Overview of VAMAS TWA 16 activities for HTS conductor tests
15:50	30	Hellstrom	Eric	NHMFL	The US national Bi-2212 program
16:20	30	Maiorov	Boris	LANL	Measuring superconductors in pulsed magnetic fields
16:50	30	Lee	Peter	NHMFL	Highlights from 20 Years of Quantitative Microscopy on Superconducting Materials
17:20	20	Bagrets	Nadezda	KIT	Preparation of RRT for Tensile Test on REBCO and BSCCO Tapes at Cryogenic Temperature

17:40 20 Closing