MT-28 International Conference on Magnet Technology

Aix-en-Provence, France, 10-15 September 2023

Grand Théâtre de Provence
Pavillon Noir
Conservatoire Darius Milhaud

AIX-EN-PROVENCE

Secrétariat Logistique • AOS Event
mail: mt28@aosevent.com

AOS Congrès Événements

SUMITOMO ELECTRIC

IF JAPAN FARADAY FACTORY

INTRODUCTION

The 28th International Conference marks our return to a full in-presence meeting in the traditional format following the break in 2021.
We are pleased to welcome you to Aix-en-Provence where we expect the conference to achieve close to a record number of attendees and paper submissions. We have chosen a site close to the old town of Aix and the conference venues are distributed over several adjacent locations in a pedestrian area and it is an easy walk to cafes and restaurants in the old town.
At this conference we are introducing for the first time at MT some special topical sessions, of interest to wide audiences, on subjects associated with magnets, and we will provide plenaries that include multiple perspectives on future directions of the technical topic.
We have an extensive industrial exhibition including companies working on application of the latest developments in magnets and superconductivity.
We are offering an opportunity to visit the ITER site where, because it is an active construction site with limits to the number of visitors at any time, we have to distribute the tour buses throughout the week. We have also prepared an active social program.

I hope you have an enjoyable and stimulating week with us in Aix!

Neil MITCHELL

Conference Chairman

SUMMARY

All abstracts can be viewed from the website detail program

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ABOUT AIX-EN-PROVENCE

Aix-en-Provence

The City of Thousand Fountains and home of Cézanne

A slow-paced lifestyle and sultry Provençal charm make Aix-en-Provence an appealing tourist destination. Bathed in the sunshine of its wonderful climate, Aix-en-Provence reveals its beauty in tree-lined streets and stately squares. In summer, it's easy to while away the hours of languid days at leafy parks or shaded sidewalk cafés, and balmy evenings allow you to experience the art de vivre with leisurely meals on restaurant terraces.

Aix-en-Provence has an elegance that reflects its noble heritage. Known as the «City of Counts» because the Counts of Provence once lived here, Aix-en-Provence has several impressive old aristocratic palaces. There are also hundreds of fountains: Aix-en-Provence is called the «City of a Thousand Fountains.»

Aix-en-Provence also was the birthplace of Post-Impressionist painter Paul Cézanne. A walking trail links sites including his childhood home, Jas de Bouffan, and his former studio, Atelier Cézanne. The white limestone mountain Sainte-Victoire overlooking the city as well as the surrounding countryside were frequent subjects of his works.

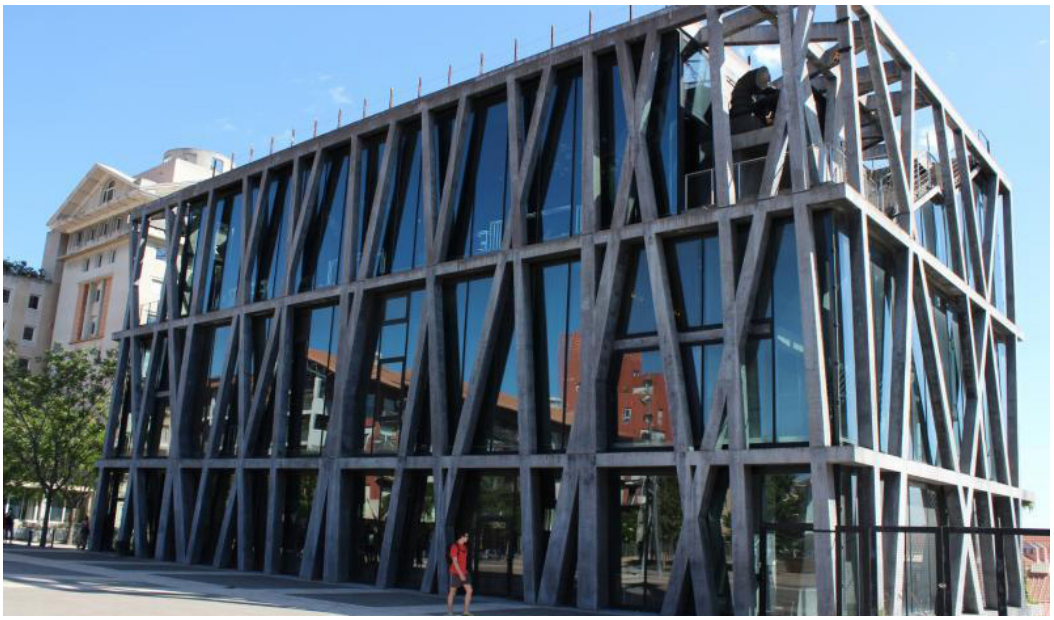
PRACTICAL INFO - VENUES

GRAND THEATRE DE PROVENCE
380 avenue Max Juvénal - Aix-en-Provence

CONSERVATOIRE DARIUS MILHAUD
380, Avenue Wolfgang Amadeus Mozart - Aix en Provence

PRACTICAL INFO - VENUES

PAVILLON NOIR
530 Avenue Mozart - Aix-en-Provence

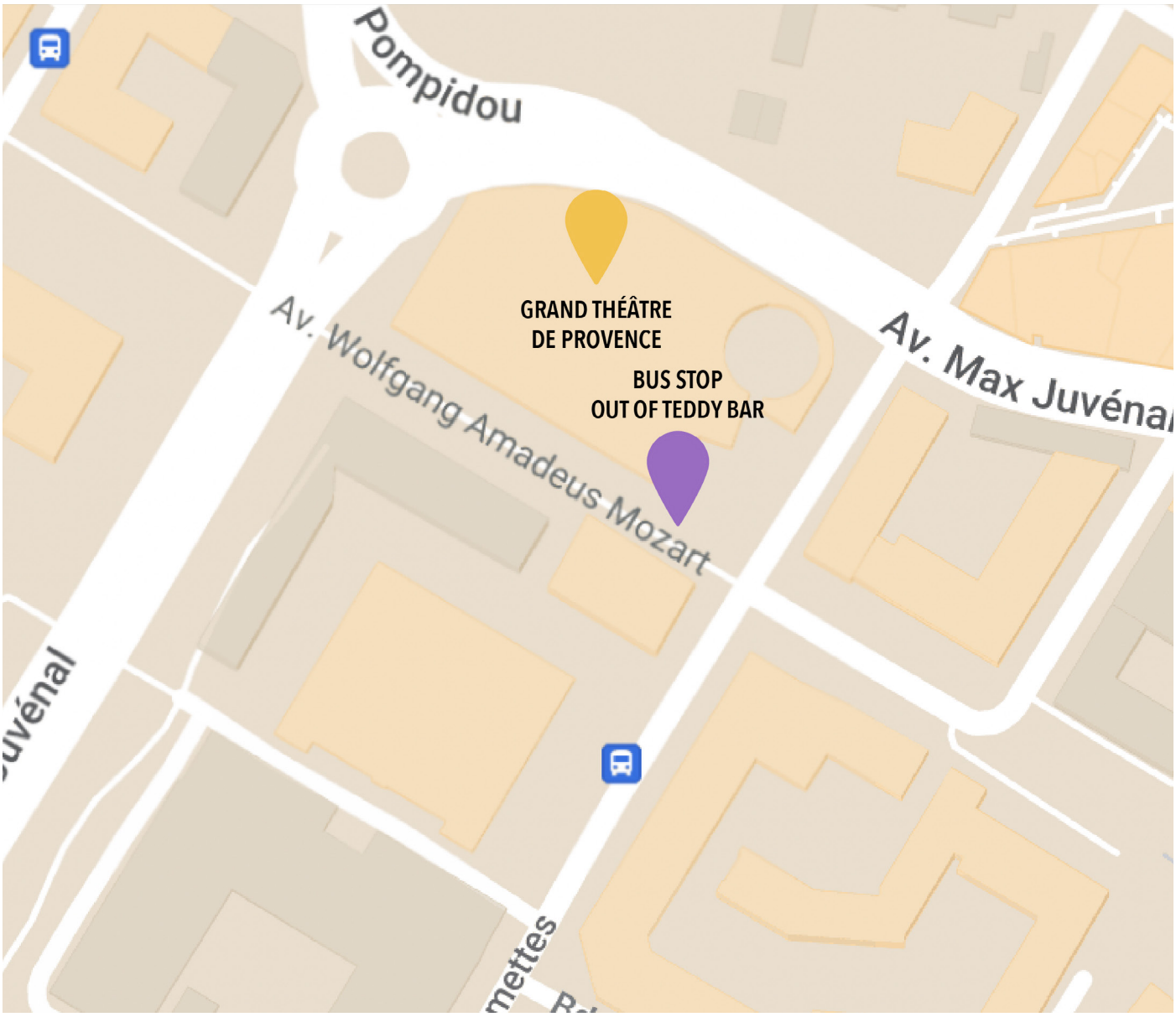


MANUFACTURE
8/10 rue des Allumettes - Aix-en-Provence

ITER TOURS

INSTRUCTIONS

- Please carry a valid ID on you – this could either be a EU-issued (Schengen) ID card or a passport but the SAME ID that was used to register is required for all the tours. Copies of ID documents, driving licenses or professional badges are not accepted. Please remember to respect the dress code for the visit at ITER: wear long trousers - shorts, dresses or skirts are not permitted. Also, flat, closed shoes are required – open shoes or high heels are not allowed.
- Be at the BUS STOP (see below map) at least 15 minutes prior the actual departure time.
- Only light shoulder bags will be permitted.



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Supergenics	X		
SWIP	X		
TESLA Engineering Ltd		X	
Theva	X		
Western Superconducting Technologies	X		
YiChun Longteng Mechanical and Electrical	X		

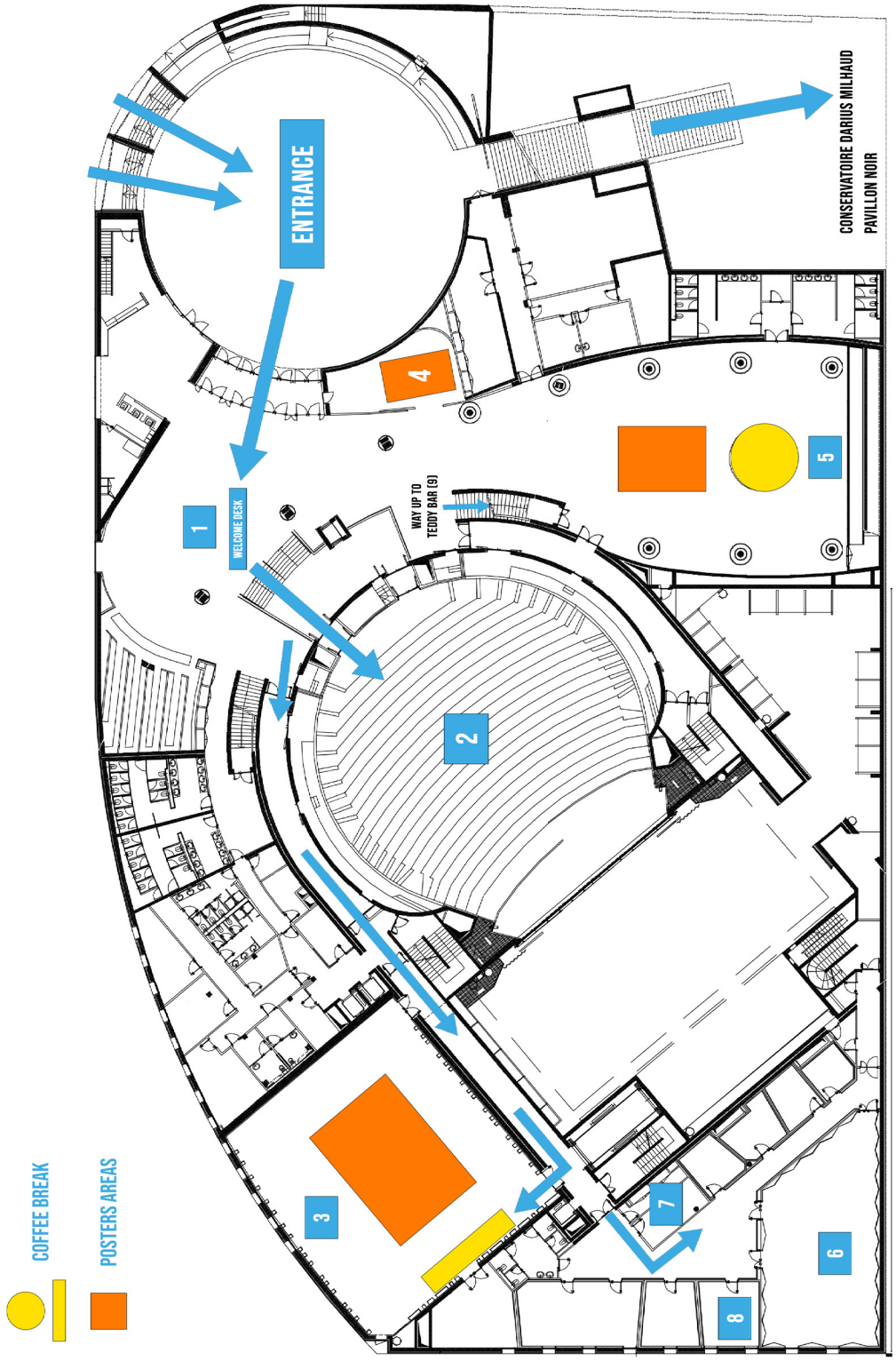
ACCESS MAP


Pompidou
GRAND THÉÂTRE
DE PROVENCE
Av. Wolfgang Amadeus
Av. Max Juvénal
CONSERVATOIRE
DARIUS MILHAUD
PAVILLON
NOIR
LA MANUFACTURE
Av. Max Juvénal
Rue des Allumettes
Bd Victor Coq
PARKING MÉJANES
Av. de l'Europe

CONGRESS MAP

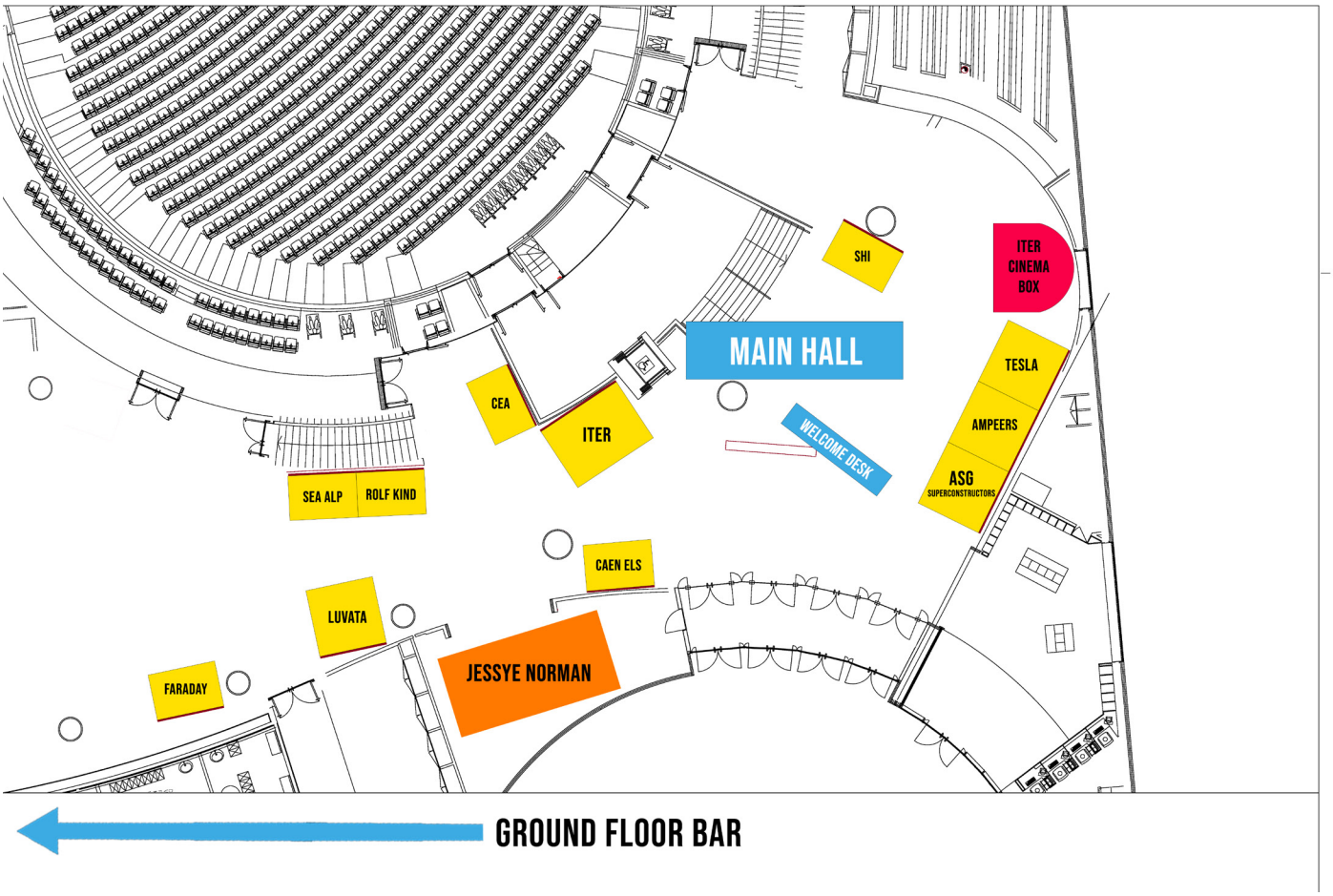
Grand Théâtre de Provence - Main view

1 - Main hall
2 - Amphithéâtre
3 - Big One (BO)
4 - Jessye Norman (JN)
5 - Ground Floor Bar (GF)
6 - Studio 1
7 - Conference Help Desk
8 - Preview Room
9 - Teddy Bar (2nd floor)



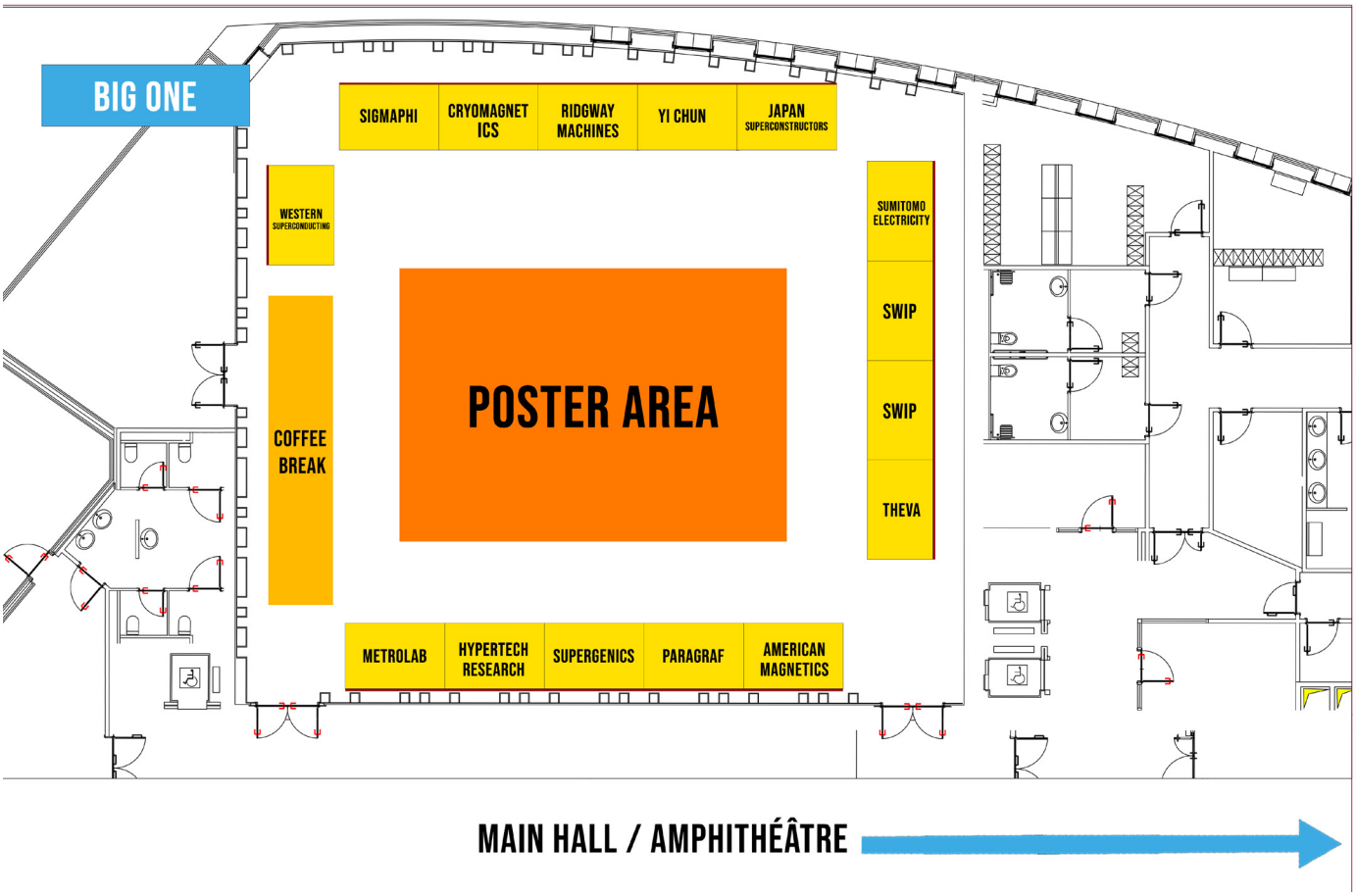
CONGRESS MAP

Grand Théâtre de Provence - Main Hall



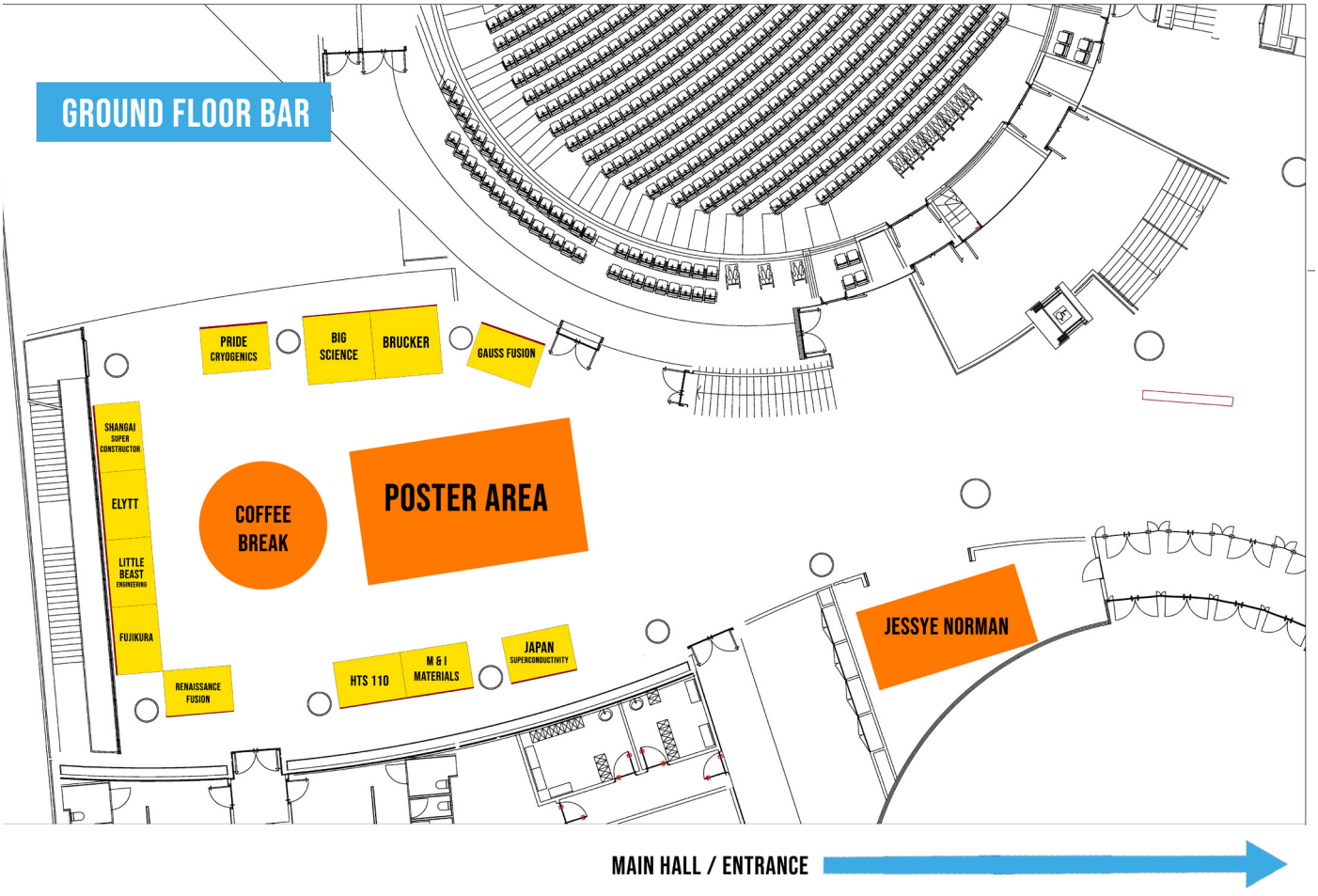
CONGRESS MAP

Grand Théâtre de Provence - Big One (BO)



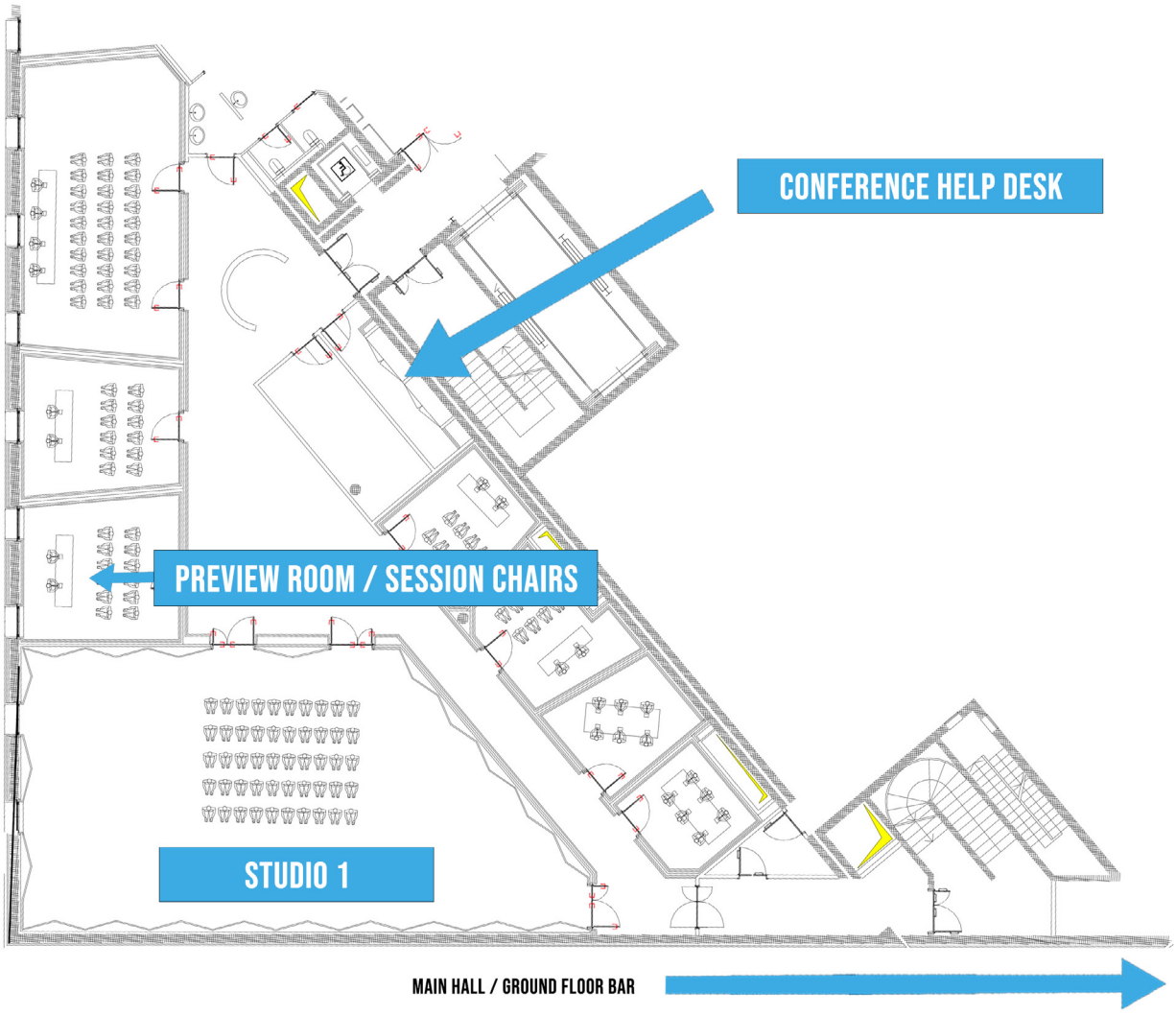
CONGRESS MAP

Grand Théâtre de Provence - Ground Floor Bar (GF) / Jessye Norman (JN)



CONGRESS MAP

Grand Théâtre de Provence - Studio 1 / Conference Help Desk / Preview Room - Session Chairs



SYNOPSIS

SEPTEMBER 10TH, 2023, P.27

	ITER SITE Saint Paul Les Durance	Grand Théâtre	Grand Théâtre Rooftop Terrace
09:00 - 10:00	Tour Premium		
10:00 - 11:00			
11:00 - 12:00			
12:00 - 13:00			
13:00 - 14:00			
14:00 - 15:00			
15:00 - 16:00			
16:00 - 17:00		Registration	
17:00 - 18:00			
18:00 - 19:00			
19:00 - 20:00			Conference Opening Reception
20:00 - 21:00			
21:00 - 22:00			

SYNOPSIS

SEPTEMBER 11TH, 2023, P.28 - P.45

	Grand Théâtre *Amphithéâtre*	Grand Théâtre *Studio 1*	Grand Théâtre *Big One Ground Floor Bar Jessye Norman*	Pavillon noir *Amphithéâtre*	Conservatoire *Amphithéâtre*	Events
08:00 - 08:15	Opening Session					
08:15 - 08:30						
08:30 - 08:45	1PL - ITER Project Status					
08:45 - 09:00						
09:00 - 09:15						
09:15 - 09:30	IEEE Awards					
09:30 - 09:45						
09:45 - 10:00			1PoM Poster sessions			Coffee Break Ground Floor Bar & Big One
10:00 - 10:30						
10:30 - 10:45						
10:45 - 11:00						
11:00 - 11:30	1OrM1 Accelerator Magnets Systems - Plan and Progress			1OrM2 - Magnets for Power and Energy - Applications I	1OrM3 Test Facilities for Fusion	
11:30 - 12:00						
12:00 - 12:30						
12:30 - 13:00						
13:00 - 13:30						IEEE Award lunch (by invitation), Aquabella Lunch break*
13:30 - 14:00						
14:00 - 14:30		ROXIE users meeting				
14:30 - 15:00						
15:00 - 15:30			1PoA Poster sessions			Coffee Break Ground Floor Bar & Big One
15:30 - 15:45						
15:30 - 16:00						Tour Regular ITER Site *St Paul Lez Durance*
16:00 - 16:30	1OrA1 - High Field Magnets - REBCO Technologies			1OrA2 - Nb3Sn Conductors	1OrA3 - Magnets for Power and Energy - Applications II	
16:30 - 17:00						
17:00 - 17:30						
17:30 - 18:00						
18:00 - 18:30						

** Prepaid lunch boxes available during lunch break at Teddy Bar, 2nd floor*

SYNOPSIS

SEPTEMBER 12TH, 2023, P.46 - P.65

	Grand Théâtre *Amphithéâtre*	Grand Théâtre *Studio 1*	Grand Théâtre *Big One Ground Floor Bar Jessye Norman*	Pavillon noir *Amphithéâtre*	Conservatoire *Amphithéâtre*	Events
08:00 - 08:15	Announcements					
08:15 - 08:30	2PL How super-conducting technology can hasten carbon neutrality?					
08:30 - 08:45						
08:45 - 09:00						
09:00 - 09:15						
09:15 - 09:30						
09:30 - 09:45						
09:45 - 10:00	Women in Fusion Special Session		2PoM Poster sessions			Coffee Break Ground Floor Bar & Big One
10:00 - 10:30						
10:30 - 10:45						
10:45 - 11:00						
11:00 - 11:30		2OrSM Conductors and Novel Technology		2OrM2 - Present and Future Accelerator Magnets, Quench Studies	2OrM3 - Hybrid and Pulsed Magnets	
11:30 - 12:00	2OrM1 - Large Fusion Projects - Progress I					
12:00 - 12:30						
12:30 - 13:00						
13:00 - 13:30						WiF lunch (by registration), Teddy Bar Lunch Break*
13:30 - 14:00		Short Courses HEP				
14:00 - 14:30						
14:30 - 15:00			2PoA Poster sessions			
15:00 - 15:30		ASG Superconductord WORKSHOP				Coffee Break Ground Floor Bar & Big One
15:30 - 15:45						
15:45 - 16:00						Tour Regular ITER Site *St Paul Lez Durance*
16:00 - 16:30	2OrA1 Special Session ScGA			2OrA2 - Large Fusion Projects - Progress II	2OrA3 - High Luminosity LHC	
16:30 - 17:00						
17:00 - 17:30						
17:30 - 18:00						
18:00 - 18:30						
18:30 - 19:00						Concert Conservatoire
19:00 - 19:30						Exhibitors Reception La Manufacture
19:30 - 22:00						

** Prepaid lunch boxes available during lunch break at Teddy Bar, 2nd floor*

SYNOPSIS

SEPTEMBER 13TH, 2023, P.67 - P.85

	Grand Théâtre *Amphithéâtre*	Grand Théâtre *Studio 1*	Grand Théâtre *Big One Ground Floor Bar Jessye Norman*	Pavillon noir *Amphithéâtre*	Conservatoire *Amphithéâtre*	Events
08:00 - 08:15	Announcements					
08:15 - 08:30	3PL - High Energy Physics					
08:30 - 08:45						
08:45 - 09:00						
09:00 - 09:15						
09:15 - 09:30						
09:30 - 09:45						
09:45 - 10:00			3PoM Poster sessions			
10:00 - 10:30						Coffee Break Ground Floor Bar & Big One
10:30 - 10:45						
10:45 - 11:00						
11:00 - 11:30	3OrM1 - Accelerator Magnets - High Field			3OrM2 - Large Fusion Projects - Progress III	3OrM3 - HTS Coils and Magnets	
11:30 - 12:00						
12:00 - 12:30						
12:30 - 13:00						
13:00 - 13:30						Editor lunch (by invitation), Aquabella Lunch Break*
13:30 - 14:00		Short Courses MRI				
14:00 - 14:30						
14:30 - 15:00			3PoA Poster sessions			
15:00 - 15:30						Coffee Break Ground Floor Bar & Big One
15:30 - 15:45						
15:45 - 16:00						
16:00 - 16:30	3OrA1 - Special Session: High Voltage Challenges in Magnets	3OrSA Detector Magnets		3OrA2 - High Field Magnets - Test Facility and Test Coils	3OrA3 - Fusion Magnets - Conductors	Tour Regular ITER Site *St Paul Lez Durance*
16:30 - 17:00						
17:00 - 17:30						
17:30 - 18:00						
18:00 - 18:30						

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SYNOPSIS

SEPTEMBER 14TH, 2023, P.86 - P.105

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08:00 - 08:15	Announcements					
08:15 - 08:30	4PL - Very high field MRI: scientific and industrial perspectives					
08:30 - 08:45						
08:45 - 09:00						
09:00 - 09:15						
09:15 - 09:30						
09:30 - 09:45						
09:45 - 10:00			4PoM Poster sessions			Coffee Break Ground Floor Bar & Big One
10:00 - 10:30						
10:30 - 10:45						
10:45 - 11:00						
11:00 - 11:30		4OrSM - Fusion Magnets - Conductors and Engineering Analysis		4OrM2 - Accelerator Magnets - Design and Analysis II	4OrM3 - Special Session: Fiber Optics and Quench Detection	
11:30 - 12:00	Student Competition & Awards					
12:00 - 12:30						
12:30 - 13:00						
13:00 - 13:30						Lunch break, Teddy Bar*
13:30 - 14:00		Short Courses Magnet for fusion				
14:00 - 14:30						
14:30 - 15:00			4PoA Poster sessions			
15:00 - 15:30						Coffee Break Ground Floor Bar & Big One
15:30 - 15:45						
15:45 - 16:00						Tour Regular ITER Site *St Paul Lez Durance*
16:00 - 16:30	4OrA1 - Medical Applications			4OrA2 - High Field HTS Magnets and Joints	4OrA3 - Magnets for Power and Energy	
16:30 - 17:00						
17:00 - 17:30						
17:30 - 18:00						
18:00 - 18:30						
18:30 - 19:00						
19:00 - 19:30						Conference Dinner Rooftop Terrace
19:30 - 22:00						

** Prepaid lunch boxes available during lunch break at Teddy Bar, 2nd floor*

SYNOPSIS

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	Grand Théâtre *Amphithéâtre*	Grand Théâtre *Big One Ground Floor Bar Jessye Norman*	Pavillon noir *Amphithéâtre*	Conservatoire *Amphithéâtre*	Events
08:00 - 08:15	Announcements				
08:15 - 08:30	5PL - Special Forum: Alternative Paths to Commercial Fusion				
08:30 - 08:45					
08:45 - 09:00					
09:00 - 09:15					
09:15 - 09:30					
09:30 - 09:45					
09:45 - 10:00		5PoM Poster sessions			Coffee Break Ground Floor Bar & Big One
10:00 - 10:30					
10:30 - 10:45					
10:45 - 11:00					
11:00 - 11:30	5OrM1 - REBCO Coated Conductors, Cables, and their Characterization		5OrM2 - Accelerator Magnets - Nb3Sn	5OrM3 - Fusion Magnets - Quench Protection	
11:30 - 12:00					
12:00 - 12:30					
12:30 - 13:00					
13:00 - 13:30	Closing Session				
13:30 - 14:00					
14:00 - 14:30					Tour Regular ITER Site *St Paul Lez Durance*
14:30 - 15:00					
15:00 - 15:30					
15:30 - 16:00					
16:00 - 16:30					
16:30 - 17:00					
17:00 - 17:30					
17:30 - 18:00					
18:00 - 18:30					

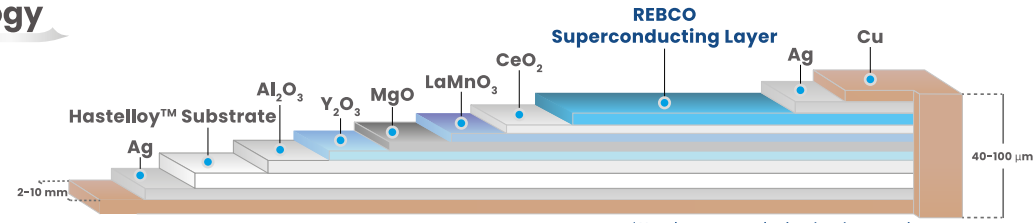
2G HTS Tapes
(REBCO)

上海超导™
SHANGHAI SUPERCONDUCTOR

Our Company

Shanghai Superconductor Technology Co., Ltd. (SST) employs pulsed laser deposition techniques for mass production of cost-effective REBCO tapes. The products demonstrate superior mechanical properties and high critical current densities over a broad range of temperatures and magnetic field strengths. As a result, SST products have been deployed in transportation, power utilities, high energy physics research and fusion sectors and successfully manifested stable and competent performances.

Our Technology



*Not drawn to scale; lamination not shown.

Post-processing

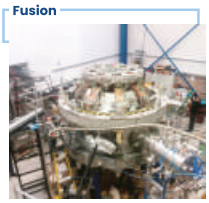
Copper plating | Copper lamination | SS304 lamination | Insulation

Our Applications

Fusion

Commonwealth Fusion Systems
4mm wide HTS tapes with copper-plating

Fusion



Tokamak Energy
10mm wide HTS tapes with copper-plating + Sn coating

1.2km HTS cable demonstration in Shanghai

State Grid/SECRI
4.8mm wide HTS tapes with copper lamination

400m HTS cable demonstration in Shenzhen

Guangdong Grid
4.8mm wide HTS tapes with copper lamination

220 kV AC Current limiter

ZhongTian Technology
12mm wide HTS tapes with SS304 lamination

160 kV DC Current limiter

Guangdong Grid
12mm wide HTS tapes with SS304 lamination

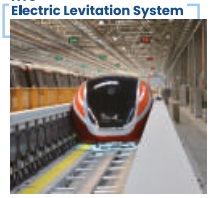
19.4T High Field Magnet

CAS IPP
4mm wide HTS tapes with copper plating

24.1T High Field Magnet

CAS IPP
4mm wide HTS tapes with copper plating & 4.8mm wide HTS tapes with copper lamination

HTS Electric Levitation System



CRRC
6mm wide HTS tapes with copper lamination

HTS Induction Heater

Lianovation
4.8mm wide HTS tapes with copper lamination

Web: www.shsctec.com

Bai Song
bai.song@shsctec.com

SEPTEMBER 10TH, 2023

EVENTS

09:00 - 16:00
Tour Premium - *ITER Site, Saint Paul Lez Durance*

16:00 - 19:00
Registration - *Grand Théâtre*

19:00 - 22:00
Conference Opening Reception - *Grand Théâtre, Rooftop Terrace*

SEPTEMBER 11TH, 2023

EVENTS

13:00 - 14:30
IEEE Award Lunch (by invitation) - *Aquabella hotel, Aix-en-Provence*
Lunch Break

09:45 - 10:45 / 15:00 - 15:45
Coffee Breaks - *Ground Floor Bar (GF) & Big One (BO)*
Sponsored by **Faraday Factory & Shi Cryogenics**

15:30 - 18:30
Tour Regular - *ITER Site, Saint Paul Lez Durance*

14:00 - 16:00
Exhibits - *Ground Floor Bar (GF) & Big One (BO)*

ORAL SESSIONS

08:00 - 08:30 **Opening Session**

08:30 - 09:15 **1PL - ITER Project Status**

Session chairs: Thierry SCHILD, Min LIAO
Session location: Grand théâtre - Amphithéâtre

08:30 Invited - ITER project status · 1PL-1
Yutaka KAMADA, ITER Organization, St Paul Lez Durance, FRANCE

09:15 - 09:45 **IEEE Awards**

11:00 - 13:00 **1OrM1 - Accelerator Magnets Systems - Plan and Progress**

Session chairs: Herman TEN KATE, Bruce STRAUSS
Session location: Grand théâtre - Amphithéâtre

11:00 Magnets for a Muon Collider – Needs and Plans · 1OrM1-1
Luca BOTTURA, CERN, Meyrin, SWITZERLAND

11:15 Progress of the High Field Magnet Program for Next-generation High-energy Accelerators · 1OrM1-2
Qingjin XU, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

11:30 Enabling the next generation of facilities for particle physics · 1OrM1-3
Stephen GOURLAY, Fermi National Accelerator Laboratory, Batavia, USA

11:45 Winding and test results of a hard-way bend free ReBCO cloverleaf type of accelerator coil demonstrator · 1OrM1-5
Thomas NES, University of Twente, Enschede, THE NETHERLANDS

12:00 Curved-Canted-Cosine-Theta (CCCT) Dipole Prototype Development at CERN · 1OrM1-6
Ariel HAZIOT, CERN, Geneva, SWITZERLAND

12:15 Design, Procurement, and Manufacturing of R2D2, the Research Racetrack Dipole Demonstrator · 1OrM1-7
Etienne ROCHEPAULT, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

12:30 PENeLOPE - magneto-gravitational storage of neutrons · 1OrM1-8
Ruediger PICKER, TRIUMF, Vancouver, CANADA

12:45 Fabrication, testing, and installation of the first Nb3Sn-based undulator at the Advanced Photon Source · 1OrM1-9
Ibrahim KESGIN, Argonne National Laboratory, Lemont, USA

16:00 - 18:00 1OrA1 - High Field Magnets - REBCO Technologies

Session chairs: Seungyong HAHN, Thibault LÉCREVISSE
Session location: Grand théâtre - Amphithéâtre

16:00 Conceptual design and preliminary tests for 33 T cryogen-free magnet REBCO insert · 1OrA1-1
Arnaud BADEL, CNRS, Grenoble, FRANCE

16:15 Quench protection of stacks of no-insulation HTS pancake coils by capacitor discharge · 1OrA1-2
Tim MULDER, CERN, Meyrin, SWITZERLAND

16:30 The quench analysis of a 13 T no-insulation YBCO superconducting magnet based on ADI method · 1OrA1-3
Hengkang ZHENG, Huazhong University of Science and Technology, Wuhan, CHINA

16:45 Conceptual Design of a 30-T High-Temperature Superconducting Magnet for Scanning Tunneling Microscope · 1OrA1-4
Yi LI, Princeton Plasma Physics Laboratory, Princeton, New Jersey, USA

17:00 A novel and coupled Electro-Magnetic and Electro-Thermal model for metal-insulated high field magnets · 1OrA1-5
Anang DADHICH, Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, SLOVAKIA

17:15 Mechanical modeling of non-insulated REBCO high-field magnets with screening currents and thermal stress · 1OrA1-6
Arpit Kumar SRIVASTAVA, Institute of Electrical engineering, Slovak Academy of Sciences, Bratislava, SLOVAKIA

17:30 Control of turn-to-turn contact resistivity for resistive insulated REBCO coils · 1OrA1-7
Jun LU, NHMFL, Tallahassee, USA

17:45 An electrometric method for the interface stress and contact resistance of pancake coil under winding force · 1OrA1-8
Wurui TA, Lanzhou University, Lanzhou, CHINA

14:00 - 16:30 ROXIE users meeting

Session location: Grand théâtre - Studio 1

SEPTEMBER 11TH, 2023

11:00 - 13:00 1OrM2 - Magnets for Power and Energy - Applications I

Session chairs: Ziad MELHEM, Marco BRESCHI
Session location: Pavillon Noir - Amphithéâtre

11:00 Invited – Fabrication and test of a 400 kW-class fully superconducting synchronous motor using REBCO tape for an electric propulsion system · 1OrM2-1
Hiroshi MIYAZAKI, Kyushu University, Fukuoka, JAPAN

11:25 AC losses for HTS coils used in aviation propulsion motors · 1OrM2-2
Min ZHANG, University of Strathclyde, GLASGOW, UNITED KINGDOM

11:40 Upscaled cryogenic design of a 20 MW class high efficiency ultra-light superconducting generator (SCG) for offshore wind · 1OrM2-3
Wolfgang STAUTNER, GE Research, Niskayuna, USA

11:55 Cable geometry dependence of ac losses in Spiral Copper-plated Striated Coated-conductor cables carrying ac currents under ac magnetic fields · 1OrM2-4
Yusuke SOGABE, Kyoto University, Kyoto, JAPAN

12:10 Designing an electromagnetic shield to protect rotor components in superconducting synchronous machines · 1OrM2-5
James STOREY, Victoria University of Wellington, Lower Hutt, NEW ZEALAND

12:25 SMES coil design for powering high field pulsed magnets · 1OrM2-6
Ashish BHARDWAJ, Los Alamos National Laboratory, Los Alamos, FAMU-FSU College of Engineering, The Center for Advanced Power Systems, Tallahassee, USA

12:40 Successful operation of the first magnetic density separation NbTi magnet system · 1OrM2-7
Sander WESSEL, University of Twente, Enschede, THE NETHERLANDS

16:00 - 18:00 1OrA2 - Nb3Sn Conductors

Session chair: Pierre BAUER
Session location: Pavillon Noir - Amphithéâtre

16:00 Invited – Post-mortem investigation of ITER toroidal field magnet conductors at varying loading conditions · 1OrA2-1
Matthew JEWELL, University of Wisconsin - Eau Claire, Eau Claire, WI, USA

16:25 Characteristics of new Nb3Sn strand developed in Korea for high field applications · 1OrA2-2
Soun Pil KWON, Korea Institute of Fusion Energy, Daejeon, KOREA, REPUBLIC OF

16:40 Strain investigations of RRP® Nb3Sn wires for the test facility dipole project TFD · 1OrA2-3
Najib CHEGGOUR, ASC-NHMFL-FSU, Tallahassee, USA

16:55 The effect of axial and transverse loading on the transport properties of high Jc Nb3Sn strand · 1OrA2-4
Yun Hao LIU, Institute of Plasma Physics, Chinese Academy of Sciences, HEFEI, CHINA

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17:10 Performance comparison of cables with transposition errors · 1OrA2-5
Pierluigi BRUZZONE, EPFL-SPC, Villigen PSI, SWITZERLAND

17:25 Determination of Grain Size in Nb3Sn Utilizing Synthetic Grain Structures · 1OrA2-6
Ian PONG, Lawrence Berkeley National Laboratory, Berkeley, USA

17:40 From hot to cold: advanced materials for Nb3Sn based magnets · 1OrA2-7
André BREM, Paul Scherrer Institute, Villigen, SWITZERLAND

11:00 - 13:00 1OrM3 - Test Facilities for Fusion

Session chairs: Min LIAO, Monica MARTINEZ LOPEZ
Session location: Conservatoire - Amphithéâtre

11:00 Invited – Development progresses of CRAFT SC Material testing facility · 1OrM3-1
Fang LIU, Institute of Plasma Physics Chinese Academy of Sciences, Hefei, CHINA

11:25 Conceptual design of the EDIPO2 magnet · 1OrM3-2
Xabier SARASOLA, EPFL-SPC, Villigen PSI, SWITZERLAND

11:40 Progress on the Development of the Coils for the 15 T Cable Test Facility Dipole Magnet · 1OrM3-3
Jose Luis RUDEIROS FERNANDEZ, Lawrence Berkeley National Laboratory, Berkeley, USA

11:55 The design, manufacture and test of first HTS insert coil with ReBCO cable exceeding 21T for Fusion applications · 1OrM3-4
Chao Zhou, Institute of Plasma Physics, Chinese Academy of Sciences, , CHINA

12:10 A new facility for high-fidelity cryogenic neutron irradiation of superconducting fusion magnet materials · 1OrM3-5
Zachary HARTWIG, Massachusetts Institute of Technology, Cambridge, USA

12:25 ITER CS Module test facility operational lessons from CS Modules 1-4 · 1OrM3-6
Kenneth KHUMTHONG, General Atomics, San Diego, USA

12:40 Latest Progress on DC Magnet for Super-X Test Facility in CRAFT · 1OrM3-7
Houxiang HAN, Institute of Plasma and Physics, CAS, Hefei, CHINA

16:15 - 18:00 1OrA3 - Magnets for Power and Energy - Applications II

Session chair: Tabea ARNDT
Session location: Conservatoire - Amphithéâtre

16:15 Performance evaluation of a modular coil wound by multi-layer spiral HTS cable under current fluctuation · 1OrA3-2
Haosheng YE, Shanghai Jiao Tong university, Shanghai, CHINA

16:30 Principle, modelling and experiments of a new axil-type superconducting magnetic bearing without using bulk superconductor · 1OrA3-3
Tianhui YANG, Tinjin university, Tianjin, CHINA

16:45 A Compact High-Temperature Superconducting Flux Pump for Persistent Current Mode Operation of HTS Magnets at 20K · 1OrA3-4
Iftikhar MUHAMMAD, University of Strathclyde, Glasgow, UNITED KINGDOM

17:00 No-insulation BSCCO magnet impregnated with low-melting point metal · 1OrA3-5
Shinnosuke MATSUNAGA, National Institute for Materials Science (to be belong), Tsukuba, JAPAN

17:15 Testing of conduction-cooled Bi-2223 magnet with shield coils at both ends · 1OrA3-6
Gen NISHIJIMA, National Institute for Materials Science, Tsukuba, JAPAN

17:30 A novel high-field, compact HTS magnet: Finite-element modelling and initial experimental results · 1OrA3-7
Ross TAYLOR, Paihau-Robinson Research Institute, Victoria University of Wellington, Lower Hutt, NEW ZEALAND

17:45 Using HTS coated conductor to generate high-field permanent magnets for transportation applications · 1OrA3-8
Min ZHANG, University of Strathclyde, GLASGOW, UNITED KINGDOM

POSTERS

09:45 - 11:30 1PoM - Poster sessions

1PoM01 - Accelerator Magnets - Design and Analysis I
Session chair: Maria BALDINI / Session location: Big One (BO)

- 1PoM01-01 · BO-L1-01 · Innovative Research and Design of the HTS Main Magnet for High Power Proton Cyclotron CYCIAE-100B
Tianjue ZHANG, China Institute of Atomic Energy, Beijing, CHINA

- 1PoM01-02 · BO-L1-02 · Design of a 2G high-temperature-superconducting undulator structure and a winding method
Chin-Kang YANG, National Synchrotron Radiation Research Center, Hsinchu, TAIWAN

- 1PoM01-03 · BO-L1-03 · Development of high-field Canted Cosine Theta dipole magnets based on high-temperature superconducting CORC Cables
Shaoqing WEI, Institute of Plasma Physics (IPP), Chinese Academy of Sciences (CAS), Hefei, CHINA

- 1PoM01-04 · BO-L1-04 · A field quality modeling in canted cosine theta dipole magnets wound using REBCO cables
Milan MAJOROS, The Ohio State University, Columbus, USA

- 1PoM01-05 · BO-L1-05 · Latest development of CORC® cables and wires and their implementation into prototype accelerator magnets
Danko VAN DER LAAN, Advanced Conductor Technologies LLC, Boulder, USA

- 1PoM01-06 · BO-L1-06 · Development and test of a two-layer dipole coil made of Bi2212 Rutherford cable
Alexander ZLOBIN, Fermi National Accelerator Laboratory, Batavia, USA

- 1PoM01-07 · BO-L1-07 · Experimental studies of current transfer in a REBCO tape-stack cable
John ROGERS, Texas A&M University, College Station, USA

- 1PoM01-08 · BO-L1-08 · Inclined stack in the channel conductor (ISICC)
Daria KOLOMENTSEVA, SuperOx SJSC, Moscow, RUSSIAN FEDERATION

- 1PoM01-09 · BO-L2-01 · Test of High Temperature Superconducting REBCO Coil Assembly for a Multi-Frequency ECR Ion Source
Tsun Him CHONG, Osaka University, Osaka, JAPAN

- 1PoM01-10 · BO-L2-02 · Development and tests of 2G HTS quadrupole magnet for Nuclotron upgrade
Mikhail NOVIKOV, Joint Institute for Nuclear Research, Dubna, RUSSIAN FEDERATION

- 1PoM01-11 · BO-L2-03 · Development and testing of HTS coil with ceramic coated REBCO conductor for high radiation tolerance
Mukesh DHAKARWAL, High Energy Accelerator Research Organization, Tokai, Ibaraki, 319-1106, JAPAN

- 1PoM01-12 · BO-L2-04 · Performance test of a special sextupole magnet using high-temperature superconductors
Xudong WANG, High Energy Accelerator Research Organization, Tsukuba, JAPAN

- 1PoM01-13 · BO-L2-05 · A Possible Alternative Concept of HTS Accelerator Magnets
Ian PONG, Lawrence Berkeley National Laboratory, Berkeley, USA

- 1PoM01-14 · BO-L2-06 · Research and development of radiation-resistant HTS magnet for application to high-intensity muon sources
Masami IIO, High Energy Accelerator Research Organization (KEK), J-PARC Center, Tokai, JAPAN

1PoM02 - Accelerator Magnets - Thermal design and cryogenics
Session chairs: Emmanuele RAVAIOLI, Rob VAN WEELDEREN / Session location: Big One (BO)

- 1PoM02-01 · BO-L2-07 · From Nuclotron Synchrotron to NICA Collider – the Common Cryogenic Concept for the Various Superconducting Magnets, their Design Specifics and Test Results
Egbert FISCHER, Joint Institute for Nuclear Research, Dubna, RUSSIAN FEDERATION

- 1PoM02-02 · BO-L2-08 · Assessment of thermal properties of HeII-cooled Nb3Sn superconducting coil samples of the HL-LHC particle accelerator project
Rob VAN WEELDEREN, Cern, Meyrin, SWITZERLAND

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- 1PoM02-03 · BO-L3-01 · Pressure drop measurement with different states of helium flowing in a copper profile cable-in-conduit conductor: experimental setup, results and analysis
Théophile PONTAROLLO, CEA Paris-Saclay, Gif-Sur-Yvette, FRANCE

- 1PoM02-04 · BO-L3-02 · Design of an apparatus to evaluate the turn-to-turn thermal conductivity of MI and NI HTS
Emeric BENOIST, CEA Pairs-Saclay, Gif-Sur-Yvette, FRANCE

- 1PoM02-05 · BO-L3-03 · Analysis and design of a compact emittance measurement system based on quadrople scanning method
Xu LIU, Huazhong University of Science and Technology, Wuhan, CHINA

- 1PoM02-06 · BO-L3-04 · The optimal design and measurement of magnet system for the gas-filled recoil separator SHANS2
Qiang HU, Institute of Modern Physics, Chinese Academy of Sciences, LanZhou, CHINA

1PoM03 - Fusion Magnets Systems - Progress I

Session chairs: Jeroen VAN NUGTEREN, Pedro CARVAS / Session location: Ground Floor Bar (GF)

- 1PoM03-01 · GF-L1-01 · Advancing ST80-HTS coil design with RAT and Raccoon
Jeroen VAN NUGTEREN, Littlebeast Engineering, Genolier, SWITZERLAND

- 1PoM03-02 · GF-L1-02 · R&D progress of coil-case for CRAFT TF prototype coil
Chao FANG, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, 230031, People's Republic of China, Hefei, CHINA

- 1PoM03-03 · GF-L1-03 · End of the winding of the European Poloidal Field coils for the ITER project
Pedro CARVAS, Fusion For Energy, Cadarache, FRANCE

- 1PoM03-04 · GF-L1-04 · Noise-robust magnet field power supply multi-granularity fault diagnosis based on wavelet Integrated one-dimension convolutional neural network
Zhong LINGPENG, Chongqing University of Posts and Telecommunications, Chongqing, CHINA

- 1PoM03-05 · GF-L1-05 · Development progress of CRAFT TF coil
Yan ZHAOHUI, Institute of Plasma Physics Hefei Institutes of Physical Science Chinese Academy of Sciences, Hefei, CHINA

- 1PoM03-06 · GF-L1-06 · Update on the EU-DEMO magnets design activities at CEA
Alexandre TORRE, CEA, Saint-Paul-lez-Durance, FRANCE

- 1PoM03-07 · GF-L1-07 · Research and Implement of CRAFT TF Coil Turn Insulation Automatic Wrapping
He JIAN, Institute of Plasma Physics, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei, 230031, China, Hefei City, CHINA

- 1PoM03-08 · GF-L1-08 · Design of control system for the magnet performance test device for CFETR TF coil
Shuqing ZHANG, Hefei Institutes of Physical Sciences, Chinese Academy of Sciences, hefei, CHINA

- 1PoM03-09 · GF-L1-09 · Optimized HTS Coils for the EPOS Stellarator
Paul HUSLAGE, Max Planck Institute of Plasmaphysics, Garching, GERMANY

- 1PoM03-10 · GF-L1-10 · ITER Toroidal Field Coil Delivery and Preparatory Work at ITER Site
Kenji GOMIKAWA, ITER Organization, St Paul Lez Durance Cedex, FRANCE

- 1PoM03-11 · GF-L2-01 · Fabrication of the poloidal field coils for ITER
Eugenio CAVANNA, ASG Superconductors S.p.A., Genova, ITALY

1PoM04 - High Field Magnets - Modelling of HTS Coils

Session chair: So NOGUCHI / Session location: Big One (BO)

- 1PoM04-01 · BO-L3-05 · A homogenized PEEC model for metal as insulation magnets
Nikola JERANCE, CEA saclay, Gif-sur-Yvette, FRANCE

- 1PoM04-02 · BO-L3-06 · Study on quench characteristics of high-temperature superconducting coils under multi-field coupling
Wenzhe HONG, Hefei Institute of Physical Sciences, Chinese Academy of Sciences, hefei, CHINA

- 1PoM04-03 · BO-L3-07 · Modelling and design implications of quenches in hybrid HTS/LTS high field magnets ·
Andrew VARNEY, Oxford Instruments NanoScience, Abingdon, UNITED KINGDOM

- 1PoM04-04 · BO-L3-08 · A 2D mechanical analysis method of the no-insulation magnet considering the shielding current
Pu DUAN, Huazhong University of Science and Technology, Wuhan, CHINA

- 1PoM04-05 · BO-L4-01 · Study of electromagnetic phenomena and thermal stability of HTS no-insulation coils affected by sudden fluctuation of external magnetic field
Daisuke MIYAGI, Chiba University, Chiba, JAPAN

- 1PoM04-06 · BO-L4-02 · Study on Current Behavior and Thermal Stability of No-Insulation Coils with Parallel HTS Tapes under External Magnetic Field Fluctuation
Hiroyasu KOBAYASHI, Chiba University, Chiba, JAPAN

- 1PoM04-07 · BO-L4-03 · Thermo-hydraulic modelling of He-I behavior under very high magnetic fields found in HTS magnets
Hajar ZGOUR, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

- 1PoM04-08 · BO-L4-04 · Heat transfer degradation in liquid helium pool boiling due to magneto-gravitational forces : influence on very high field magnet cooling
Simon BAGNIS, CEA Saclay, Gif-sur-Yvette, FRANCE

- 1PoM04-09 · BO-L4-05 · MagnetDB a platform for the simulation of High Field Magnet
Christophe TROPHIME, LNCMI - EMFL / CNRS / UGA, Grenoble, FRANCE

- 1PoM04-10 · BO-L4-06 · Stepwise flux amplification of model magnet stacked by HTS plates with single connection multi-holes
Yanchen SHI, North China Electric Power University, Beijing, CHINA

- 1PoM04-11 · BO-L4-07 · Design of all-superconducting user magnets generating more than 40T for the Super-EMFL project
Matthias DUROCHAT, CEA Saclay, Gif-sur-Yvette, FRANCE

- 1PoM04-12 · BO-L4-08 · Conceptual Design of Hybrid HTS Magnet for High - Field Application
Xinxing QIAN, High Magnetic Field Laboratory, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei, CHINA

1PoM05 - High Field Magnets - HTS Cables

Session chair: Anna KARIO / Session location: Big One (BO)

- 1PoM05-01 · BO-L5-01 · Experimental study on the critical current of REBCO solenoid insert coil under various curing process
Guanyu XIAO, Institute of Plasma Physics,Chinese Academy of Sciences, Hefei, CHINA

- 1PoM05-02 · BO-L5-02 · Design of stacked high temperature superconducting cable-in-conduit conductor for high-field application
Shige YANG, High Magnetic Field Laboratory, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei, CHINA

- 1PoM05-03 · BO-L5-03 · T-A Combination Model for Solving Current Distributions in Large-Scale Cables with Stacked ReBCO Tapes
Lei WANG, Institute of plasma physics, Chinese Academy of Sciences, Hefei, CHINA

- 1PoM05-04 · BO-L5-04 · CORC® cables: numerical characterization of the critical current after bending process
Sofia VIARENGO, Politecnico di Torino, Torino, ITALY

- 1PoM05-05 · BO-L5-05 · Preliminary design of a 12T nb3Sn and nbTi superconducting dipole with mini round cable
Zhengnan HAN, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 1PoM05-06 · BO-L5-06 · Performance degradation of multi-layer spiral cable during manufacturing procedure
Xuan ZHOU, Shanghai Jiao Tong University, Shanghai, CHINA

- 1PoM05-07 · BO-L5-07 · Electromagnetic-mechanical coupling analysis of superconducting spiral cable with process-induced residual strain
Xuan ZHOU, Shanghai Jiao Tong University, Shanghai, CHINA

- 1PoM05-08 · BO-L5-08 · Performance evaluation of field-based spiral HTS cable with variable layers towards high-field magnet
Haosheng YE, Shanghai Jiao Tong university, Shanghai, CHINA

- 1PoM05-09 · BO-L6-01 · Performance evaluation of terminal resistance of a preliminary cable-in-conduit conductor made by multi-layer spiral HTS cable
Haosheng YE, Shanghai Jiao Tong university, Shanghai, CHINA

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1PoM06 - MRI Magnets

Session chairs: Seungyong HAHN, Olivier DUBOIS / Session location: Ground Floor Bar (GF)

- 1PoM06-01 · GF-L2-02 · Artificial intelligence for MRI magnet design, manufacturing and testing
Michael PARIZH, General Electric, Niskayuna, USA

- 1PoM06-02 · GF-L2-03 · Iseult Whole Body 11.7 T MRI : Gradients interaction tests with cryogenics and the Magnet Safety System (MSS)
Olivier DUBOIS, CEA, Gif-sur-Yvette, FRANCE

- 1PoM06-03 · GF-L2-04 · Design and performance analysis of gradient coil for high-field HTS rebco mri magnet
Hyunsoo PARK, Seoul National University, Seoul, KOREA, REPUBLIC OF

- 1PoM06-04 · GF-L2-05 · Current development progress of 6 T all-HTS metal-insulation MRI magnet
Kibum CHOI, Seoul National University, Seoul, KOREA

- 1PoM06-07 · GF-L2-06 · Mechanical design and analysis of a 14 T whole-body size MRI magnet
Houxiang HAN, Institute of Plasma and Physics, CAS, Hefei, CHINA

- 1PoM06-08 · GF-L2-07 · A Compact HTS MRI Instrument
Adil SHAH, University of Cambridge, Cambridge, UNITED KINGDOM

- 1PoM06-09 · GF-L2-08 · Design, fabrication and measurement of a 3T cryogen-free animal MRI system
Yaohui WANG, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

- 1PoM06-10 · GF-L2-09 · Mechanical Analysis of a Head-Only 1.5T Magnetic Resonance Imaging Superconducting Magnet
Yunxing SONG, Huazhong University of Science and Technology, Wuhan, CHINA

1PoM07 - AC losses

Session chair: Yue WU / Session location: Jessye Norman (JN)

- 1PoM07-01 · JN-L1-01 · AC loss characteristic of a double pancake coil wound with a multi-filamentary superconductor REBCO tape made by scratching a buffer layer method
Oishi RYOMA, Kyushu University, Fukuoka city, JAPAN

- 1PoM07-02 · JN-L1-02 · AC loss analysis of HTS cables according to core shape
Miyeon YOON, Tech University of Korea, Siheung-si, KOREA

- 1PoM07-03 · JN-L1-03 · Simulation of dynamic resistance and total loss HTS CORC cables at various temperatures
Zhenan JIANG, Paihau-Robinson Research Institute, Victoria University of Wellington, LOWER HUTT, NEW ZEALAND

- 1PoM07-04 · JN-L1-04 · 3D Modelling of bended corc® cables: electromagnetic assessment
Matthew CLEGG, University of Leicester, Leicester, UNITED KINGDOM

- 1PoM07-05 · JN-L1-05 · A short-circuit-current experiment of high-temperature superconductor tapes
Sataro YAMAGUCHI, Chubu University, Kasugai, JAPAN

- 1PoM07-06 · JN-L1-06 · Numerical study on the transport AC loss of bent CORC cables
Xuan DING, Huazhong University of Science and Technology, Wuhan, CHINA

- 1PoM07-07 · JN-L1-07 · Measurement and Analysis of AC losses of Twisted Quasi-isotropic Strand for Fabrication of Rutherford cable
Ye HE, North China Electric Power University, Beijing, CHINA

- 1PoM07-08 · JN-L2-01 · Experimental Study of Magnetization Loss by External Magnetic Field in CORC-TSTC Hybrid Composite Conductor
Ji-Kwang LEE, Woosuk University, Jincheon-Gun, KOREA

- 1PoM07-09 · JN-L2-02 · Analyses on current sharing of CICC consisting of transposed Q-IS
Chengyang HU, North China Electric Power University, Beijing, CHINA

- 1PoM07-10 · JN-L2-03 · 3D Modelling and calculation of ac losses in high-temperature superconducting magnet subject to travelling magnetic fields
Tianyong GONG, Southwest Jiaotong University, Chengdu, CHINA

- 1PoM07-11 · JN-L2-04 · Alternating Current (AC) Loss Measurements in High Temperature Superconducting (HTS) Magnets
Joseph NALBACH, Naval Surface Warfare Center Philadelphia Division, Philadelphia, USA

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- 1PoM07-12 · JN-L2-05 · A novel AC loss measurement method for AC loss based on Kalman filtering
Feiyang LONG, Huazhong University of Science and Technology, wuhan, CHINA

- 1PoM07-13 · JN-L2-06 · AC loss study in hts wire and coil assemblies carrying ac current with dc offset
Yue WU, School of Electrical Engineering, Beijing Jiaotong University; Paihau-Robinson Research Institute, Victoria University of Wellington, Wellington, NEW ZEALAND

- 1PoM07-14 · JN-L2-07 · Analysis of Charging Strategy for Large Conduction-Cooled HTS Magnet Operating with AC
Shixian LIU, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

1PoM08 - Bi2212 and MgB2 Wires

Session chairs: Akihiro KIKUCHI, Ulf TROCIEWITZ / Session location: Ground Floor Bar (GF)

- 1PoM08-01 · GF-L2-10 · Recent development of practical high temperature superconductors with powder in tube process in NIN
Shengnan ZHANG, Northwest Institute for Nonferrous Metal Research, Xi'an, CHINA

- 1PoM08-02 · GF-L3-01 · Comparison study of bending properties of Bi-2212 strands were performed with different heat treatment
Mengliang ZHOU, Institute of Plasma Physics,Chinese Academy of Sciences, Hefei, CHINA

- 1PoM08-03 · GF-L3-02 · Performance and microscopic analysis of Bi-2212 superconducting wire based on low heating rate heat treatment process
Dongsheng YANG, Institute of Plasma Physics, Chinese Academy of Sciences, HeFei, CHINA

- 1PoM08-04 · GF-L3-03 · MgB2 superconducting wire of Sam Dong
Jun Hyuk CHOI, Sam Dong Co.,Ltd., Daejeon, KOREA

- 1PoM08-05 · GF-L3-04 · The Preparation Of MgB2 Conductors For Magnet Application Of SMES In WST
Mingjiang WANG, Western Superconducting Technologies Co., Ltd., Xi'an, CHINA

- 1PoM08-06 · GF-L3-05 · Decomposed Mg(BH4)2 as precursor to prepare MgB2 superconducting tapes with hot-pressing sintering
Dan XI, Application Superconductivity Research Center, State Key Laboratory for Artificial Microstructure and Mesoscopic Physics, School of Physics, Peking University, Beijing, CHINA

- 1PoM08-07 · GF-L3-06 · Magnetization Anisotropy of MgB2 Filaments in Ferromagnetic Matrix
Igor RUDNEV, National Research Nuclear University MEPhI, Moscow, RUSSIAN FEDERATION

- 1PoM08-08 · GF-L3-07 · Development for MgB2 and YBa2Cu3O7 hybrid superconducting wire
Hidetoshi OGURO, Tokai University, Hiratsuka, Kanagawa, JAPAN

1PoM09 - Quench Detection and Protection

Session chair: Alfredo PORTONE / Session location: Ground Floor Bar (GF)

- 1PoM09-01 · GF-L3-08 · Quench detection of high temperature superconductivity based on digital twin method
Kexing LI, Shanghai Jiao Tong University, Shanghai, CHINA

- 1PoM09-02 · GF-L3-09 · Experimental studies on quench behavior measurements of HTS tapes with various heater configurations
Hui YU, High Magnetic Field Laboratory, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei, CHINA

- 1PoM09-03 · GF-L3-10 · Quench Prediction for REBCO Pancake Coils Using LSTM
Yusuke NAKAI, Hokkaido University, Sapporo, JAPAN

- 1PoM09-04 · GF-L4-01 · Protection method for No-Insulation REBCO coils with local noncontact area between turns
Nodoka TERAUCHI, Waseda University, Tokyo, JAPAN

- 1PoM09-05 · GF-L4-02 · Investigation on the quench characteristics of parallel high temperature superconducting tapes
Xianhao LI, Huazhong University of Science and Technology, Wuhan, CHINA

- 1PoM09-06 · GF-L4-03 · The quench behavior of an intra-Layer No-Insulation (LNI) REBCO coil
Ayano YASUI, Sophia University, Tokyo, JAPAN

- 1PoM09-07 · GF-L4-04 · A comparison of quench behaviors of REBCO and Bi2223 staked-tape cables
Lijun CAI, Southwestern Institute of Physics, Chengdu, CHINA

- 1PoM09-08 · GF-L4-05 · Study on reduction of quench recovery time by inductive energy extraction
Yuta EBARA, Sumitomo Heavy Industries, Ltd., Yokosuka, JAPAN

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14:30 - 16:30 1PoA - Poster sessions

1PoA01 - Accelerator Magnets - Mechanical Analysis
Session chair: Hélène FELICE / Session location: Ground Floor Bar (GF)

- 1PoA01-02 · GF-L1-02 · Mechanical design of the interaction region dipole b1pf for eic
Michael ANERELLA, Brookhaven National Laboratory, Upton, USA

- 1PoA01-03 · GF-L1-03 · Design of a Large Aperture Dipole for EIC
Febin KURIAN, Brookhaven National Laboratory, Upton, USA

- 1PoA01-04 · GF-L1-04 · Design and optimization of a fast switching magnet for beam delivery in CSNS-II
Wenjie HAN, Institute of High Energy Physics, Chinese Academy of Sciences, Dongguan, CHINA

- 1PoA01-05 · GF-L1-05 · Mechanical design of the superconducting magnet for the 28 ghz ecr ion source asterics
Tanguy CADOUX, CEA Saclay, Gif-sur-Yvette, FRANCE

- 1PoA01-06 · GF-L1-06 · A study on the improvement of the superconducting magnet system for the 28 GHz ECRIS at KBSI
Jonggi HONG, Korea Basic Science Institute, Busan, KOREA

- 1PoA01-08 · GF-L1-07 · Magnetic field measurements of an iron-laminated quadrupole to be used in the alternatig gradient synchrotron
Nicholaos TSOUPAS, Brookhaven National Laboratory, Upton, USA

- 1PoA01-09 · GF-L1-08 · Mesoscale numerical modelling of superconducting Rutherford cables and magnet coils
Alessandro BERTARELLI, CERN, Geneva 23, SWITZERLAND

- 1PoA01-10 · GF-L1-09 · Study on mechanical stability of the septum magnet under unsteady condition
Yanqun WEI, Institude of Modern Physics, Chinese Academy of Sciences, LanZhou, CHINA

- 1PoA01-11 · GF-L1-10 · Magnetic design and performance test of SHINE superconducting quadrupole magnets
Jidong ZHANG, Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai, CHINA

1PoA02 - Accelerator Magnets - Mechanical Design and Fabrication
Session chairs: Laura GARCIA FAJARDO, Andrea BERSANI / Session location: Ground Floor Bar (GF)

- 1PoA02-01 · GF-L2-01 · Effect of increased transverse coil preload on the performance of the RMM demonstrator magnet
Emma GAUTHERON, CERN, Meyrin, SWITZERLAND

- 1PoA02-02 · GF-L2-02 · Fabrication of a 1 m long Bi-2212 CCT dipole magnet and preliminary numerical analysis of a 1.5 m long Nb3Sn/Bi-2212 CCT hybrid magnet
Laura GARCIA FAJARDO, Lawrence Berkeley National Laboratory, Berkeley, USA

- 1PoA02-03 · GF-L2-03 · Mechanical design, assembly and strain measurement results of a 13-T superconducting dipole magnet
Yingzhe WANG, Institute of High Energy Physics, Beijing, CHINA

- 1PoA02-04 · GF-L2-04 · The distributed strain measurements of an HTS block-coil based on OFDR distributed fibre optical sensors
Canjie XIN, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 1PoA02-05 · GF-L2-05 · Development of the mechanical mockup of the FalconD dipole
Michela BRACCO, INFN and University of Genoa, Genoa, ITALY

- 1PoA02-06 · GF-L2-06 · Development and qualification of high current splices and electrical connections for the HL-LHC magnets
Rosario PRINCIPE, CERN, Geneva, SWITZERLAND

- 1PoA02-07 · GF-L2-07 · A combined testing and modelling methodology for enhanced stress management of high-field superconducting magnets
Oscar SACRISTÁN DE FRUTOS, CERN, Geneva, SWITZERLAND

- 1PoA02-08 · GF-L2-08 · First cold mass assembly of full-scale prototype of beam separation dipole for the high-luminosity LHC upgrade
Michinaka SUGANO, High Energy Accelerator Research Organization (KEK), Tsukuba, JAPAN

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- 1PoA02-09 · GF-L2-09 · MBRD prototype cold tests: mechanical stability and performances
Andrea BERSANI, INFN, Genova, ITALY

- 1PoA02-10 · GF-L2-10 · Investigation of the electromechanical properties of YBCO tapes irradiated by heavy ions and related fractographic analysis
Yuanzhou PAN, Lanzhou University, Lanzhou, CHINA

- 1PoA02-11 · GF-L3-01 · Mechanical behavior of the FAIR Super-FRS dipole during the cold tests
Victor KLEYMENOV, CEA Saclay, Gif-sur-Yvette, FRANCE

- 1PoA02-12 · GF-L3-02 · Cryogenic tests of SHINE superconducting quadrupole magnets in the Multifunction Test Facility
Yawei HUANG, ShanghaiTech University, Shanghai, CHINA

1PoA03 - Fusion Magnets - Thermal and Electromagnetic Design and Analysis I

Session chairs: Daniele PLACIDO, Pierre BAUER / Session location: Big One (BO)

- 1PoA03-01 · BO-L1-01 · Ac loss calculation for the iter correction coils during plasma operation
Pierre BAUER, ITER Organization, Saint-Paul-lez-Durance, FRANCE

- 1PoA03-02 · BO-L1-02 · Predictive analysis of thermal-hydraulic behaviour for quench experiment of the CFETR CSMC
Aiguo SANG, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

- 1PoA03-03 · BO-L1-03 · Analysis of AC losses for CFETR TF coil
Liu XUFENG, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

- 1PoA03-04 · BO-L1-04 · Thermo-hydraulic calculations on W7-X coils for updated quench detection system parameters
Konrad RISSE, Max-Planck-Institute for Plasma Physics (IPP), Greifswald, GERMANY

- 1PoA03-05 · BO-L1-05 · Thermal hydraulic analysis of CFETR TF coil
Xinghao WEN, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

- 1PoA03-06 · BO-L1-06 · Modeling thermal-hydraulic and electro-magnetothermal dynamics for non-planar coils based on VIPER-like cables with OpenSc2
Daniele PLACIDO, Politecnico di Torino, Turin, ITALY

- 1PoA03-07 · BO-L1-07 · Preliminary Design And Stability Analysis of YBCO CICC Conductor
Liu HAIHONG, Institute of plasma physics, Chinese Academy of Sciences, HeFei, CHINA

- 1PoA03-08 · BO-L1-08 · Effect of cool-down speed on temperature distribution in the JT-60SA CS module
Shogo SONODA, Sophia University, Tokyo, JAPAN

- 1PoA03-09 · BO-L2-01 · Design, Fabrication, and Testing of a Liquid Helium Cryostat for an Ultra-Compact No-Insulation REBCO Magnet
Yi LI, Princeton Plasma Physics Laboratory, Princeton, New Jersey, USA

- 1PoA03-10 · BO-L2-02 · Extended Analysis of TF02 Feeder Performances and Risks During Operation in JT-60SA Tokamak
Louis ZANI, Fusion for Energy, Garching bei Munchen, GERMANY

1PoA04 - Fusion Magnet Systems - Progress II

Session chairs: Ricarda SCHEICH, Fabrice SIMON / Session location: Big One (BO)

- 1PoA04-01 · BO-L2-03 · Conceptual design of 15 T/220 mm warm-bore magnet for the 350 GHz, 1 MW class gyrotrons for fusion reactors
Dongkeun PARK, Massachusetts Institute of Technology, Cambridge, USA

- 1PoA04-02 · BO-L2-04 · Transient overvoltage to ground of superconducting magnet due to stray capacitance of power supply in JT-60SA tokamak
Shoichi HATAKEYAMA, National Institutes for Quantum Science and Technology, Naka, JAPAN

- 1PoA04-03 · BO-L2-05 · Startup of a Multi-physics Simulation Platform for Fusion Magnet Design and Analyses
Quanyue LIU, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

- 1PoA04-04 · BO-L2-06 · Reduction of Reactive Power Compensation Efforts for Fusion Magnet Power Supplies Using Variable Series Capacitors
Shinichi NOMURA, Meiji University, Kawasaki, JAPAN

- 1PoA04-05 · BO-L2-07 · Design and qualification of iter in vessel coil system instrumentation
Ricarda SCHEICH, University Duisburg-Essen, Bochum, GERMANY

- 1PoA04-06 · BO-L2-08 · Demo cs exploration studies regarding thermal-hydraulic-parameters and superconducting amount of material
Nathan RICHERMOZ, Univ. Grenoble Alpes, CEA, IRIG, DSBT, Grenoble, FRANCE

- 1PoA04-07 · BO-L3-01 · Development and Qualification of the Internal Joint for CFETR TF Prototype Coil
Yu WU, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, 230031, People's Republic of China, Hefei, CHINA

- 1PoA04-08 · BO-L3-02 · Selected topics of technical challenges of the Central Solenoid
Yasuyuki MIYOSHI, ITER Organization, Saint-Paul-lez-Durance, FRANCE

- 1PoA04-09 · BO-L3-03 · Design Finalization and Procurement Phase of the DTT Poloidal Field Magnet System
Simonetta TURTU', ENEA, Frascati, ITALY

- 1PoA04-10 · BO-L3-04 · Perfect magnetic field confinement with bulk superconductors for fusion magnets
Jaume CUNILL-SUBIRANAS, Universitat Autonoma Barcelona, Bellaterra, SPAIN

- 1PoA04-11 · BO-L3-05 · Manufacturing and assembly of the ITER correction coils
Fabrice SIMON, ITER ORGANIZATION, Saint-Paul-lez-Durance, FRANCE

1PoA05 - Magnets for Radiation Therapy and Cyclotrons

Session chairs: Mitsuhiro FUKUDA, Vera KORCHEVNYUK / Session location: Ground Floor Bar (GF)

- 1PoA05-01 · GF-L3-03 · Fixed-Field HTS Coil Technology and Production for Proton Therapy
Philip MALLON, Lawrence Berkeley National Laboratory, Berkeley, USA

- 1PoA05-02 · GF-L3-04 · Design of an AG-CCT magnet using a magnetic shield for large momentum gantry in proton therapy
Yicheng LIAO, Huazhong University of Science and Technology, Wuhan, CHINA

- 1PoA05-03 · GF-L3-05 · A Numerical Calculation Method for Magnetic Field and Harmonics of Curved-CCT Magnet
Xingmeng HUANG, University of Science and Technology of China, Hefei, CHINA

- 1PoA05-04 · GF-L3-06 · Design of a compact beam scanning system for a proton therapy superconducting gantry
Xu LIU, Huazhong University of Science and Technology, Wuhan, CHINA

- 1PoA05-05 · GF-L3-07 · The development of SK30 Cyclotron magnet
Qinggao YAO, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 1PoA05-06 · GF-L3-08 · High temperature superconducting magnet for the skeleton cyclotron
Mitsuhiro FUKUDA, RCNP, Osaka University, Ibaraki, JAPAN

- 1PoA05-07 · GF-L3-09 · Optimization of HTS magnet ramping profile for medical synchrotron considering beam loss and magnet stability
Woojin SONG, Pohang University of Science and Tehcnology, Pohang, KOREA

- 1PoA05-08 · GF-L3-10 · The Design of Superconducting Combined Multipole Magnets in Miniaturized Heavy Ion Therapy Facility
Lizhen MA, Institute of Modern Physics Chinese Academy of Sciences, Lanzhou, CHINA

- 1PoA05-09 · GF-L4-01 · Opportunities and challenges of magnet design for beam delivery in compact proton therapy systems
Bin QIN, Huazhong University of Science and Technology, Wuhan, CHINA

- 1PoA05-10 · GF-L4-02 · Innovative Beam Separator for FLASH Electron Therapy Facilities
Vera KORCHEVNYUK, CERN, Meyrin, SWITZERLAND

- 1PoA05-11 · GF-L4-03 · Dynamic magnetic field and lamination simulation of scanning magnet for proton therapy system
Xinyi SHEN, Huazhong University of Science and Technology, Wuhan, CHINA

- 1PoA05-12 · GF-L4-04 · Design a combined function curved DCT superconducting magnet for the compact heavy ion therapy
Wei YOU, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 1PoA05-13 · GF-L4-05 · Design and Fabrication of a 2.5T Combined Function Canted-Cosine-Theta Magnet
Sun JINSHUI, Institute of Electrical Engineering of the Chinese Academy of Sciences, Beijing, CHINA

1PoA06 - Magnets for Energy and Transportation - Analysis and Studies
Session chair: Futamura MUNEO / Session location: Big One (BO)

- 1PoA06-01 · BO-L3-06 · Electromagnetic design of a REBCO four-pole full-pitched armature coil composed of trapezoidal windings for fully superconducting synchronous motors
Yuki EMORI, Kyushu University, Fukuoka, JAPAN

- 1PoA06-02 · BO-L3-07 · Studies on feasibility of wind-power generator using high temperature superconducting induction generator and its dynamic characteristics
Yusuke TAKAHASHI, Sophia University, Chiyoda-ku, JAPAN

- 1PoA06-03 · BO-L3-08 · Research on integrated system of non-grid-connected superconducting wind power hydrogen production
Liufei SHEN, College of Electrical and Information Engineering, Hunan University, Changsha, CHINA

- 1PoA06-04 · BO-L4-01 · Dynamic characteristics of a fully HTS magnetic bearing under harmonic excitation
Changqing YE, Hohai University, Changzhou, CHINA

- 1PoA06-05 · BO-L4-02 · Magnetic field of improved rails in superconducting transport system
Futamura MUNEO, Akita Prefectural University, Yurihonjo, JAPAN

- 1PoA06-06 · BO-L4-03 · Research of an Axial Magnetic Suspension High Temperature Superconducting Homopolar Inductor Machine for Flywheel Energy Storage System
Yuanhang PAN, HuNan University, Chang Sha, CHINA

- 1PoA06-07 · BO-L4-04 · Development of a Linear Generator Using Coils with Multilayer Iron Cores for an Undulator-Type Tidal Current Generator
Yuhi YAMANOUCHI, Tokyo University of Marine Science and Technology, Tokyo, JAPAN

- 1PoA06-08 · BO-L4-05 · Study of Axial-type Synchronous Motors with Bulk GdBCO Magnets
Zhengwei ZHAO, Guangdong Ocean University, Zhanjiang, CHINA

- 1PoA06-09 · BO-L4-06 · First validation of a large bore cryogen-free pancake prototype
Julien VIALLE, CNRS Institut Néel, Grenoble, FRANCE

- 1PoA06-10 · BO-L4-07 · Current Distribution of Armature Coils Consist of Two Different Sizes of Racetrack Double Pancakes with REBCO Striated Tapes
Atsushi TAKASHIMA, Kyushu University, Fukuoka, JAPAN

- 1PoA06-11 · BO-L4-08 · Study of an axial-flux magnetic coupler with clutches for superconducting flywheel energy storage system
Yilong WU, Insititute of Electrical Engineering Chinese Academy of Sciences, Haidian, CHINA

- 1PoA06-12 · BO-L5-01 · Application of multi-coil structure magnet for improving welding ability in magnetic pulse welding
Xiaoxiang LI, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

- 1PoA06-13 · BO-L5-02 · Development of a 10 T Split-pair Magnet with Recondensing Cryostat and 4 K Variable Temperature Insert for Optics Application
Wenbin MA, High Magnetic Field Laboratory, Heifei Institute of Physical Science, Chinese Academy of Science, HEFEI, CHINA

1PoA07 - Magnets for Energy and Transportation - Conductor and Current Leads

Session chair: Shun MIURA / Session location: Big One (BO)

- 1PoA07-02 · BO-L5-04 · Design and Current Characteristics Study of Flat Cable with Stacked 2G HTS Tapes for Superconducting Magnetic Energy Storage
Songzhen YUAN, Beijing Jiaotong University, Beijing, CHINA

- 1PoA07-03 · BO-L5-05 · 3D Modelling of VIPER TSTC Cables Under Transverse Magnetic Field
Harold S. RUIZ, University of Leicester, Leicester, UNITED KINGDOM

- 1PoA07-04 · BO-L5-06 · Performance evaluation of a simple stacked high-current HTS conductor with metal-gap
Chen YU, Southwestern Institute of Physics, Chengdu, CHINA

- 1PoA07-05 · BO-L5-07 · Magnetic Relaxation of Screening Current Induced Field in CICC made from Quasi-isotropic Strands
Yukang SHEN, North China Electric Power University, Beijing, CHINA

- 1PoA07-06 · BO-L5-08 · Current distribution among three-parallel REBCO wires in three-phase armature coils
Shun MIURA, Kyushu University, Fukuoka, JAPAN

- 1PoA07-08 · BO-L6-02 · Analysis of the magnetization losses of twisted stacked-tape cables with striated strands
Kyeongdal CHOI, Tech University of Korea, Siheung-si, KOREA, REPUBLIC OF

- 1PoA07-09 · BO-L6-03 · Ultrafine Superconducting Composite Wires and Round Cables
Akihiro KIKUCHI, National Institute for Materials Science, Tsukuba, JAPAN

- 1PoA07-10 · BO-L6-04 · Bending Strain of MgB2 Rutherford Cable Strands for Force-Balanced Helical Coil
Hang XU, Meiji University, Kawasaki-shi, JAPAN

- 1PoA07-12 · BO-L6-05 · Computationally aided reduction of energy losses in multicore MgB2 wires for high power density applications
Harold S. RUIZ, University of Leicester, Leicester, UNITED KINGDOM

1PoA08 - Joints

Session chairs: Yasuaki TAKEDA, Hyungjun KIM / Session location: Jessye Norman (JN)

- 1PoA08-01 · JN-L1-01 · A heater-triggered persistent current switch with high resistance state and improved structure
Haowen TAN, School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, Shanghai 200240, China, Shanghai, CHINA

- 1PoA08-02 · JN-L1-02 · Design, Manufacturing, and Testing of a Novel REBCO Persistent Current Switch
Yong CHEN, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

- 1PoA08-03 · JN-L1-03 · Development of Low-resistivity Lap Joint for YBCO Tapes by Ultrasonic-assisted Soldering Method
Haihong WEI, Southwestern Institute of Physics, Chengdu, CHINA

- 1PoA08-04 · JN-L1-04 · High-Temperature Superconducting Joint Technique using an Oxygen Path
Hyun Sung NOH, Department of Materials Science and Engineering, Korea University, Seoul, KOREA, REPUBLIC OF

- 1PoA08-05 · JN-L1-05 · Dependence of Electro-Mechanical Properties of REBCO Lap Joint on Fabrication Parameters
Younghoon KIM, Department of Materials Science and Engineering, Korea University, Seoul, KOREA, REPUBLIC OF

- 1PoA08-06 · JN-L1-06 · Fabrication of robust flux-free REBCO CC joints by hybridizing ultrasonic welding and soldering
Hyung-Seop SHIN, Andong National University, Andong, KOREA, REPUBLIC OF

- 1PoA08-07 · JN-L1-07 · Robust joining solution between REBCO-to-copper for current lead using ultrasonic welding
Hyung-Seop SHIN, Andong National University, Andong, KOREA, REPUBLIC OF

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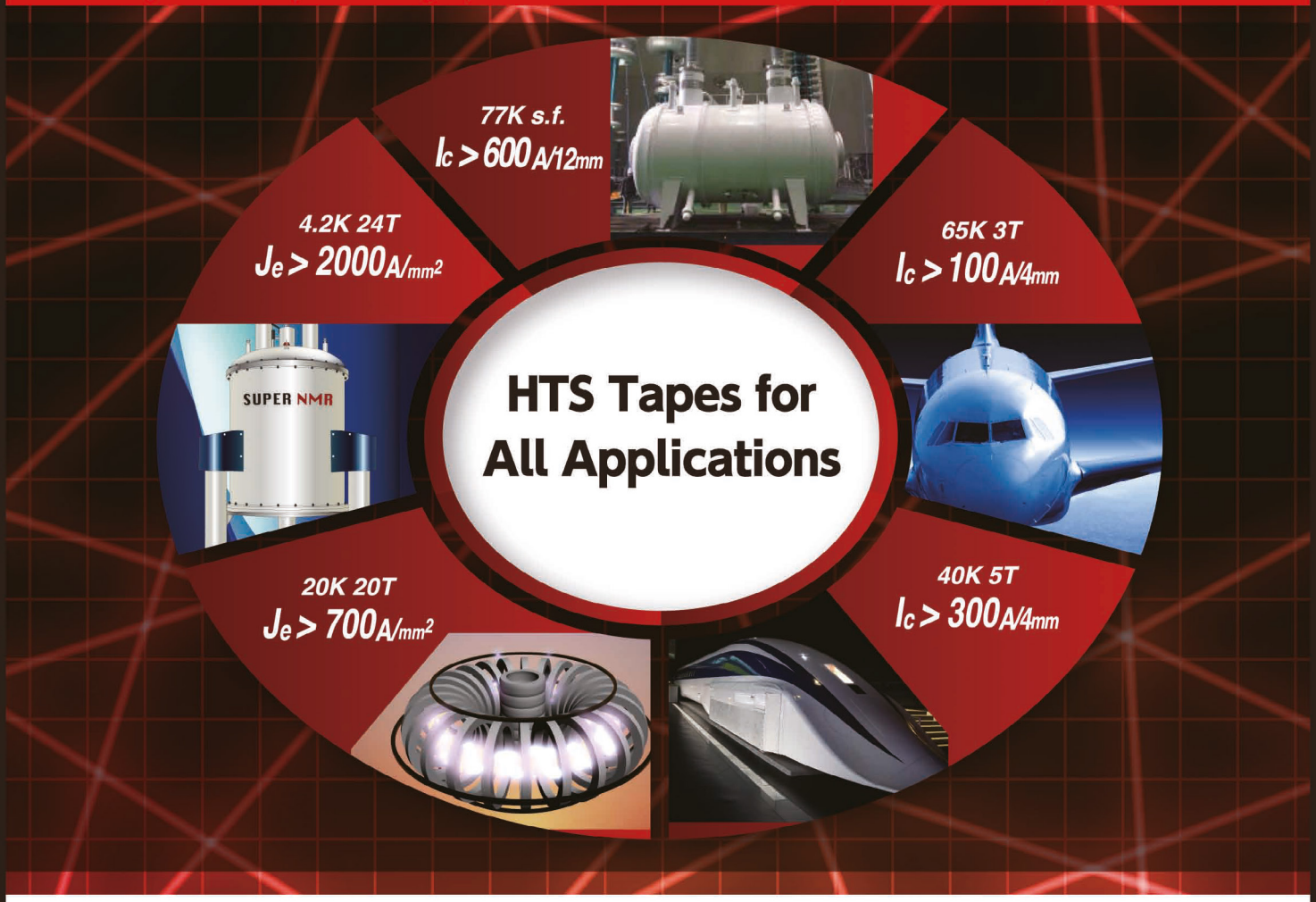
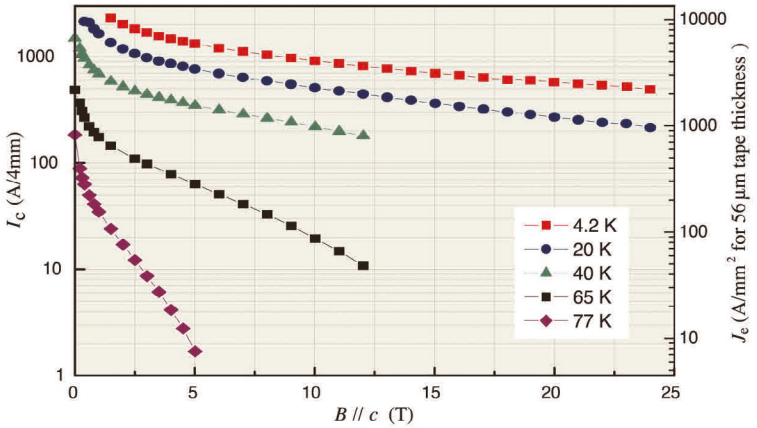
constantly strives to provide high-performance and a stable superconductor Tape.



■ HIGH MAGNETIC FIELD APPLICATION



■ USE IN LIQUID NITROGEN

Paramaters			
Tape length	up to 400 m / piece		
Substrate thickness	40μm		
Tape width, mm	4.0	6.0	12.0
Critical current (77 K, s.f.)	100-200 A	150-300 A	400-700 A
Tensile strength	> 500 MPa		
Critical deformation	0.45 %		
Critical bend diameter	< 10 mm		
Critical current standard deviation	≤ 3 %		
Copper stabilizer	5μm		

■Please contact us with your request of tape specifications.

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SEPTEMBER 12TH, 2023

EVENTS

13:00 - 14:30
WiF lunch (by registration) - *Grand Theatre, Teddy Bar*
Lunch Break

09:45 - 10:45 / 15:00 - 15:45
Coffee Breaks - *Ground Floor Bar (GF) & Big One (BO)*
Sponsored by Faraday Factory & Shi Cryogenics

15:30 - 18:30
Tour Regular - *ITER Site, Saint Paul Lez Durance*

10:00 - 16:00
Exhibits - *Ground Floor Bar (GF) & Big One (BO)*

18:30 - 19:30
Concert - *Conservatoire Darius Milhaud*

19:00 - 22:00
Exhibitors Reception - *La Manufacture*

ORAL SESSIONS

08:00 - 08:10 **Announcements**

08:15 - 09:35 **2PL - How superconducting technology can hasten carbon neutrality?**

Session chairs: Ziad MELHEM, Kathleen AMM
Session location: Grand théâtre - Amphithéâtre

08:15 The Prospect of Carbon-Neutrality-Driven Energy & Power and the Possible Application of Superconductor · 2PL-1
Liye XIAO, Institue of Electrical Engineering, Chinese Acadeny of Sciences, Beijing, CHINA

08:35 Superconducting dc power transmission and energy storage for carbon neutrality in our globe · 2PL-2
Sataro YAMAGUCHI, Chubu University, Kasugai, JAPAN

08:55 Progress and challenges of superconducting technology in Korea · 2PL-3
Byung Su LIM, Korea Institute of Energy Technology, Naju, KOREA, REPUBLIC OF

09:45 - 11:15 **Women in Fusion Special Session**

Session chairs: Valentina CORATO, Min LIAO
Session location: Grand théâtre - Amphithéâtre

09:45 Fusion and magnets in fusion · WiF-1
Kinga GÁL, EUROfusion Consortium, Garching (Munich), GERMANY

10:00 Development of HTS conductors for EU-DEMO central solenoid · WiF-2
Valentina CORATO, ENEA, Frascati, ITALY

10:15 ITER magnet assembly experience and lessons learned for commissioning · WiF-3
Min LIAO, ITER Organization, Saint-Paul-lez-Durance, FRANCE

10:30 The recent progress of the CFERT central solenoid model coil(CSMC) program · WiF-4
Yanlan HU, Institue of Plasma physics,Chinese Academy of Sciences, HeFei, CHINA

10:45 Construction of superconducting conductor experiment facility for fusion reactor magnet · WiF-5
Hyunjung LEE, Korea Institute of Fusion Energy, Daejeon, KOREA, REPUBLIC OF

11:00 Status of the project: new upper divertor with coils in asdex upgrade · WiF-6
Irene ZAMMUTO, Max Planck Institut for Plasmaphysik, Garching bei Muenchen, GERMANY

11:25 - 13:05 2OrM1 - Large Fusion Projects - Progress I

Session chairs: Nicolai MARTOVETSKY, Valentina CORATO
Session location: Grand théâtre - Amphithéâtre

11:25 Invited – Testing of the ITER CS module #4 · 2OrM1-1
Nicolai MARTOVETSKY, ORNL, Oak Ridge, USA

11:50 The SPARC Tokamak Central Solenoid Model Coil · 2OrM1-2
Charlie SANABRIA, Commonwealth Fusion Systems, Devens, USA

12:05 An overview of the HTS magnet systems required for the our next advance prototype fusion device · 2OrM1-3
Rod BATEMAN, Tokamak Energy, Abingdon, UNITED KINGDOM

12:20 R&D Needs and Roadmaps for a US Fusion Magnet Base Program · 2OrM1-4
Yuhu ZHAI, Princeton Plasma Physics Laboratory, Princeton, New Jersey, USA

12:35 Engineering design and analysis of CFETR TF coil · 2OrM1-5
Jinxing ZHENG, Institute of Plasma Physics, Chinese Academy of Sciences, , CHINA

12:50 Updated design of the Central Solenoid for the DTT tokamak · 2OrM1-6
Luigi MUZZI, ENEA, Frascati, ITALY

16:00 - 18:00 2OrA1 - Special Session ScGA

Session chair: Ziad MELHEM
Session location: Grand théâtre - Amphithéâtre

16:00 Superconductivity Global Alliance (ScGA) Initiative Overview · 2OrA1-1
Ziad MELHEM, Oxford Quantum Solutions Ltd, , UNITED KINGDOM

16:20 ScGA - Strategic Roadmap of Grand Challenges in Fusion · 2OrA1-2
Neil MITCHELL, ITER Organization, Saint-Paul-lez-Durance, FRANCE

16:28 ScGA - Strategic Roadmap of Grand Challenges in Power, Industry & Transport · 2OrA1-3
Sastry PAMIDI, FAMU-FSU College of Engineering and the Center for Advanced Power Systems, Tallahassee, USA

16:36 ScGA - Strategic Roadmap of Grand Challenges in Healthcare · 2OrA1-4
Kathleen AMM, Brookhaven National Laboratory, Upton, USA

16:44 ScGA - Strategic Roadmap of Grand Challenges in Smart Science · 2OrA1-5
Mark BIRD, NHMFL - FSU, Tallahassee, USA

16:52 ScGA - Strategic Roadmap of Grand Challenges in Materials for Magnet Applications · 2OrA1-6
Venkat SELVAMANICKAM, University of Houston, AMPeers LLC, Houston, USA

SEPTEMBER 12TH, 2023

11:00 - 13:00 2OrSM - Conductors and Novel Technology

Session chairs: Anna KARIO, Matthew JEWELL
Session location: Grand théâtre - Studio 1

11:00 New scaling laws for pinning force density in superconductors · 2OrSM-1
Evgeny TALANTSEV, M N Miheev Institute of Metal Physics, Ekaterinburg, RUSSIAN FEDERATION

11:15 Ic measurement of REBCO tapes above 1 kA by pulsed current in high field superconducting magnets · 2OrSM-2
Yuji TSUCHIYA, Tohoku Univ., Sendai, JAPAN

11:30 Minimum quench energy in REBCO tapes with induced defects · 2OrSM-3
Christian LACROIX, Polytechnique Montreal, Montreal, CANADA

11:45 Quench concomitant to Lorentz-force-induced delamination in commercial REBCO coated conductors · 2OrSM-4
Marco BONURA, University of Geneva, Geneva, SWITZERLAND

12:00 Coupled magnetodynamic-thermal modeling of high temperature superconducting tapes using a mixed h-phi finite element approach for thin shells · 2OrSM-5
Gregory Giard, Lawrence Berkeley National Laboratory, Berkeley, USA

12:15 High quality mini cryo permanent magnet of single domain GdBCO bulks prepared by a Gd+011 TSIG technique · 2OrSM-6
Wanmin YANG, Shaanxi Normal University, Xi'an, CHINA

12:30 New optical magnetometry technique for tesla fields · 2OrSM-7
Hans STÆRKIND, University of Copenhagen & Copenhagen University Hospital - Amager and Hvidovre, Copenhagen, DENMARK

13:30 - 14:30 Short Courses HEP

Session location: Grand théâtre - Studio 1

Dr Hélène FELICE, CEA Paris-Saclay
Key concepts for accelerator magnets : conductor, design principle, training… / A bit of history : from the Tevatron to HL-LHC / Requirements for future HEP magnets and technical challenges

15:00 - 16:00 ASG Superconductords WORKSHOP : The new superconducting world enabled by HTS MGB2 technology

Session location: Grand théâtre - Studio 1

mgb2 the most flexible HTS wire solution

MT-28
International Conference
on Magnet Technology
Aix-en-Provence, France, 10-15 September 2023

SAVE THE DATE
12 September 2023

15.00 - 16.00
Studio 1, Grand Théâtre de Provence
Aix-en-Provence, France

THE NEW SUPERCONDUCTING WORLD ENABLED BY HTS MGB2 TECHNOLOGY

Fusion, Power Networks and Healthcare: how to innovate through cost effective approaches in technologically and environmentally challenging scenarios.

Free participation for MT-28 attendees subject to availability
For more information: sales.mgb2@as-g.it

WORKSHOP

SEPTEMBER 12TH, 2023

11:00 - 13:00 2OrM2 - Present and Future Accelerator Magnets, Quench Studies

Session chairs: Maria BALDINI, Tengming SHEN
Session location: Pavillon Noir - Amphithéâtre

11:00 Quench protection analysis of 20 T hybrid superconducting dipole magnets for future high-energy particle colliders · 2OrM2-1
Vittorio MARINOZZI, Fermi National Accelerator Laboratory, Batavia, USA

11:15 Quench performance of the First Pre-series AUP Cryo-Assembly · 2OrM2-2
Maria BALDINI, Fermi National Accelerator Laboratory, Batavia, USA

11:30 Analysis of current sharing in rebco coated conductor cables · 2OrM2-3
Michael SUMPTION, The Ohio State University, Columbus, USA

11:45 Quench protection of high temperature superconducting magnets: The margin of safety and machine learning · 2OrM2-4
Tengming SHEN, Lawrence Berkeley National Laboratory, Berkeley, USA

12:00 Demonstration of a saddle-shaped no-insulation HTS cosine-theta dipole magnet in conduction-cooling operation · 2OrM2-5
Geonyoung KIM, Seoul National University, Seoul, KOREA, REPUBLIC OF

12:15 Current bypassing behaviors during fast-ramping in saddle-shaped REBCO dipole magnet wound with a bundled-conductor · 2OrM2-6
Geonyoung KIM, Seoul National University, Seoul, KOREA, REPUBLIC OF

12:30 Development of metal-insulated iron-based superconducting coils and charging tests under high magnetic fields up to 32 T · 2OrM2-7
Chunyan LI, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

12:45 Feasibility study of applying the no-insulation coil on accelerator magnets · 2OrM2-8
Rui KANG, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

SEPTEMBER 12TH, 2023

16:00 - 18:00 2OrA2 - Large Fusion Projects - Progress II

Session chairs: Jinxing ZHENG, Christine HOA
Session location: Pavillon Noir - Amphithéâtre

16:00 Status of the qualification and manufacture of the ITER in-vessel coils · 2OrA2-1
Alexander VOSTNER, ITER, Saint-Paul-lez-Durance, FRANCE

16:15 Construction and application of large superconducting magnet performance research platform · 2OrA2-2
Liang GUO, Institue of Plasma physics,Chinese Academy of Sciences, Hefei, CHINA

16:30 35 years of TF Magnet System operation in Tore supra / WEST : Status and Lessons learnt · 2OrA2-3
Sylvain GIRARD, CEA, Saint-Paul-lez-Durance, FRANCE

16:45 The OpenStar HTS levitated dipole concept · 2OrA2-4
Ratu MATAIRA-COLE, Open Star Technologies, Wellington, NEW ZEALAND

17:00 Design and mechanical analysis of a HTS CS coil for the next generation fusion reactor · 2OrA2-5
Xiaogang LIU, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

17:15 Preliminary Design Study on HTS Toroidal Field Coil Shape for High Magnetic Field Spherical Tokamak · 2OrA2-6
Shailendra CHOUHAN, UKAEA, Abingdon, Oxfordshire, UNITED KINGDOM

17:30 Acceptance Test and Delivery of Pre-Compression Rings for ITER Magnet System · 2OrA2-7
Yury ILIN, ITER Organization, Saint-Paul-lez-Durance, FRANCE

17:45 Research and development of the joint for the ITER in-vessel coil · 2OrA2-8
Qiangwang HAO, Institute of Plasma Physics,Chinese Academy of Sciences, Hefei, CHINA

11:00 - 13:00 2OrM3 - Hybrid and Pulsed Magnets

Session chairs: Iain DIXON, Kohki TAKAHASHI
Session location: Conservatoire - Amphithéâtre

11:00 Commissioning of the 43+T Grenoble Hybrid Magnet · 2OrM3-1
Pierre PUGNAT, LNCMI - EMFL / CNRS / UGA, Grenoble, FRANCE

11:30 Stability analysis of superconducting outsert in the hybrid magnet system under 45.22 T · 2OrM3-3
Shili JIANG, High Magnetic Field Laboratory, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei, CHINA

11:45 New 60T mid-pulsed and 85T duplex magnets at the pulsed field facility -Los Alamos National Laboratory · 2OrM3-4
Doan NGUYEN, Los Alamos National Laboratory, LOs Alamos, USA

12:00 Status of the 100 T project at the Dresden High Magnetic Field Laboratory · 2OrM3-5
Sergei ZHERLITSYN, Helmholtz-Zentrum Dresden-Rossendorf, Dresden, GERMANY

12:15 Silver-copper composite wires prepared by spark plasma sintering and wire drawing for non-destructive pulsed high magnetic fields · 2OrM3-6
Simon TARDIEU, Laboratoire national des champs magnétiques intenses, Toulouse, FRANCE

12:30 Effect of Notch Geometry on the Plastic Deformation Behavior of High-strength Conductors · 2OrM3-7
Rongmei NIU, National High Magnetic Field Laboratory, Tallahassee, USA

12:45 Electromagnetic Buckling Analysis for High Field Pulsed Magnets · 2OrM3-8
Houxiu XIAO, Huazhong University of Science and Technology, Wuhan, CHINA

16:00 - 18:00 2OrA3 - High Luminosity LHC

Session chairs: Kathleen AMM, Michinaka SUGANO
Session location: Conservatoire - Amphithéâtre

16:00 Training performance and magnetic measurements during vertical testing of the MQXFA magnets for HL-LHC · 2OrA3-1
Anis BEN YAHIA, Brookhaven National Laboratory, Upton, USA

16:15 Towards MQXFB series coils · 2OrA3-2
Nicholas LUSA, CERN, Meyrin, SWITZERLAND

16:30 Test results of the first series magnet of beam separation dipole for the HL-LHC upgrade · 2OrA3-3
Kento SUZUKI, High Energy Accelerator Research Organization, Tsukuba, JAPAN

16:45 The Development of MBRD Magnets, the Separation/Recombination Dipoles for the LHC High Luminosity Upgrade · 2OrA3-4
Stefania FARINON, INFN, Genoa, ITALY

17:00 Powering test results of the first batch of mcbxfb magnets produced at industry · 2OrA3-5
Luis GONZALEZ, CIEMAT, Madrid, SPAIN

17:15 Transients and coil displacement in accelerator magnets · 2OrA3-6
Gerard WILLERING, CERN, Geneva, SWITZERLAND

17:30 Effect of intentionally introduced strand damage in the Nb3Sn Rutherford cable on the performance of a short racetrack magnet · 2OrA3-7
Ruben KEIJZER, University of Twente, Enschede, THE NETHERLANDS

17:45 Fabrication and test of the fourth prototype of the D2 orbit corrector dipole for HL-LHC · 2OrA3-8
Veronica ILARDI, CERN, Geneva, SWITZERLAND

POSTERS

09:45 - 11:30 **2PoM - Poster sessions**

2PoM01 - Accelerator Magnets - Nb3Sn

Session chairs: Fernando TORAL FERNÁNDEZ, Anis BEN YAHIA / Session location: Ground Floor Bar (GF)

- 2PoM01-01 · GF-L1-01 · Subscale Stress-Managed Common Coil Design
Douglas M ARAUJO, PSI, Villigen, SWITZERLAND

- 2PoM01-03 · GF-L1-03 · Testing of a specimen of Nb3Sn Cable-in-Conduit for high-field dipoles
Gareth MAY, Texas A&M University, College Station, USA

- 2PoM01-04 · GF-L1-04 · Thermomechanical characterization of Nb3Sn cables foreseen for the Graded Nb3Sn Research Racetrack Dipole Demonstrator (R2D2)
Elena FERNANDEZ MORA, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

- 2PoM01-06 · GF-L1-05 · Assessment of Training Performance, Degradation and Robustness of Paraffin-Wax Impregnated Nb3Sn Coil under High Magnetic Field
Douglas M ARAUJO, PSI, Villigen, SWITZERLAND

- 2PoM01-07 · GF-L1-06 · Transverse pressure performance of paraffin-impregnated Nb3Sn Rutherford cables compared to epoxy-impregnated cables
Simon OTTEN, University of Twente, Enschede, THE NETHERLANDS

- 2PoM01-08 · GF-L1-07 · Influence of fillers and debonding layers on training of short Nb3Sn Rutherford cables studied in the BOX facility
Simon OTTEN, University of Twente, Enschede, THE NETHERLANDS

2PoM02 - Modelling of HTS Coils

Session chair: Arnaud BADEL / Session location: Big One (BO)

- 2PoM02-01 · BO-L1-01 · 2D axisymmetric modeling of the hts insert nougat in a background magnetic field generated by resistive magnet
Jeremie MUZET, LNCMI - EMFL / CNRS / UGA, Grenoble, FRANCE

- 2PoM02-02 · BO-L1-02 · Comparisons between results of quench simulations and tests of a 13 T REBCO coil in a strong background field and self-field
Iain DIXON, National High Magnetic Field Laboratory, Tallahassee, USA

- 2PoM02-03 · BO-L1-03 · Analysis of screening-current-induced strains in high field REBCO insert coils
Timing QU, Tsinghua University, Beijing, CHINA

- 2PoM02-04 · BO-L1-04 · Numerical and Experimental Analysis on the Critical Current Measurement and the Correction of No-Insulation HTS coil
Jiho LEE, Pusan National University, Busan, KOREA, REPUBLIC OF

- 2PoM02-05 · BO-L1-05 · Electromagnetic-mechanical simulation of ultra-high field test coils and estimation of critical currents
Yufan YAN, Seoul National University, Seoul, KOREA, REPUBLIC OF

- 2PoM02-06 · BO-L1-06 · Stress simulation of insert NI REBCO pancake coils wound with multi-bundled conductors considering individual turn movement
So NOGUCHI, Hokkaido University, Sapporo, JAPAN

- 2PoM02-07 · BO-L1-07 · A Gourd-shape Architecture of HTS Permanent coil with Functions of Flux Density Amplification and Flux Accumulation
Ziqing MENG, North China Electric Power University, Beijing, CHINA

- 2PoM02-08 · BO-L1-08 · HTS Coil Module Structural Support for High Field Scanning Tunneling Microscope
Yuhu ZHAI, Princeton Plasma Physics Laboratory, Princeton, New Jersey, USA

- 2PoM02-10 · BO-L2-01 · Screening current induced stress/strain analysis of high field REBCO coils including winding and cooldown
Yu SUETOMI, National High Magnetic Field Laboratory, Tallahassee, USA

2PoM03 - Testing of High Field HTS Coils

Session chair: Yufan YAN / Session location: Big One (BO)

- 2PoM03-01 · BO-L2-02 · Experimental and Numerical Investigations on the Screening Current-Induced Voltage and Repetitive Critical Current Measurement of the REBCO Coils
Jiho LEE, Pusan National University, Busan, KOREA, REPUBLIC OF

- 2PoM03-02 · BO-L2-03 · Evaluation and analysis of a 10T-class small coil using REBCO coated conductors laminated with thick copper tapes
Shogo MUTO, Fujikura Ltd., Sakura, Chiba, JAPAN

- 2PoM03-03 · BO-L2-04 · Development of rotating coil measurement system for superconducting multiplets in HIAF-HFRS
Li'An JIN, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 2PoM03-04 · BO-L2-05 · Crossover connections for REBCO double-pancake coil modules: Requirements, design and tests
William MARSHALL, National High Magnetic Field Laboratory, Tallahassee, USA

- 2PoM03-05 · BO-L2-06 · Design and construction of a layer-wound insert coil with HTS tapes operating in a background magnetic field exceeding 14 T
J H. WAN, Institute Of Plasma Physics Chinese Academy Of Sciences, HeFei, CHINA

- 2PoM03-06 · BO-L2-07 · Experimental study of multi-field measurements based on split superconducting magnet structure
Yongjie ZHANG, Lanzhou University of Technology, Lanzhou, CHINA

- 2PoM03-07 · BO-L2-08 · Magnetic Field Control Of A No-Insulation Type REBCO Magnet Using Feedback Control Based On An Off-Centered Field Reference
Kwangmin KIM, National High Magnetic Field Laboratory, Tallahassee, USA

- 2PoM03-08 · BO-L3-01 · Fatigue Characteristics Of The HTS Coil
Kwangmin KIM, National High Magnetic Field Laboratory, Tallahassee, USA

- 2PoM03-09 · BO-L3-02 · Resolving Discrepancy Between MTI Coil and Short Sample for the 40T Project at the NHMFL
Ernesto BOSQUE, National High Magnetic Field Laboratory, Tallahassee, USA

- 2PoM03-10 · BO-L3-03 · The fabrication and test of iron-based superconducting high field inserted coils
Pengcheng HUANG, High Magnetic Field Laboratory, Chinese Academy of Sciences., Hefei, Anhui, CHINA

2PoM04 - Novel Ideas for Medical Applications

Session chairs: Steven BALL, Dongkeun PARK / Session location: Ground Floor Bar (GF)

- 2PoM04-01 · GF-L1-08 · Shaping magnetic fields with bulk superconductors and applications to magnet technology
Natanael BORT-SOLDEVILA, Universitat Autonoma Barcelona, Bellaterra, SPAIN

- 2PoM04-02 · GF-L1-09 · Design and comparison of external permanent magnet topologies for digestive tract examination
Zhifan TENG, School of Rare earths, University of Science and Technology of China, Hefei, CHINA

- 2PoM04-03 · GF-L1-10 · Design, Analysis and Control of Mobile Electromagnetic Actuation Systems for Neurovascular Interventions
Hongbo SUN, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

- 2PoM04-04 · GF-L2-01 · A cryogen-free, dual independent solenoid magnet system for nuclear demagnetisation experiments
Steven BALL, Oxford Instruments NanoScience, Abingdon, UNITED KINGDOM

- 2PoM04-05 · GF-L2-02 · Development of a new iron core of Fe-based nanocrystalline strip for scanning magnet
Ming Bang LYU, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 2PoM04-06 · GF-L2-03 · An Optimized Design of Multilevel Repetitive Pulse Magnetic Field system
Peiyu TU, Huazhong University of Science and Technology, WuHan, CHINA

- 2PoM04-07 · GF-L2-04 · A large-bore HTS magnet for generating AC magnetic field
Luzhong WANG, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

2PoM05 - Motor and Maglev

Session chair: Jun MA / Session location: Ground Floor Bar (GF)

- 2PoM05-01 · GF-L2-05 · Electromagnetic Characterization of Superconducting Linear Synchronous motor based on Bezier Profile modeling
Jin LI, Southwest Jiaotong University, Chengdu, CHINA

- 2PoM05-02 · GF-L2-06 · A Design Study of Superconducting Planar Motor
Yujia ZHAI, Hunan University, Changsha, CHINA

- 2PoM05-03 · GF-L2-07 · Study on the dynamic characteristics of stack-type HTS maglev system based on H-formulation
Wenjiao YANG, Southwest Jiaotong University, Chengdu, CHINA

- 2PoM05-04 · GF-L2-08 · Designing of a testing platform for dynamic stability of superconducting null-flux electrodynamic suspension system
Xiaofen LI, Shanghai Jiao Tong University, Shanghai, CHINA

- 2PoM05-05 · GF-L2-09 · Design and experiment of post-assembly magnetization system for a 160-kW interior permanent-magnet motor
Zhang TU, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

- 2PoM05-06 · GF-L2-10 · Design and performance analysis of a HTS homopolar induction machine for more electric aircrafts
Jun MA, University of Bristol, BRISTOL, UNITED KINGDOM

- 2PoM05-07 · GF-L3-01 · Modelling of a trapped-flux superconducting motor with the h-phi formulation
Bárbara Maria OLIVEIRA SANTOS, Universidade do Estado do Rio de Janeiro, Rio de Janeiro, BRAZIL

- 2PoM05-08 · GF-L3-02 · An Effective Design and Analysis on the 500 kW HTS DC Motor for High-Torque Electric Propulsion
Jongho CHOI, SuperGenics Co., Ltd., Changwon, KOREA, REPUBLIC OF

- 2PoM05-09 · GF-L3-03 · Trial Test of a 16.9 kW Brushless HTS Synchronous Motor
Wei WANG, Sichuan University, Chengdu, CHINA

- 2PoM05-10 · GF-L3-04 · Electromagnetic characteristics and structural optimization of HTS synchronous motor for electric vehicle
Junfeng YANG, Beijing Jiaotong University, Beijing, CHINA

2PoM06 - Transportation and Motors

Session chair: Xiaoze PEI / Session location: Big One (BO)

- 2PoM06-01 · BO-L3-04 · Influence of Stator Slotting Effect on the Magnetization and Demagnetization of Stacked Superconductors in a HTS Machine
Qi WANG, University of Cambridge, Cambridge, UNITED KINGDOM

- 2PoM06-02 · BO-L3-05 · Feasibility study of partially and fully superconducting machines for electric aircraft
Yihan WANG, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, CHINA

- 2PoM06-03 · BO-L3-06 · Process analysis of liquid hydrogen cooling system according to UAM mission profile of fuel cell and battery hybrid eVTOL using HTS
Youngjun CHOI, Changwon National University, Changwon, KOREA, REPUBLIC OF

- 2PoM06-04 · BO-L3-07 · Quench dynamic analysis and fault control for superconducting electrodynamic suspension train
Zhenhua SU, Southwest Jiaotong University, Chengdu, CHINA

- 2PoM06-05 · BO-L3-08 · Dynamic loss effect electromagnetic analysis of high temperature superconducting(HTS) maglev system
Yuhu BU, School of Mechanical Engineering, Anhui University of Science & Technology, Hefei, CHINA

- 2PoM06-06 · BO-L4-01 · Study on the stability of zero-flux superconducting electro-dynamic suspension systems with electromagnetic interaction energy surface
Xuanyu LI, Shanghai Jiao Tong University, Shanghai, CHINA

- 2PoM06-07 · BO-L4-02 · Performance evaluation of superconducting electrodynamic suspension for hyperloop using static experiments
Jungyoul LIM, Korea National University of Transportation, Ui-Wang, KOREA, REPUBLIC OF

- 2PoM06-08 · BO-L4-03 · Off-power REBCO magnets for electrodynamic-suspension running of a prototype vehicle
Wei WU, Shanghai Jiao Tong University; Shanghai Superconductor Technology Co., Ltd., Shanghai, CHINA

- 2PoM06-09 · BO-L4-04 · Electromagnetic Guidance and Levitation Forces between HTS Magnets and Conductive Tubes for Hyperloop
Suyong CHOI, Korea Railroad Research Institute (KRRI), Ui-Wang, KOREA, REPUBLIC OF

- 2PoM06-10 · BO-L4-05 · Manufacture and Preliminary Prototype Test of a HTS Suspension Electromagnet for Maglevs
Zou CHUNLONG, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

- 2PoM06-11 · BO-L4-06 · Guidance Force Properties of Attractive Magnetic Levitation System using HTS Bulk
Kota NAKAMURA, Sophia University, Tokyo, JAPAN

- 2PoM06-12 · BO-L4-07 · Flux Trapping Implementation in High Temperature Superconducting Magnets for Superconducting Electric Machines
Alexander SMITH, University of Manchester, Manchester, UNITED KINGDOM

2PoM07 - Magnets for Power and Energy - Test Coils Analysis and Design Tools I

Session chair: Wilder DURANTE GOMEZ / Session location: Big One (BO)

- 2PoM07-01 · BO-L4-08 · Influence of the internal magnetic field in the high temperature superconducting flux switched linear motor on the high temperature superconducting coil and its suppression method
Ruiwu CAO, Nanjing University of Aeronautics and Astronautics, Nanjing, CHINA

- 2PoM07-02 · BO-L5-01 · Fem-circuit co-simulation of superconducting synchronous wind generators connected to a dc network
Wilder DURANTE GOMEZ, Posgrado en Ingeniería Eléctrica, Universidad Nacional Autónoma de México, Mexico City, MEXICO

- 2PoM07-03 · BO-L5-02 · HTS Synchronous Motor Based On Linear-Motor Type Flux Pump: Brushless Excitation Test Results Under Four Quadrant Control
Peng LIU, Sichuan University, Chengdu, CHINA

- 2PoM07-04 · BO-L5-03 · Study of superconducting air-cored squirrel cage rotor with trapezoidal armature coils for fully superconducting induction motor
Tsumori MASAHIKO, Kyushu University, Fukuoka, JAPAN

- 2PoM07-05 · BO-L5-04 · Design, construction, and operation of the synchronous motor using bitter plate field winding
Hao MING, Seoul National University, Seoul, KOREA, REPUBLIC OF

- 2PoM07-06 · BO-L5-05 · Simulation model and structure optimization of 500 kVA/10 kV HTS transformer
Wei PI, North China Electric Power University, Beijing, CHINA

- 2PoM07-07 · BO-L5-06 · Ends optimization of superconducting racetrack magnets to improve the performances of HTS wind turbine generators
Zhengwei ZHAO, Guangdong Ocean University, Zhanjiang, CHINA

- 2PoM07-08 · BO-L5-07 · Investigation on the Charging Characteristics of HTS Bridge for Self-Regulating Flux Pump
Yao ZHAI, Southwest Jiaotong University, chengdu, CHINA

- 2PoM07-09 · BO-L5-08 · Optimizing the Charging Performance of Self-regulating HTS Flux Pump: Magnetic Coupling Enhancement
Yanyu ZHOU, Southwest Jiaotong University, Chengdu, CHINA

- 2PoM07-10 · BO-L6-01 · Pulse Field Magnetization (PFM) with Different HTS Stacked Tape Architectures for Electrical Machine
Wei HAIGENING, University of Cambridge, Cambridge, UNITED KINGDOM

- 2PoM07-11 · BO-L6-02 · Design of a sectional magnet for electromagnetic forming of variable-diameter tubes
Shaowei OUYANG, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

SEPTEMBER 12TH, 2023

2PoM08 - REBCO Conductors

Session chair: Xiaoqiang LAI / Session location: Jessye Norman (JN)

- 2PoM08-01 · JN-L1-01 · High-resolution Detection of Localized Jc inhomogeneity in long-length REBCO Coated Conductor by Combining Magnetic Microscopy and Deep Learning-based Object Detection
Zeyu WU, Kyushu University, FUKUOKA, JAPAN

- 2PoM08-02 · JN-L1-02 · Improvement of the thickness uniformity across the width direction of 2G HTS wire
Hongsoo HA, KERI, Changwon, KOREA, REPUBLIC OF

- 2PoM08-03 · JN-L1-03 · Experimental Research on the Critical Current Characteristics of HTS Cable-In-Conduit Conductor Under the Cyclic Transverse Load
Xiaoqiang LAI, Southwestern Institute of Physics, Chengdu, CHINA

- 2PoM08-04 · JN-L1-04 · The study of the residual magnetic field in HTS stacked tape conductors
Shuyang GAO, southwest jiaotong university, chengdu, CHINA

- 2PoM08-05 · JN-L1-05 · Degradation Behavior and Mechanical Properties of High-Temperature Superconducting Tape with a Vanadium Trioxide Coating
Mohamed Mussa MTANGI, Department of Materials Science and Engineering, Korea University, Seoul, KOREA, REPUBLIC OF

- 2PoM08-06 · JN-L1-06 · Comparison study of laser and mechanical slitting techniques on electromechanical properties of 2G-HTS tapes
Chunjiang GUO, Shanghai Jiao Tong University, Shanghai, CHINA

- 2PoM08-08 · JN-L1-07 · Development of a multi-axis winding technology for saddle coils using ReBCO coated conductors
Seongjin YANG, Pohang Accelerator Laboratory, POSTECH, Pohang, KOREA, REPUBLIC OF

2PoM09 - Tapes, Test coils, and Measurement Techniques

Session chairs: Nikolay BYKOVSKIY, Pablo CAYADO / Session location: Ground Floor Bar (GF)

- 2PoM09-02 · GF-L3-05 · An experimental study on performance of HTS pancake coil under hoop strain using mechanical apparatus
Wonseok JANG, Seoul National University, Seoul, KOREA, REPUBLIC OF

- 2PoM09-03 · GF-L3-06 · Cryostat Design for In-Field Critical Current Measurement System with 102 mm 15 T Background Magnet
Wooseung LEE, Korea Basic Science Institute, Cheongju, KOREA, REPUBLIC OF

- 2PoM09-04 · GF-L3-07 · Experimental study on the effect of temperature on high temperature superconducting coils
Jingfeng ZHANG, Institute of Plasma Physics, Hefei Academy of Sciences, Chinese Academy of Sciences, Hefei, CHINA

- 2PoM09-05 · GF-L3-08 · A numerical method based on T-A formulation for calculating dynamic resistance in HTS tapes
Bohan TANG, High Magnetic Field Laboratory, Hefei Institues of Physical Sicence, Chinese Academy of Sciences, Hefei Anhui, CHINA

- 2PoM09-06 · GF-L3-09 · Dynamic resistance of REBCO coated conductors: the threshold magnetic field and thermal effect
Yueming SUN, Victoria University of Wellington, Lower Hutt, NEW ZEALAND

- 2PoM09-07 · GF-L3-10 · Novel equation for dynamic resistance calculation of REBCO coated conductor in full-range DC transport current
Zhuoyan ZHONG, Shanghai Jiao Tong University, Shanghai, CHINA

- 2PoM09-08 · GF-L4-01 · Study on dynamic resistance of 2G HTS ReBCO coated conductor
Huaqian XIAO, Hunan University, Changsha, CHINA

- 2PoM09-09 · GF-L4-02 · Introducing the intelligent new generation of NMR probes: the 1426 and 1526 from Metrolab
Antoine DARIDON, Metrolab Technology, Plan-les-Ouates, SWITZERLAND

- 2PoM09-10 · GF-L4-03 · Pulsed wire method for field integral measurement at ssrf
Shudong ZHOU, Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai, CHINA

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2PoM10 - Insulation Materials

Session chairs: Roland PICCIN, Owen TAYLOR / Session location: Jessye Norman (JN)

- 2PoM10-01 · JN-L2-01 · A Comparative Study on the Dielectric Breakdown Characteristics of Penetration Breakdown and Creepage Discharge under Vacuum Conditions
Junyoung PARK, Korea National University of Transportation, Chungju-si, KOREA, REPUBLIC OF

- 2PoM10-02 · JN-L2-02 · Effect of Surface Roughness on Creepage Discharge Characteristics of Insulating Materials under Various Vacuum Conditions
Woocheol SHIN, Korea National University of Transportation, Chungju-si, KOREA, REPUBLIC OF

- 2PoM10-04 · JN-L2-04 · Characterization of the Mechanical and Thermal Properties, Including Fracture Toughness, of Epoxy Resin System DGEBA / POPDA (D400)
Owen TAYLOR, Siemens Healthineers Magnet Technology, Oxford, UNITED KINGDOM

- 2PoM10-05 · JN-L2-05 · Influence of thermal conductivity in insulating sheet on stability in conduction-cooled HTS coils
Keito ARATA, Sophia University, Shinagawa-ku, JAPAN

- 2PoM10-06 · JN-L2-06 · A Study of the Electrical Characteristics of No-Insulation High-Temperature Superconducting Coils Impregnated with an Electrically Conductive Epoxy
Young Jin HWANG, Korea Maritime and Ocean University, Busan, KOREA, REPUBLIC OF

14:30 - 16:30 2PoA - Poster sessions

2PoA01 - Accelerator Magnets - High Field

Session chairs: Paolo FERRACIN, Stefania FARINON / Session location: Ground Floor Bar (GF)

- 2PoA01-01 · GF-L1-01 · Magnetic and Mechanical Design of a 15-T Hybrid NbTi-Nb3Sn-REBCO Dipole Magnet with Large Aperture for a Multi-Field Test Facility
Ming Zhi GUAN, Institute of Modern Physics, Chinese Academy of Science, Lanzhou, CHINA

- 2PoA01-02 · GF-L1-02 · Conceptual design of a target and capture channel for a muon collider
Alfredo PORTONE, Fusion For Energy, Barcelona, SPAIN

- 2PoA01-04 · GF-L1-04 · Mechanical structure analysis of a 16 T CCT magnet
Zhilong HOU, Institute of High Energy Physics, CAS, Beijing, CHINA

- 2PoA01-05 · GF-L1-05 · Mechanical analysis and design of the 15 T hybrid superconducting dipole magnet
Qiang HU, Institute of Modern Physics, Chinese Academy of Sciences, LanZhou, CHINA

- 2PoA01-06 · GF-L1-06 · New mechanical layout for the 12 T, Nb3Sn, cos0 short model: Falcon Dipole
Nicola SALA, INFN Genova, Genoa, ITALY

- 2PoA01-07 · GF-L1-07 · Design of a common coil magnet using existing racetrack model coils (RMC)
Jesús ángel GARCÍA-MATOS, CIEMAT (Centro de Investigaciones Energéticas Medioambientales y Tecnológicas) and ICAI School of Engineering, Comillas Pontifical University, Madrid, SPAIN

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2PoA02 - Accelerator Magnets - Field Quality

Session chairs: Vadim KASHIKHIN, Tatsushi NAKAMOTO / Session location: Ground Floor Bar (GF)

- 2PoA02-01· GF-L1-09 · Research on measurement methods for large warm-iron superconducting dipole magnet in HIAF-HFRS
Zidi WU, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 2PoA02-02 · GF-L1-10 · Magnetic field measurement of 2GeV FFAG accelerator 1:4 scaled model magnet
Hongji ZHOU, China Institute of Atomic Energy, Beijing, CHINA

- 2PoA02-03 · GF-L2-01 · Magnetic measurements and alignment results of LQXFA cold mass assemblies at Fermilab
Joseph DIMARCO, Fermi National Accelerator Laboratory, Batavia, USA

- 2PoA02-04 · GF-L2-02 · Magnetic measurement of superconducting transport solenoid for COMET
Yasushi ARIMOTO, High Energy Accelerator Research Organization, Tsukuba, JAPAN

- 2PoA02-05 · GF-L2-03 · Field quality analysis of the separation-recombination dipole MBRD for the High-Luminosity upgrade of LHC
Alessandra PAMPALONI, INFN - Genova, Genoa, ITALY

- 2PoA02-06 · GF-L2-04 · Evaluation of Magnetic Performance of Superconducting Magnets for the Superconducting Fragment Separator at FAIR
Eunjung CHO, GSI Helmholtzzentrum für Schwerionenforschung GmbH, Darmstadt, GERMANY

- 2PoA02-07 · GF-L2-05 · Magnetic measurement with single stretched wire method on HEPS magnet
Mei YANG, Institute of high energy physics,CAS, Beijing, CHINA

- 2PoA02-08 · GF-L2-06 · A new large scale measurement campaign at Fermilab
Michael TARTAGLIA, Fermi National Accelerator Laboratory, Batavia, USA

- 2PoA02-09 · GF-L2-07 · Measurement setup and magnetic field studies of a compact superconducting undulator with laser-structured HTS tapes
Bennet KRASCH, Karlsruhe Institute of Technology, Karlsruhe, GERMANY

- 2PoA02-10 · GF-L2-08 · The magnetic field measurement of the quadrupole magnet in BRing of HIAF
Jing YANG, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

2PoA03 - Fusion Magnets - Magnet Mechanical Design and Analysis

Session chairs: José LORENZO, Daniel BIEK / Session location: Big One (BO)

- 2PoA03-01 · BO-L1-01 · The preload structure analysis of CFETR CSMC under reference scenarios
Xianwei WANG, Jiangsu University of Technology, Changzhou, CHINA

- 2PoA03-02 · BO-L1-02 · ITER TF Pre-Compression Ring Tightening Analysis
Luigi RECCIA, Fusion for Energy, Barcelona, SPAIN

- 2PoA03-07 · BO-L1-06 · Preliminary design and electromechanical analysis of a Winding Pack for high field helias magnets
Daniel BIEK, EPFL-SPC, Villigen PSI, SWITZERLAND

- 2PoA03-08 · BO-L1-07 · The magnet systems for the FUTURE machine: a parametric design study
Lorenzo GIANNINI, ENEA, Frascati, ITALY

- 2PoA03-10 · BO-L1-08 · The PF sizing macro-block for the MAgnet Design Explorer (MADE) algorithm
Lorenzo GIANNINI, ENEA, Frascati, ITALY

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2PoA04 - Fusion Magnet Systems - Progress III

Session chairs: Mio NAKAMOTO, Yasuyuki MIYOSHI / Session location: Big One (BO)

- 2PoA04-01 · BO-L2-01 · The magnets operation aimed for mega-ampere plasma of HL-2M tokamak
Xiaolong LIU, Southwestern Insititute of Physics, Chengdu, CHINA

- 2PoA04-02 · BO-L2-02 · PROGRESS towards Demo4 - the world's first high field HTS magnet in a spherical tokamak configuration
Greg BRITTLES, Tokamak Energy, Abingdon, UNITED KINGDOM

- 2PoA04-03 · BO-L2-03 · Installation progress of the Central Solenoid (CS) on ITER site
Tao JIANG, Southwestern Institute of Physics, CHENGDU, CHINA

- 2PoA04-04 · BO-L2-04 · Status and Progress on First-of-a-Kind Feeder Junction Assembly of ITER Magnet System
Hyungjun KIM, ITER Organization, Saint-Paul-lez-Durance, FRANCE

- 2PoA04-05 · BO-L2-05 · High temperature superconducting REBCO coated conductors for ultra-high-field fusion: from compact to large-scale fuson reactors
Xiaodong LI, Technische Universität München (TUM), Germany, Munich, GERMANY

- 2PoA04-06 · BO-L2-06 · Progress towards a 10-kA HTS flux pump for fusion TF magnets at Paihau-Robinon Research Institute
James H. P. RICE, Victoria University of Wellington, Lower Hutt, NEW ZEALAND

- 2PoA04-07 · BO-L2-07 · ITER correction coil and magnet feeder on-site installation lessons learned
Chen LIU, Institute of plasma physics, Chinese Academy of Sciences, Hefei, CHINA

- 2PoA04-08 · BO-L2-08 · Completion of the ten insertions and cold tests of the European Toroidal Field Coils for ITER: lesson learned
Boris BELLESIA, Fusion for Energy, Barcelona, SPAIN

- 2PoA04-09 · BO-L3-01 · Delivered poloidal field coils to ITER fusion tokamak facility: status, factory acceptance test results and overview of the undergone electrical tests in manufacturing processes
Monica MARTINEZ LOPEZ, Fusion for Energy, Cadarache, FRANCE

- 2PoA04-10 · BO-L3-02 · Status of the top plate and anticryostat for high field cable test facility at fermilab
Vlad NIKOLIC, Fermi National Accelerator Laboratory, Batavia, USA

- 2PoA04-11 · BO-L3-03 · ITER TF Load Transfer and Pre-compression assembly process development
Naoki SAWA, ITER Organization, Manosque, FRANCE

2PoA05 - Fusion Magnets - Quench and NI coils I

Session chair: Konrad RISSE / Session location: Big One (BO)

- 2PoA05-01 · BO-L3-04 · High voltage Signal Conditioner for the ITER superconducting magnet Quench detection system
Seungje LEE, ITER, Saint-Paul-lez-Durance, FRANCE

- 2PoA05-02 · BO-L3-05 · Design of Quench Protection Circuit for the Superconducting Conductor Experiment Magnet
Seokho NAM, Korea Institute of Fusion Energy, Daejeon, KOREA, REPUBLIC OF

- 2PoA05-03 · BO-L3-06 · Simulations of large minimally insulated hts magnets
Peter TITUS, Princeton Plasma Physics Laboratory, Princeton, USA

- 2PoA05-04 · BO-L3-07 · An experiment on radiation induced attenuation at cyrogenic temperatures with active optical annealing
Owen DUKE, Commonwealth Fusion Systems, Devens, USA

- 2PoA05-05 · BO-L3-08 · Development of a thermal-hydraulic and electric model for no-insulation large-scale coils
Andrea ZAPPATORE, Politecnico di Torino, Dipartimento energia, Torino, ITALY

- 2PoA05-06 · BO-L4-01 · Fusion magnet quench risk increase with radiation damage
Jacob JOHN, UKAEA, Abingdon, UNITED KINGDOM

- 2PoA05-07 · BO-L4-02 · Quench detection circuit using a non-earthed high-voltage divider array for the KSTAR TF coils
Hirofumi YONEKAWA, Korea Institute of Fusion Energy, Daejeon, KOREA, REPUBLIC OF

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2PoA06 - Materials for Pulsed Magnets

Session chair: Rongmei NIU / Session location: Jessye Norman (JN)

- 2PoA06-01 · JN-L1-01 · Transverse tensile, compression and in-plane shear strength of ZYLON/epoxy composite
Siyuan CHEN, Huazhong University of Science and Technology, Wuhan, CHINA

- 2PoA06-02 · JN-L1-02 · Internal stress anisotropy in high-strength CuAg conductor
Ke HAN, florida state university, Tallahassee, USA

- 2PoA06-03 · JN-L1-03 · Study of high strength and high conductivity Copper-Niobium composite wire for high field pulsed magnets
Pengfei WANG, Northwest Institute for Non-ferrous Metal Research, Xi 'an, CHINA

- 2PoA06-04 · JN-L1-04 · Optimization of PBO fiber thickness for high field pulsed magnets
Shuang WANG, Huazhong University of Science and Technology, Wuhan, CHINA

- 2PoA06-05 · JN-L1-05 · The Mechanical Behavior of Fiber Composites in Pusled High-field Magnets
Siyuan CHEN, Huazhong University of Science and Technology, Wuhan, CHINA

- 2PoA06-06 · JN-L1-06 · Fabrication of high strength and high conductivity Cu-Nb composite wires with for high field pulsed magnets
Pengfei WANG, Northwest Institute for Non-ferrous Metal Research, Xi 'an, CHINA

- 2PoA06-07 · JN-L1-07 · Characterization of microstructure of high-strength CuAg after service
Ke HAN, Florida state university, Tallahassee, USA

2PoA07 - DC Resitive Magnets

Session chairs: Frans WIJNEN, Christophe TROPHIME / Session location: Jessye Norman (JN)

- 2PoA07-01 · JN-L2-01 · Design of a 42 T Resistive Magnet at the CHMFL
Zhen FANG, The High Magnetic Field Laboratory of the Chinese Academy of Sciences (CHMFL), Hefei, CHINA

- 2PoA07-02 · JN-L2-02 · Redesign of large Bitter magnet coils at the LNCMI
Frans WIJNEN, Radboud University - High Field Magnet Laboratory, Nijmegen, THE NETHERLANDS

- 2PoA07-03 · JN-L2-03 · Test Operations of the Upgraded Hybrid Magnet at CHMFL
Pengcheng HUANG, High Magnetic Field Laboratory, Chinese Academy of Sciences., Hefei, Anhui, CHINA

- 2PoA07-04 · JN-L2-04 · Design of the cooling water system upgrade for 42T resistive magnet at the CHMFL
Tang JIALI, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei, CHINA

2PoA08 - Power and Transportation Machines

Session chair: Jang-Hee YOON / Session location: Big One (BO)

- 2PoA08-01 · BO-L4-03 · Low ac loss HTS wire, cable, and coil with the Bi2212 superconductor for stator applications
Alexander OTTO, Solid Material Solutions, LLC, North Chelmsford, USA

- 2PoA08-02 · BO-L4-04 · Measurements of the induced current in REBCO rotor with air core in the induction motor
Akifumi KAWAGOE, Kagoshima University, Kagoshima, JAPAN

- 2PoA08-03 · BO-L4-05 · A study on the design of LH2 cooling system for 100 kW-class LH2–HTS electric propulsion system
Kihwan KIM, Changwon National University, Changwon, KOREA, REPUBLIC OF

- 2PoA08-04 · BO-L4-06 · AC Loss Characteristics of HTS Field Winding for Synchronous Motor According to Stator Configuration
Jonghoon YOON, Seoul National University, Seoul, KOREA, REPUBLIC OF

- 2PoA08-05 · BO-L4-07 · Calculation of AC loss in the ReBCO stator of a high-dynamic linear motor using an experimentally verified model
Jeroen TER HARMSEL, University of Twente, Enschede, THE NETHERLANDS

- 2PoA08-06 · BO-L4-08 · Comparative analysis of iron loss in laminated topology of different modular stator grain oriented electrical steels at low temperature
Yuechao MA, Shenyang University of Technology, Shenyang, CHINA

- 2PoA08-07 · BO-L5-01 · Reluctance mesh-based magnetic equivalent circuit model of a High Temperature superconductor hybrid synchronous machine
Frederic TRILLAUD, Universidad Nacional Autónoma de Mexico, MEXICO

- 2PoA08-08 · BO-L5-02 · Multi-physics analysis of ReBCO magnets for high temperature superconducting electrical machine
Xuezhi LUO, Hunan University, Changsha, CHINA

- 2PoA08-09 · BO-L5-03 · AC loss calculation of racetrack-shaped HTS-excitation magnet for electrical machine considering end part
Mingzhe SANG, Qingdao University, Qingdao, CHINA

- 2PoA08-10 · BO-L5-04 · Optimal Design of Resonance Circuit Topology for a Wireless Power Transmission using HTS coils
Ryota INOUE, Okayama University, Okayama, JAPAN

- 2PoA08-11 · BO-L5-05 · Simulation study on AC loss of HTS magnet for multi-module suspension power supply system
Zhiqiang ZHENG, Hunan University, CHINA CHANGSHA CITY, CHINA

2PoA09 - Maglev and SMES

Session chairs: Qing SHAO, Koji KAMIYA / Session location: Big One (BO)

- 2PoA09-01 · BO-L5-06 · Dynamical magnetic resistance of high-Tc superconducting maglev vehicle
Yong ZHAO, Fujian Normal University, Fuzhou, CHINA

- 2PoA09-02 · BO-L5-07 · An experimental study on the dynamic resistance of a REBCO magnet during quasi-persistent operation for Maglev trains under harmonic magnetic fields
Jeongmin MUN, Changwon National University, Changwon-si, KOREA, REPUBLIC OF

- 2PoA09-03 · BO-L5-08 · Transient Thermal Analysis And Experimental Study Of The Closed-loop 2G HTS Magnets Without Insulation Of Superconducting Maglev
Qing SHAO, CRRC Changchun Railway Vehicles Co., Ltd., Changchun, CHINA

- 2PoA09-04 · BO-L6-01 · Coupling characteristics study on propulsion and levitation systems in the superconducting electrodynamic suspension train
Hongfu SHI, Southwest Jiaotong University, Chengdu, CHINA

- 2PoA09-05 · BO-L6-02 · Design and Thermal Stability Calibration of Superconducting Toroidal Magnets for 20MJ/5MW LIQHYSMES
Yifeng QIU, Huazhong University of Science and Technology, Wuhan, CHINA

- 2PoA09-06 · BO-L6-03 · Electromagnetic-thermal-mechanical numerical analysis of a 150 kJ high temperature superconducting magnets
Zhixing YANG, Huazhong University of Science and Technology, Wuhan, CHINA

- 2PoA09-07 · BO-L6-04 · AC loss reduction of the HTS cable with striations
Woo-Seok KIM, Tech University of Korea, Siheung-si, KOREA, REPUBLIC OF

- 2PoA09-08 · BO-L6-05 · Development of a compact superconducting magnet system for magnetic refrigeration
Koji KAMIYA, National Institute for Materials Science, Tsukuba, JAPAN

- 2PoA09-09 · BO-L6-06 · Study on Thermal and Force Stability of 10 MJ HTS-SMES Magnet
Xinyu ZOU, Huazhong University of Science and Technology, Wuhan, CHINA

2PoA10 - Permanent Magnet Applications

Session chair: Zhao XIAN-FENG / Session location: Ground Floor Bar (GF)

- 2PoA10-01 · GF-L2-09 · 100% quality control of permanent magnets for industrial and research applications
Matthias SCHMIDT, Matesy GmbH, Jena, GERMANY

- 2PoA10-02 · GF-L2-10 · Magnetic Assembly Tools, a digital twin for permanent magnet based undulator assemblies
Gaël LE BEC, ESRF - The European Synchrotron, Grenoble, FRANCE

- 2PoA10-03 · GF-L3-01 · Sensitivity of non-ideal high temperature superconducting permanent magnet orbits to permanent magnet defects
Zhao XIAN-FENG, Lanzhou Jiaotong University, Lanzhou, CHINA

- 2PoA10-04 · GF-L3-02 · Field harmonic measurement of high-gradient permanent magnet quadrupoles for NSLS- II Upgrade
Dean HIDAS, Brookhaven National Laboratory, Upton, USA

- 2PoA10-05 · GF-L3-03 · Axisymmetric Uniform Field Generation using Permanent Magnet
Yoshihisa IWASHITA, Kyoto University, Sennan-gun, JAPAN

- 2PoA10-06 · GF-L3-04 · Investigation on saturated magnetization characteristics of anisotropic NdFeB permanent magnet in post-assembly magnetization application
Yiliang LV, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

- 2PoA10-07 · GF-L3-05 · Study of magneto-electric properties of Nd1-xRxFeO3 system (R: Sm, Eu, Er, Pr, Gd, and Y)
Adolfo QUIROZ RODRÍGUEZ, Universidad Tecológica de Xicotepec de Juarez, Xicotepec de Juárez, MEXICO

- 2PoA10-08 · GF-L3-06 · Research on magnetic pulse compaction behavior of hard magnetic powder
Yiliang LV, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

- 2PoA10-09 · GF-L3-07 · Magnetic Levitation for Density-Based Measurement using Asymmetry Cylindrical Magnets
Liangyu XIA, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

2PoA11 - NI/PI Coil Characteristics

Session chairs: So NOGUCHI, Andrea MUSSO / Session location: Ground Floor Bar (GF)

- 2PoA11-01 · GF-L3-08 · Investigation on the thermal characteristics of no insulation and metal insulation HTS racetrack coils
Junil KIM, Korea Electrotechnology Research Institute, Changwon, KOREA, REPUBLIC OF

- 2PoA11-02 · GF-L3-09 · Evaluation of thermal stability of REBCO pancake coils with partially noncontact areas between winding turns
Kazuki AMANO, Waseda University, Tokyo, JAPAN

- 2PoA11-03 · GF-L3-10 · Simple and versatile evaluation method of thermal stability of NI HTS magnets during quench event
Takanobu MATO, Hokkaido University, Sapporo, JAPAN

- 2PoA11-04 · GF-L4-01 · Over Current Test on a Partial-Electrical-Connector HTS Coil with Paraffin Impregnation
Wooseung LEE, Korea Basic Science Institute, Cheongju, KOREA, REPUBLIC OF

- 2PoA11-05 · GF-L4-02 · The roles of contact resistance and conductor resistance in an NI HTS coil
Andrea MUSSO, RSE S.p.A., Milan, ITALY

- 2PoA11-06 · GF-L4-03 · Study on terminal joint resistance and current distribution in parallel co-wound no-insulation HTS coil
Weihang PENG, Shanghai Jiao Tong University, Shanghai, CHINA

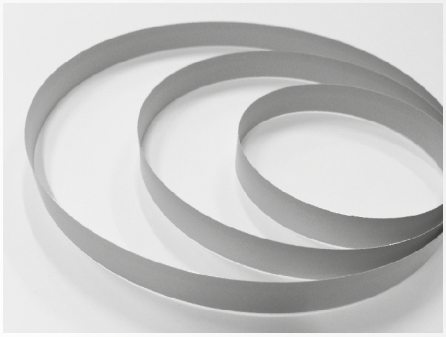
- 2PoA11-07 · GF-L4-04 · Study on charging strategy for no insulation multi-coil magnet system
Songling LI, Shanghai Jiao Tong University, Shanghai, CHINA

- 2PoA11-08 · GF-L4-05 · Magnetization characteristics of trapped field HTS Coils with soldered joints
Hengpei LIAO, University of Strathclyde, Glasgow, UNITED KINGDOM

Fujikura

RE-based High Temperature Superconductor

■ Characteristic Feature



- Superior in-field critical current and excellent mechanical properties applicable for magnet applications
- Original key manufacturing techniques of IBAD & PLD process enabling high superconducting performance

■ Schematic of Typical Specification

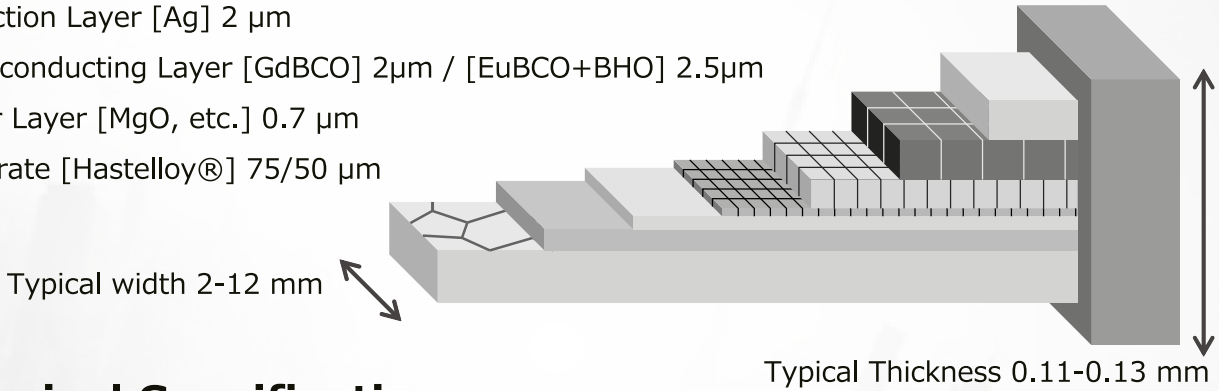
Stabilizer [Cu Plating] 20 μm

Protection Layer [Ag] 2 μm

Superconducting Layer [GdBCO] 2μm / [EuBCO+BHO] 2.5μm

Buffer Layer [MgO, etc.] 0.7 μm

Substrate [Hastelloy®] 75/50 μm



■ Typical Specifications

Products	Width [mm]	Thickness [mm]	Substrate [μm]	Stabilizer [μm]	Critical Current [A]	
					77K, S.F.	20K, 5T*3
FYSC-SCH04	4	0.13	75	20	≥ 165	368
FYSC-SCH12	12	0.13	75	20	≥ 550	1,104
FYSC-S12 *1	12	0.08	75	—	≥ 550	—
FESC-SCH02 *2	2	0.11	50	20	≥ 30	257
FESC-SCH03 *2	3	0.11	50	20	≥ 63	497
FESC-SCH04 *2	4	0.11	50	20	≥ 85	663
FESC-SCH12 *2	12	0.11	50	20	≥ 250	1,990
FESC-S12 *1,2	12	0.06	50	—	≥ 250	—

*1 Non-copper stabilizer specification is available in typically 12mm-wide for current lead or low thermal conducting applications.
*2 Artificial pinning specification is mainly for use in magnet applications at low temperature and high magnetic field.
*3 Ic@20K, 5T is a reference value and no guarantee of the actual performance.

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SEPTEMBER 13TH, 2023

EVENTS

13:00 - 14:30
Editor lunch (by invitation) - *Aquabella hotel, Aix-en-Provence*
Lunch Break

09:45 - 10:45 / 15:00 - 15:45
Coffee Breaks - *Ground Floor Bar (GF) & Big One (BO)*
Sponsored by Faraday Factory & Shi Cryogenics

15:30 - 18:30
Tour Regular - *ITER Site, Saint Paul Lez Durance*

10:00 - 16:00
Exhibits - *Ground Floor Bar (GF) & Big One (BO)*

ORAL SESSIONS

08:00 - 08:15 **Announcements**

08:15 - 09:45 **3PL - High Energy Physics**

Session chairs: Amalia BALLARINO, Pierre VEDRINE
Session location: Grand théâtre - Amphithéâtre

This plenary is exclusively sponsored by DAHER TECHNOLOGIES

08:15 Magnet Technology for the Next Generation of High Energy Physics Accelerators: Meeting the Performance Needs · 3PL-1
Mike LAMONT, Accelerators and Technology, CERN, Geneva, SWITZERLAND

08:45 Progress and plans for the US Magnet Development Program · 3PL-2
Soren PRESTEMON, Lawrence Berkeley National Laboratory, Berkeley, USA

11:00 - 13:00 **3OrM1 - Accelerator Magnets - High Field**

Session chairs: Arnaud DEVRED, Giorgio AMBROSIO
Session location: Grand théâtre - Amphithéâtre

11:00 Invited – On the CCT Option for the FCC-hh Main Dipole Magnet · 3OrM1-1
Bernhard AUCHMANN, Paul Scherrer Institute/CERN, Villigen, SWITZERLAND

11:25 Development and test of a large-aperture Nb3Sn cos-theta dipole coil with stress management · 3OrM1-2
Igor NOVITSKI, Fermi National Accelerator Laboratory, Batavia, USA

11:40 Design, fabrication and preliminary performance test of LPF3: a combined superconducting dipole magnet towards 16 T · 3OrM1-3
Chengtao WANG, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

11:55 Test results of the first wax-impregnated, Nb-Ti canted cosine theta septum magnet «SuShi» · 3OrM1-4
Daniel BARNA, Wigner Research Centre for Physics, Budapest, HUNGARY

12:10 Development of Hybrid Dipole Magnets for Particle Accelerators by the US Magnet Development Program · 3OrM1-5
Paolo FERRACIN, Lawrence Berkeley National Laboratory, Berkeley, USA

12:25 MEASUREMENTS and simulations of electromagnetic behavior of non-insulated ReBCO pancake coils with single or double tape turns, dry wound or solder filled · 3OrM1-6
Anna KARIO, University of Twente, Enschede, THE NETHERLANDS

12:40 High-performance REBCO conductors and cables for high magnetic field applications · 0673 3OrM1-7
Venkat SELVAMANICKAM, University of Houston, AMPeers LLC, Houston, USA

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16:15 - 18:00 3OrA1 - Special Session: High Voltage Challenges in Magnets

Session chair: Alessandro BONITO OLIVA
Session location: Grand théâtre - Amphithéâtre

16:15 Lessons learned from EF1 electrical short incident during JT-60SA integrated commissioning test · 3OrA1-2
Kazuya HAMADA, National Institutes for Quantum Science and Technology, Naka, JAPAN

16:30 Mitigation plans for insulation failures and arcing in the ITER magnets · 3OrA1-3
Min LIAO, ITER Organization, Saint-Paul-lez-Durance, FRANCE

16:45 Using ansys to simulate postulated arc incidents in the iter tf feeders · 3OrA1-4
Sam TIPPETTS, UKAEA, Abingdon, UNITED KINGDOM

17:00 Environmental stress cracking of polyimide insulated wires · 3OrA1-5
Roland PICCIN, CERN, Meyrin, SWITZERLAND

17:15 4.5K Paschen Qualification Testing of Terminal Joint and Voltage Tap Insulation Designs for ITER CS Module Test Facility · 3OrA1-6
Bryce FLEDDERMAN, General Atomics, Poway, USA

17:30 Commissioning and Operation of ITER CS Module Test Facility: DC Power Supply and DC Breaker Systems · 3OrA1-7
Edward ORTIZ, General Atomics, San Diego, USA

13:30 - 14:30 Short Courses MRI

Session location: Grand théâtre - Studio 1

Dr Michael PARIZH, GE Research, Niskayuna
Introduction / MRI market: MRI is the largest commercial application of superconductivity / MRI magnet options: 1.5 T, 3T, 7+T commercial, 11.7T Iseult, cylindrical, open, specialty, bore size / Requirements to MRI magnets / Magnet configurations: coil shape, uniformity, persistence, stray field / Technical aspects: conductor selection, quench protection, cryogenics

16:00 - 18:00 3OrSA - Detector Magnets

Session chairs: Matthias MENTINK, Anna KARIO
Session location: Grand théâtre - Studio 1

16:00 Invited – Fifteen Years of Operation of the CMS Detector Superconducting Magnet · 3OrSA-1
Benoit CURE, CERN, MEYRIN, SWITZERLAND

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16:25 Madmax Magnet: status of the very large-scale 9 T dipole for dark matter experiment · 3OrSA-2
Walid ABDEL-MAKSOUD, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

16:40 Magnesium diboride magnets for future particle detectors · 3OrSA-3
Riccardo MUSENICH, INFN, , ITALY

16:55 MARCO, the new solenoidal detector magnet for the ePIC experiment at BNL · 3OrSA-4
Valerio CALVELLI, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

17:10 Structural design of a Large-gap Superconducting spectrometer magnet for CEE · 3OrSA-5
Jiaqi LU, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

17:25 Development of Aluminum stabilized Stacked ReBCO Tape Conductor for CEPC · 3OrSA-7
Feipeng NING, IHEP, Beijing, CHINA

11:00 - 13:00 3OrM2 - Large Fusion Projects - Progress III

Session chairs: Pierluigi BRUZZONE, Kazuya HAMADA
Session location: Pavillon Noir - Amphithéâtre

11:00 Invited – Toward the completion of the production in Europe of the 10 ITER Toroidal Field coils and 5 ITER Poloidal Field Coils: main lesson learned during the 15 years long journey · 3OrM2-1
Alessandro BONITO OLIVA, Fusion for Energy, Barcelona, SPAIN

11:25 Invited – Completion of all nine ITER toroidal field coils in Japan · 3OrM2-2
Mio NAKAMOTO, National Institues for Quantum Science and Technology, Naka, JAPAN

11:50 Progress of ITER Central Solenoid Assembly · 3OrM2-3
Carl CORMANY, ITER Organization, Saint-Paul-lez-Durance, FRANCE

12:05 Manufacturing Progress of Winding Pack for CFETR TF Prototype Coil · 3OrM2-4
Wei WEN, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, 230031, People's Republic of China, Hefei, CHINA

12:20 HTS Magnet Development Program at Renaissance Fusion · 3OrM2-5
Carlo SBORCHIA, Renaissance Fusion, Grenoble, FRANCE

12:35 Completion of manufacturing and factory acceptance testing of ITER PF1 Coil · 3OrM2-6
Yury ILIN, ITER Organization, Saint-Paul-lez-Durance, FRANCE

12:50 The Superconducting, Minimum-Aspect-Ratio Torus · 3OrM2-7
Carl WEGGEL, Kronos Fusion Energy, Andover, USA

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16:00 - 18:00 3OrA2 - High Field Magnets - Test Facility and Test Coils

Session chairs: Mark BIRD, Dongkeun PARK
Session location: Pavillon Noir - Amphithéâtre

16:00 Current status of the facility for high field cable testing at Fermilab · 3OrA2-1
George VELEV, Fermi National Accelerator Laboratory, Batavia, USA

16:15 Upgrade of the Ma.Ri.S.A. test facility in INFN Genova · 3OrA2-2
Andrea BERSANI, INFN, Genova, ITALY

16:30 Review on progresses of the homemade 15T LTS solenoidal background magnets using for material testing facility Magnet Design, Manufacture and Testing · 3OrA2-3
Gao PENG, Institute of Plasma Physics,Chinese Academy of Sciences, Heifei, CHINA

16:45 Operation of a 20 stacked pancakes REBCO coil based on the two-tape bundle architecture in conduction cooling conditions · 3OrA2-4
Alexandre ZAMPA, Tohoku University, Sendai, JAPAN

17:00 Performance of epoxy-impregnated high temperature superconducting (hts) coils inside a 16 tesla large bore, low temperature superconducting (lts) magnet · 3OrA2-5
Darko BRACANOVIC, Cryogenic Ltd, London, UNITED KINGDOM

17:15 Development progress on compact high-field all-HTS no-insulation superconducting magnet · 3OrA2-6
Chukun GAO, Laboratory for Physical Chemistry, ETH Zürich, Zürich, SWITZERLAND

17:30 Performance evaluations of HTS mock-up magnets wound with various REBCO tapes under high magnetic field at 4.2 K · 3OrA2-7
Jungbin SONG, LNCMI - EMFL / CNRS / UGA, Grenoble, FRANCE

17:45 Impregnation damage monitoring for the Nb3Sn Canted-Cosine-Theta magnets using time-domain reflectometry · 3OrA2-8
Geon Seok LEE, Lawrence Berkeley National Laboratory, Berkeley, USA

11:00 - 13:00 3OrM3 - HTS Coils and Magnets

Session chairs: Fedor GÖMÖRY, Andrea MUSSO
Session location: Conservatoire - Amphithéâtre

11:00 Selected challenges in design and performance estimation of HTS magnet · 3OrM3-1
Seungyong HAHN, Seoul National University, Seoul, KOREA, REPUBLIC OF

11:15 Robotic winding of HTS coils · 3OrM3-2
Magnus DAM, Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen, GERMANY

11:30 Measurement and analysis of winding stresses in dry-wound pancake coils using pressure measurement films · 3OrM3-3
Yufan YAN, Seoul National University, Seoul, KOREA, REPUBLIC OF

11:45 Interface Characterization at Cryogenic Temperatures for Superconducting Magnets · 3OrM3-4
Jose Luis RUDEIROS FERNANDEZ, Lawrence Berkeley National Laboratory, Berkeley, USA

12:00 A non-destructive method for detecting turn-to-turn resistivity distribution in NI REBCO coils · 3OrM3-5
Wei WU, Shanghai Jiao Tong University; Shanghai Superconductor Technology Co., Ltd., Shanghai, CHINA

12:35 Comparison between insulated and NI layer-wound ReBCO coils during transients · 3OrM3-8
Andrea MUSSO, RSE S.p.A., Milan, ITALY

16:00 - 18:00 **3OrA3 - Fusion Magnets - Conductors**

Session chairs: Alfredo PORTONE, Alexandre TORRE
Session location: Conservatoire - Amphithéâtre

16:00 Invited – Performance of the ReBCO ASTRA conductor prototype for DEMO CS · 3OrA3-1
Nikolay BYKOVSKIY, EPFL-SPC, Villigen PSI, SWITZERLAND

16:25 Design and performance evaluation of two kinds of full-size YBCO CICC specimen for fusion · 3OrA3-2
Jin HUAN, Institute of Plasma Physics, Chinese academy of Sciences, Hefei, CHINA

16:40 Design and performance verification of the cable-in-conduit conductor for CFETR TF prototype coil · 3OrA3-3
Chao DAI, Institute of Plasma Physics, Chinese Academy of Sciences, HEFEI, CHINA

16:55 Mechanical analysis and testing results on high strength CICC jacket with YS>1500MPa@4.2K used for future fusion reactor · 3OrA3-4
Weijun WANG, Institute of Plasma Physics Chinese Academy of Sciences, Hefei, CHINA

17:10 Roebel tapes for ultra-compact HTS tokamaks · 3OrA3-5
Tim COOMBS, Cambridge University, cambridge, UNITED KINGDOM

17:25 Progress of HTS Conductor for Compact Fusion Reactor at SWIP · 3OrA3-6
Pengyuan LI, Southwestern Institute of Physics, Chengdu, CHINA

17:40 Bending tolerance of react&wind Nb3Sn conductors for fusion magnets · 3OrA3-7
Pierluigi BRUZZONE, EPFL-SPC, Villigen PSI, SWITZERLAND

POSTERS

09:45 - 11:30 3PoM - Poster sessions

3PoM01 - Fusion Magnets - Conductors and Joints I
Session chair: Nicola MARIANI / Session location: Ground Floor Bar (GF)

- 3PoM01-01 · GF-L1-01 · Demonstration of the industrial production and inspection proces for the react-and-wind conductors of the EU DEMO
Kamil SEDLAK, EPFL-SPC, Villigen PSI, SWITZERLAND

- 3PoM01-02 · GF-L1-02 · R&D on terminations sealing for ITER in-vessel vertical stability coils conductor
Nicola MARIANI, ITER, Saint-Paul-lez-Durance, FRANCE

- 3PoM01-04 · GF-L1-03 · Analysis of critical current and hot spot behavior in BSCCO stacked-tape cable for fusion reactor
Yunpeng ZHU, Southwestern Institute of Physics, Chengdu, CHINA

- 3PoM01-05 · GF-L1-04 · Critical current characterization and current distribution in HTS cables
Xinbo HU, Southwestern Institue of Physics, Chengdu, CHINA

- 3PoM01-06 · GF-L1-05 · A YBCO Cable-in-Conduit Conductor for Fusion Magnet Application
Zuo JIAXIN, Southwestern Institute of Physics, ChenDu, CHINA

- 3PoM01-07 · GF-L1-06 · Investigation of twist pitch to suppress unbalanced current in a Cable-in-conduit conductor
Ryota SATO, Chiba University, Chiba, JAPAN

- 3PoM01-08 · GF-L1-07 · Remountable feltmetal joints for HTS CORC® fusion magnets
Jack GREENWOOD, United Kingdom Atomic Energy Authority, Sheffield, UNITED KINGDOM

- 3PoM01-09 · GF-L1-08 · HIP effect on mechanical strength of the internal matrix reinforced Nb3Sn multifilamentary wires using various ternary bronze alloy matrices
Yoshimitsu HISHINUMA, National Institute for Fusion Science, Toki, JAPAN

- 3PoM01-10 · GF-L1-09 · Conceptual Design of a HTS CICC Coil for Future Fusion Devices based on Bi-2223 Tapes
Yunfei TAN, Huazhong University of Science and Technology, WuHan, CHINA

3PoM02 - Fusion Magnets - Design and Analysis Tools and Testing
Session chair: Vladimir TRONZA / Session location: Ground Floor Bar (GF)

- 3PoM02-01 · GF-L1-10 · APECS: an analytical equations toolkit for magnet design and electromagnetic analysis
Alexander PETROV, UKAEA, Abingdon, UNITED KINGDOM

- 3PoM02-02 · GF-L2-01 · Novel Strand Position Detection System Using Thermistor Array For Next Generation Large Fusion Magnet Cable-In-Conduit Conductors
Sohta HOSHINO, Sophia University, Tokyo, JAPAN

- 3PoM02-03 · GF-L2-02 · Critical current correlations across the superconducting surface of REBCO Wires, B||C
Aliya GREENBERG, Commonwealth Fusion Systems, Devens, USA

- 3PoM02-04 · GF-L2-03 · Design of magnet performance test device for toroidal field coil of cfetr
Xiuhe SONG, Institue of Plasma Physics,Chinese Academy of Sciences, Hefei, CHINA

- 3PoM02-05 · GF-L2-04 · Development of a 100kA superconducting transformer for Super-X Test facility
Ma HONGJUN, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

- 3PoM02-06 · GF-L2-05 · Simulation of Quench in DC Magnet of Super-X Test Facility Using a Quasi-three-dimensional Model
Qiangwang HAO, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

- 3PoM02-07 · GF-L2-06 · Cooling design and analysis of the magnet system for the Super-X test facility
Qiangwang HAO, Institute of Plasma Physics,Chinese Academy of Sciences, Hefei, CHINA

- 3PoM02-08 · GF-L2-07 · Lessons Learnt from the use of the Manufacturing Database for the ITER Magnet System
Vladimir TRONZA, ITER Organization, Saint-Paul-lez-Durance, FRANCE

- 3PoM02-09 · GF-L2-08 · Design and construction of a test rig for cryogenic in-situ gamma irradiation testing of energised HTS coils at fusion-relevant temperatures
Vicky BAYLISS, Tokamak Energy, Milton Park, UNITED KINGDOM

- 3PoM02-10 · GF-L2-09 · Test and analysis of performance of the Cable-in-Conduit Conductors for Super-X Test Facility
Yun Hao LIU, Institute of Plasma Physics, Chinese Academy of Sciences, HEFEI, CHINA

- 3PoM02-11 · GF-L2-10 · The conductor integrating facility and manufacturing of CFETR TF prototype coil
Chao DAI, Institute of Plasma Physics, Chinese Academy of Sciences, HEFEI, CHINA

3PoM03 - High Field magnets - Measurement Techniques and current leads

Session chair: Kwangmin KIM / Session location: Big One (BO)

- 3PoM03-01 · BO-L1-01 · 77 K Electro-Mechanical Properties Characterization of 12 mm wide REBCO Tapes Made By Three Manufacturers
Alexander PETROV, UKAEA, Abingdon, UNITED KINGDOM

-3PoM03-02· BO-L1-02 · Overview of the measurement techniques for determining the strain behavior of the superconducting magnets
Ming Zhi GUAN, Institute of Modern Physics, Chinese Academy of Science, Lanzhou, CHINA

-3PoM03-03 · BO-L1-03 · Experimental and analytical study on contact resistance and current distribution of NI HTS coils in low-frequency AC method
Seokbeom KIM, Okayama University, Okayama, JAPAN

- 3PoM03-05 · BO-L1-04 · Measuring critical current density of 2G superconducting tapes in magnetic fields up to 60T
Doan NGUYEN, Los Alamos National Laboratory, LOs Alamos, USA

- 3PoM03-06 · BO-L1-05 · The fabrication and operation test of YBCO binary current leads developed for a NI YBCO magnet
Hengkang ZHENG, Huazhong University of Science and Technology, Wuhan, CHINA

- 3PoM03-07 · BO-L1-06 · Current leads test for fecr cryostat
Xudong WANG, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

3PoM04 - High Field Magnets - Modeling of HTS/LTS Conductors

Session chair: Alessio D'AGLIANO / Session location: Big One (BO)

- 3PoM04-01 · BO-L1-07 · Mechanical behavior of HTS tapes during bending: FEM simulations and measurements
Hamed MILANCHIAN, Tampere university, Tampere, FINLAND

- 3PoM04-02 · BO-L1-08 · Modeling of Bi2212 strand and Rutherford cable for dipole coil insert
Alessio D'AGLIANO, INFN - Sezione di Pisa, Pisa, ITALY

- 3PoM04-03 · BO-L2-01 · Manufacture and analyses of Bi-2212 wind & react insert coil with a 14T background magnetic field testing at helium temperature
H J ZHU, ASIPP, Heifei, CHINA

- 3PoM04-04 · BO-L2-02 · Study of Transverse Stress Effects on the Critical Current of Bi-2223/Ag HTS Tapes
Yunfei TAN, Huazhong University of Science and Technology, WuHan, CHINA

- 3PoM04-05 · BO-L2-03 ·Multiscale modelling and simulation on the delamination of the REBCO coated conductors in the high-field superconducting magnets
Ze JING, Institute of Extreme Mechanics and School of Aeronautics, Northwestern Polytechnical University, Xi 'an, CHINA

- 3PoM04-06 · BO-L2-04 · Modelling the effects of twist pitch on the elastoplastic damage of multifilamentary Nb3Sn superconducting strand under cyclic load
Ze JING, Institute of Extreme Mechanics and School of Aeronautics, Northwestern Polytechnical University, Xi 'an, CHINA

- 3PoM04-07 · BO-L2-05 · Finite element investigation into delamination stresses in solder-impregnated HTS stacks
Peter MOORE, Tufts University, Medford, USA

- 3PoM04-08 · BO-L2-06 · Stress transfer mechanism and shear strength of multilayer composite superconducting tape
Wurui TA, Lanzhou University, Lanzhou, CHINA

3PoM05 - Magnets for Medical Systems - Design and Analysis I

Session chairs: Hiroshi UEDA, Helmut SOLTNER / Session location: Big One (BO)

- 3PoM05-01 · BO-L2-07 · Design study of a coil configuration for a lightweight superconducting magnet in heavy-ion beam rotating gantry
Tetsuhiro OBANA, National Institute for Fusion Science, Toki, JAPAN

- 3PoM05-02 · BO-L2-08 · Structural analysis of a 4-layer curved alternating gradient canted-cosine-theta magnet applied to a light-weight gantry
Chen AOTE, Huazhong University of Science and Technology, China Wuhan, CHINA

- 3PoM05-03 · BO-L3-01 · Design and characterization of a large curved window frame magnet for wide-angle scattering experiments with polarized neutrons
Helmut SOLTNER, Forschungszentrum Jülich GmbH (FZJ), Jülich, GERMANY

- 3PoM05-04 · BO-L3-02 · Electromagnetic structure design of 14T MRI back field magnet winding
Xu AIHUA, Changzhou Vocational Institute of mechatronic Technology, Changzhou, CHINA

- 3PoM05-05 · BO-L3-03 · Mechanical and seismic performance analysis of 14 T MRI
Xu AIHUA, Changzhou Vocational Institute of mechatronic Technology, Changzhou, CHINA

- 3PoM05-06 · BO-L3-04 · Mechanical design of the 4 T curved demonstrator dipole for the SIG gantry
Filippo LEVI, INFN, Genova, ITALY

- 3PoM05-07 · BO-L3-05 · Experiment and simulation on mechanical behavior in 1/2-scale demonstration REBCO coil system of Skeleton Cyclotron for cancer therapy
Hiroshi UEDA, Okayama University, Okayama, JAPAN

- 3PoM05-08 · BO-L3-06 · A Novel High-temperature Superconducting Double-Hole Structure Magnets for Persistent Current Mode Operation
Hao DONG, Laboratory of Applied Superconductivity and Institute of Electrical Engineering, Chinese Academy of Science;University of Chinese Academy of Sciences, Beijing, CHINA

- 3PoM05-09 · BO-L3-07 · Development of enclosed jointless coils with REBCO coated conductors for persistent current mode magnets
Ding FAZHU, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

- 3PoM05-10 · BO-L3-08 · Preparation and Properties of MgB2 Superconducting Wire with Rectangular Cross-section for MRI
Li CHAO, Xi'an Superconducting Magnet Technology Co., Ltd., Xi'an, CHINA

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3PoM06 - Magnets for Medical Systems - Design and Analysis II

Session chairs: Minfeng XU, Yoshinori YANAGISAWA / Session location: Big One (BO)

- 3PoM06-01 · BO-L4-01 · Invited – AC loss evaluation of Nb3Sn and Bi-2212 coils for a liquid-helium-free fast-switching-field MRI magnet
Jaeyun KIM, Massachusetts Institute of Technology, Cambridge, USA

- 3PoM06-02 · BO-L4-02 · Practical and cost-effective cryogenic tank designs for closed-loop cooled superconducting magnets
Minfeng XU, GE Research, Niskayuna, USA

- 3PoM06-03 · BO-L4-03 · Thermal design of 6T HTS MRI magnet based on test results of a module coil
Yonghyun KWON, SuperGenics. Co., Ltd., Changwon, KOREA, REPUBLIC OF

- 3PoM06-04 · BO-L4-04 · Thermal analysis of a head-only 1.5T magnetic resonance imaging superconducting magnet
Jianglan LI, Huazhong University of Science and Technology, Wuhan, CHINA

- 3PoM06-05 · BO-L4-05 · Preliminary design of superconducting gantry magnet for miniaturized heavy-ion therapy facility
Wenjie YANG, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 3PoM06-06 · BO-L4-06 · Mechanical and thermal analysis of a cueved DCT superconducting magnet for for proton therapy
Jiaqi LU, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 3PoM06-07 · BO-L4-07 · Quench protection design of a Head-only 1.5 T MRI superconducting magnet
Zhiwen CHENG, Huazhong University of Science and Technology, Wuhan, CHINA

- 3PoM06-08 · BO-L4-08 · Design and analysis of a quench preventive method for the MIT 1.3 GHz NMR magnet under fault modes
Dongkeun PARK, Massachusetts Institute of Technology, Cambridge, USA

- 3PoM06-09 · BO-L5-01 · Evaluation of transient thermal stability of 1/2-scale demonstration no-insulation REBCO coil system of skeleton cyclotron for cancer therapy
Taro NAKAMURA, Waseda University, Tokyo, JAPAN

- 3PoM06-10 · BO-L5-02 · Development of an intra-Layer No-Insulation (LNI) REBCO coil with an ultra-high contact resistivity
Yuya TANAKA, Sophia University, Chiyoda, JAPAN

- 3PoM06-11 · BO-L5-03 · Analysis on the Electrical Breakdown Characteristics for Improving the Dielectric Stability of a Superconducting Magnet
Minkyung JEONG, Korea National University of Transportation, Chungju-si, KOREA, REPUBLIC OF

3PoM07 - Magnets for Medical Systems - Design and Analysis III

Session chairs: So NOGUCHI, Enrico FELCINI / Session location: Big One (BO)

- 3PoM07-01 · BO-L5-04 · Design study of a superconducting dipole magnet for multiple-angle beam irradiation applied to a compact proton therapy system
Ziyi YANG, Huazhong University of Science and Technology, Wuhan, CHINA

- 3PoM07-02 · BO-L5-05 · Design of a head-only 1.5t magnetic resonance imaging superconducting magnet
Yunxing SONG, Huazhong University of Science and Technology, Wuhan, CHINA

- 3PoM07-03 · BO-L5-06 · Numerical evaluation of screening current-induced magnetic field in 1/2-scale demonstration No-Insulation REBCO coil system of skeleton cyclotron for cancer therapy
Ota KAITO, Waseda University, Tokyo-to, JAPAN

- 3PoM07-04 · BO-L5-07 · EM design and innovative winding technique for a 4 T high curvature superconducting dipole in block coil configuration for next generation ion gantries
Andrea GAGNO, INFN and University of Genoa, Genoa, ITALY

- 3PoM07-05 · BO-L5-08 · Non-invasive deep brain interference magnetic stimulation via parametric characterized spatial array
Xiao FANG, Chengdu University of Technology, Chengdu, CHINA

- 3PoM07-08 · BO-L6-01 · A Feasibility Study on Multiple Ferromagnetic Shimming for a Large-Bore 9.4 T Non-NMR LTS Magnet
Hongmin YANG, Korea Basic Science Institute, Cheongju, KOREA, REPUBLIC OF

- 3PoM07-09 · BO-L6-02 · HTS coil and HTS bulk arrangement suitable for two-dimensional navigation of magnetic drugs for MDDS
Shohei NOJIMA, Tohoku University, Sendai-city, JAPAN

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3PoM08 - SMES, Flywheels and other Magnets

Session chair: Xiaoze PEI / Session location: Jessye Norman (JN)

- 3PoM08-01 · JN-L1-01 · Green hydrogen liquefaction using high field HTS magnets
Christian R. H. BAHL, Subra A/S, Farum, DENMARK

- 3PoM08-02 · JN-L1-02 · Effect of eddy currents on the particle trajectory of magnetic fine particles during dry high gradient magnetic separation
Haozhou CHEN, Tokyo Metropolitan University, Tokyo, JAPAN

- 3PoM08-03 · JN-L1-03 · The design study on the performance of high-temperature superconducting (HTS) flywheel system in magnetic field above 10 T
Rui MA, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

- 3PoM08-04 · JN-L1-04 · Combining MgB2 SMES and Supercapacitor with batteries for innovative Energy Storage Systems: the V-Access project
Matteo TROPEANO, ASG Superconductors, Genova, ITALY

- 3PoM08-05 · JN-L1-05 · Experimental SMES with quasi-force-free winding
Andrey MEDNIKOV, JSC NIIEFA, Saint-Petersburg, RUSSIAN FEDERATION

- 3PoM08-06 · JN-L1-06 · Novel grid forming SMES with multi-functional application
Wenyong GUO, Beijing Jiaotong University, Beijing, CHINA

- 3PoM08-07 · JN-L1-07 · Design of superconducting magnetic energy storage (SMES) for waterborne applications
Carlos HERNANDO, CYCLOMED TECHNOLOGIES S.L., Madrid, SPAIN

3PoM09 - HTS Tapes and Wires

Session chairs: Masanori DAIBO, Christopher REIS / Session location: Ground Floor Bar (GF)

- 3PoM09-01 · GF-L3-01 · Revealing the effect of thermodynamical parameters for Bi22122 heat treatment
Zhenchuang ZHANG, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

- 3PoM09-02 · GF-L3-02 · Influence of pre-densification method on Bi-2212/Ag-alloy multifilamentary round wires
Pengcheng HUANG, High Magnetic Field Laboratory, Chinese Academy of Sciences., Hefei, Anhui, CHINA

- 3PoM09-03 · GF-L3-03 · Effects of neutron irradiation on REBCO coated conductors for future compact fusion magnet systems
Christopher REIS, Lawrence Berkeley National Laboratory, Berkeley, USA

- 3PoM09-04 · GF-L3-04 · Ag-diffusion bonding preparation of double-layer YBCO tapes to enhance engineering current density and surface micromorphology analysis
Hao DONG, Laboratory of Applied Superconductivity and Institute of Electrical Engineering, Chinese Academy of Science;University of Chinese Academy of Sciences, Beijing, CHINA

- 3PoM09-05 · GF-L3-05 · Enhancement of critical current densities by co-doping with Zr, Hf, Sn and Ce for Gd123 thin films fabricated by fluorine-free MOD method
Ryota ISHII, Tokyo Metropolitan University, Tokyo, JAPAN

- 3PoM09-06 · GF-L3-06 · Melt growth of YBa2Cu3O7- by using BaCu2O2 and Y2BaCuO5 in Ag-sheath
Geng ZHIHUI, Tokai Universuty, Hiratsuka, JAPAN

- 3PoM09-07 · GF-L3-07 · Formation mechanism of a-axis oriented grains in GdBa2Cu3Oy coated conductors deposited by pulsed laser deposition
Ryo TERANISHI, Kyushu University, Fukuoka, JAPAN

- 3PoM09-08 · GF-L3-08 · Study on the Analysis of the Transport-Current Characteristics of Thin-film-type Superconducting Wire with Improved Performance by Plasma Pre- and Post-Processing Process
Hoik DU, Jeonbuk National University, Jeonju-si, KOREA, REPUBLIC OF

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3PoM10 - HTS Flux Pump

Session chair: Frederic TRILLAUD / Session location: Ground Floor Bar (GF)

- 3PoM10-01 · GF-L3-09 · Invited – Recent progress in HTS flux pumps
Jianzhao GENG, Huazhong University of Science and Technology, Wuhan, CHINA

- 3PoM10-02 · GF-L3-10 · Feasibility study of a cryogenic power supply for superconducting DC device
Lauro FERREIRA, Université Paris-Saclay, CentraleSupélec, GeePs, Gif-sur-Yvette, FRANCE

- 3PoM10-03 · GF-L4-01 · Research progress and development trend of conduction-cooled HTS flux pump
Chunran MU, Hunan University, Changsha, CHINA

- 3PoM10-04 · GF-L4-02 · Limitations of the DC Output Voltage from HTS flux pumps
Jintao HU, University of Cambridge, Cambridge, UNITED KINGDOM

- 3PoM10-05 · GF-L4-03 · Persistent Current Mode Operation of a Conduction Cooled YBCO Magnet at 30 K with a Linear-Motor Type Flux Pump
Wei WANG, Sichuan University, Chengdu, CHINA

- 3PoM10-06 · GF-L4-04 · The flux pumping behavior of high temperature superconducting tapes with a linearly moving electromagnet
Yanbo BI, Shanghai Jiaotong University, Shanghai, CHINA

- 3PoM10-07 · GF-L4-05 · A compact wireless self-rectifier for charging HTS magnets
Yi LIN, Huazhong University of Science and Technology, WuHan, CHINA

- 3PoM10-08 · GF-L4-06 · Testing of a pair of 10 kA ternary current leads
Cannon COATS, Texas A&M University, College Station, USA

- 3PoM10-09 · GF-L4-07 · Performance Test of Through-wall Excitation Flux Pump at Different Temperatures
Chenghuai WU, Sichuan University, Chengdu, CHINA

14:30 - 16:30 3PoA - Poster sessions

3PoA01 - Ion Source and Ion Accelerator Magnets

Session chairs: Christophe BERRIAUD, Pierre BAUER / Session location: Big One (BO)

- 3PoA01-01 · BO-L1-01 · Preliminary Design of a MARS-D Superconducting Magnet Cryostat
Li WANG, Lawrence Berkeley National Laboratory, Berkeley, USA

- 3PoA01-02 · BO-L1-02 · Winding trial and coil characterisation toward the design of the ASTERICS ion source sextupole
Elena FERNANDEZ MORA, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

- 3PoA01-03 · BO-L1-03 · Design and development of a 28 GHz Nb3Sn ECR ion source magnet
Tengming SHEN, Lawrence Berkeley National Laboratory, Berkeley, USA

- 3PoA01-04 · BO-L1-04 · Progress in the design of the ASTERICS 28 GHz ECR ion source superconducting magnet for the NEWGAIN project at GANIL
Damien SIMON, CEA Saclay, Gif-sur-Yvette, FRANCE

- 3PoA01-06 · BO-L1-06 · Electromagnetic Optimization Design of conducting cooled superconducting quadrupole magnet with active shielding
He GANG, Institute of Modern Physics,Chinese Academy of Sciences, Lanzhou City, CHINA

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- 3PoA01-07 · BO-L1-07 · Design and Test of a Fast-Cycled DCT Superconducting Dipole Magnet
Yu LIANG, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 3PoA01-08 · BO-L1-08 · Development of HRFS Superconducting Multipoles Magnet For HIAF
Yu LIANG, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 3PoA01-09 · BO-L2-01 · Bump magnets for injection section in SESRI
Jingjing ZHANG, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 3PoA01-10 · BO-L2-02 · Design, Construction and Tests of the Superferric Dipoles for the High Energy Fragment Separator of the HIAF
Beimin WU, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 3PoA01-11 · BO-L2-03 · Status of preliminary design studies for the three superferric 30° bending magnets for the Energy Buncher of FAIR
Arnaud MADUR, CEA Saclay, Gif-sur-Yvette, FRANCE

- 3PoA01-12 · BO-L2-04 · Design and optimization of the Superferric Dipole Magnet for HIAF-HFRS
Wei YOU, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 3PoA01-13 · BO-L2-05 · Design of a fast ramping superconducting dipole magnet
Yuquan CHEN, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

3PoA02 - Synchrotron Magnets
Session chair: Pierre PUGNAT

- Design and field measurement of dipole magnets for PREF · 3PoA02-01
Lixia ZHAO, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA, Lanzhou, CHINA

- Field representation for longitudinal gradient bends and reverse bends · 3PoA02-02
Pierre SCHNIZER, Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, GERMANY

- Magnet design status of SOLEIL II · 3PoA02-03
Charles KITEGI, Synchrotron SOLEIL, Saint-Aubin, FRANCE

- Conduction Cooling Test Results of Metal Insulated High Temperature Superconductor Wavelength Shifter · 3PoA02-04
Jeonghwan PARK, Seoul National University, Seoul, KOREA, REPUBLIC OF

- Magnet designs for the multi-bend achromat lattice of the shenzhen innovation light-source facility · 3PoA02-05
Chunguang WANG, Institute of Advanced Science Facilities, Shenzhen, CHINA

- Designs of multipole magnets based on NSGAII for Hefei Advanced Light Facility · 3PoA02-06
Tianhao SUN, National Synchrotron Radiation Laboratory, University of Science and Technology of China, Hefei, CHINA

- Preliminary design of a cryogen-free 6.6 T superconducting wavelength shifter · 3PoA02-07
Juan GANSAUSKAS GALVEZ, CNPEM - Brazilian Center for Research in Energy and Materials, Campinas, BRAZIL

- Design optimization of a 6 T Fast Cycling Dipole Model with Round Cable · 3PoA02-08
Tongjun YANG, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

3PoA03 - Accelerator Magnets - Tests
Session chair: Tengming SHEN / Session location: Big One (BO)

- 3PoA03-01 · BO-L3-06 · Comparison of analytical and experimental results on mechanical and thermal behavior of the FAIR Super-FRS superconducting dipole coil
Hugo REYMOND, CEA Saclay, Gif-sur-Yvette, FRANCE

- 3PoA03-02 · BO-L3-07 · Test results for a Nb3Sn canted-cosine-theta dipole subscale magnet series
Diego ARBELAEZ, Lawrence Berkeley National Laboratory, Berkeley, USA

- 3PoA03-03 · BO-L3-08 · The superconducting quadrupole unit production and doublet module integration for SIS100
Christian ROUX, GSI Helmholtzzentrum für Schwerionenforschung GmbH, Darmstadt, GERMANY

- 3PoA03-04 · BO-L4-01 · Superconducting magnet String Test for the SIS100 accelerator of FAIR
Patricia AGUAR BARTOLOME, GSI Helmholtzzentrum für Schwerionenforschung GmbH, Darmstadt, GERMANY

- 3PoA03-05 · BO-L4-02 · Fabrication and test of COMB dipole magnet with STAR® wires*
Vadim KASHIKHIN, Fermi National Accelerator Laboratory, Batavia, USA

- 3PoA03-06 · BO-L4-03 · Assembly and test of several typical sextupole coils using magnetic mirror structure
Li ZHU, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 3PoA03-07 · BO-L4-04 · Test results of the superconducting solenoids series production for the SARAF-linac project
Damien SIMON, CEA Saclay, Gif-sur-Yvette, FRANCE

- 3PoA03-08 · BO-L4-05 · Cryogenic tests of the superconducting magnets for the NICA collider
Dmitry NIKIFOROV, Joint Institute for Nuclear Research, Dubna, RUSSIAN FEDERATION

- 3PoA03-09 · BO-L4-06 · Assembly and power tests of the long orbit nested corrector prototype for HL-LHC
óscar DURÁN LUCAS, CIEMAT (Centro de Investigaciones Energéticas MedioAmbientales y Tecnológicas), Madrid, SPAIN

- 3PoA03-10 · BO-L4-07 · Test and modeling results of the quench behavior of a Nb-Ti Canted-Cosine-Theta corrector magnet for LHC
Tommaso BAGNI, Uppsala University, Uppsala, SWEDEN

- 3PoA03-11 · BO-L4-08 · Validation of the protection scheme for the HL-LHC MBRD magnet by simulations and prototype tests
Barbara CAIFFI, INFN, Genova, ITALY

- 3PoA03-13 · BO-L5-01 · Designs and Measurements of a New Superbend-Magnet for WALS
Pai XIANG, The Institute for Advanced Studies, Wuhan University, Wuhan, CHINA

3PoA04 - Accelerator Magnets - Quench and Insulation I

Session chair: Roland PICCIN / Session location: Big One (BO)

- 3PoA04-01 · BO-L5-02 · E-CLIQ quench protection for the next generation of Nb3Sn accelerator magnets
Tim MULDER, CERN, Meyrin, SWITZERLAND

- 3PoA04-02 · BO-L5-03 · Quasi-3D Quench Simulation of Superconducting Magnet Coils
Laura D'ANGELO, Technische Universität Darmstadt, Darmstadt, GERMANY

- 3PoA04-03 · BO-L5-04 · Quench Protection Study of Fusillo Subscale Curved CCT Magnet
Mariusz WOZNIAK, CERN, Meyrin, SWITZERLAND

- 3PoA04-04 · BO-L5-05 · Simulating quench transients in the High Luminosity LHC high order corrector magnets
Emmanuele RAVAIOLI, CERN, Meyrin, SWITZERLAND

- 3PoA04-05 · BO-L5-06 · A numerical simulation of quench propagation in Nb3Sn coils covered with protection heaters and optimization of the heater designs in Block-type accelerator dipoles
Shahriar BAKRANI BALANI, Tampere University, Tampere, FINLAND

- 3PoA04-06 · BO-L5-07 · Bi-Filar coil winding for fast quench protection
Steven KRAVE, Fermi National Accelerator Laboratory, Batavia, USA

- 3PoA04-07 · BO-L5-08 · Quench heater technology for superconducting accelerator magnets
Roland PICCIN, CERN, Meyrin, SWITZERLAND

- 3PoA04-08 · BO-L6-01 · Design, simulation and test results of quench protection system for a 13-T twin-aperture superconducting dipole magnet
Jinrui SHI, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

- 3PoA04-09 · BO-L6-02 · Quench detection system consolidation for the HL-LHC era
Jelena SPASIC, CERN, Geneva, SWITZERLAND

- 3PoA04-10 · BO-L6-03 · Evaluation of the parallel-scheme varistors as energy-extraction system for a test facility of superconducting accelerator magnet
Kento SUZUKI, High Energy Accelerator Research Organization, Tsukuba, JAPAN

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3PoA05 - Fusion magnets - Conductors and Joints II

Session chairs: Luigi RECCIA, Jeremy WEISS / Session location: Jessye Norman (JN)

- 3PoA05-01 · JN-L1-01 · DA trial fabrication status report on stacked hts conductors mainly for fusion magnet applications
Dohyun BAEK, PowerNix Co., Ltd., Sejong City, KOREA, REPUBLIC OF

- 3PoA05-02 · JN-L1-02 · Advantages of Cu-Nb Reinforced Nb3Sn Strands in Large Multi-stage Stranded Cables with Low-void Fraction
Masahiro SUGIMOTO, Furukawa Electric Co., Ltd., Nikko, JAPAN

- 3PoA05-03 · JN-L1-03 · Critical Current Density in Straight Undoped MgB2 Wires and Small Coils Undoped MgB2 with Nano-Amorphous Isotopic Boron (11B) Made by IMD Method
Daniel GAJDA, Institute of Low Temperature and Structure Research, Polish Academy of Sciences, Wroclaw, POLAND

- 3PoA05-04 · JN-L1-04 · Development of internal tin Nb3Sn strand for CRAFT in WST
Yigong SHI, Northwestern Polytechnical University, Xi'an, CHINA

- 3PoA05-05 · JN-L1-05 · A Study on Non-uniform Current Distributions in a Stacked HTS Conductor due to Lead Contact Resistance Variations
Sangjun OH, Korea Institute of Fusion Energy, Daejeon, KOREA, REPUBLIC OF

- 3PoA05-06 · JN-L1-06 · Development of high temperature superconducting CORC® magnets, CICC, and low loss joints for fusion applications
Jeremy WEISS, Advanced Conductor Technologies LLC and University of Colorado Boulder, Boulder, USA

- 3PoA05-07 · JN-L1-07 · Advanced Nb3Sn conductors and their applications
Xuan PENG, Hyper Tech Research Inc., COLUMBUS, USA

- 3PoA05-09 · JN-L2-01 · TEM study of in-situ cryogenic ion irradiation of REBCO conductors
William LO, The Pennsylvania State University, University Park, USA

- 3PoA05-10 · JN-L2-02 · The research status of ReBCO and Bi2212 CICC for fusion reactor at ASIPP
Jinggang QIN, Institute of Plasma Physics,Chinese Academy of Sciences, Heifei, CHINA

3PoA06 - High Field Magnets - HTS Magnets

Session chairs: Satoshi AWAJI, Marco BRESCHI / Session location: Ground Floor Bar (GF)

- 3PoA06-01 · GF-L1-01 · Metal-as-insulation REBCO insert: simplified protection scheme and investigation of cooling defect under high-field operation
Jungbin SONG, LNCMI - EMFL / CNRS / UGA, Grenoble, FRANCE

- 3PoA06-02 · GF-L1-02 · « Little Big Coil » evaluations of the slit-edge orientation on mechanical damage of REBCO-coated conductor in small and high-stress coils
Jeseok BANG, National High Magnetic Field Laboratory, Tallahassee, USA

- 3PoA06-03 · GF-L1-03 · Influence of local quench on screening current for no-insulation HTS pancake coil
Yingmin CUI, North China Electric Power University, Baoding, CHINA

- 3PoA06-04 · GF-L1-04 · A novel electric-circuit based quench detection method for ReBCO magnets
Changhao HU, Huazhong University of Science and Technology, Wuhan, CHINA

- 3PoA06-05 · GF-L1-05 · What kind of Cu stabilizer layer of REBCO tape does the magnet designer really need?
Zili ZHANG, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

- 3PoA06-06 · GF-L1-06 · A magnet dynamic self-coupling discharging technique for the quench protection of high temperature superconducting multiple coil system
Longhao YANG, Shanghai Jiao Tong University, Shanghai, CHINA

- 3PoA06-07 · GF-L1-07 · Design and construction of the REBCO insert coil for a 20 T all superconducting user magnet for material testing facility
Xintao ZHANG, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

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3PoA07 - Magnets for Power and Energy - Transient and Insulation

Session chairs: Vitaly VYSOTSKY, Nicholas CLAYTON / Session location: Ground Floor Bar (GF)

- 3PoA07-02 · GF-L1-08 · Influence of impregnation methods on quench protection characteristics of high temperature superconducting coils
Takeru NAKAHARA, Sophia University, Tokyo, JAPAN

- 3PoA07-03 · GF-L1-09 · Effect of Epoxy Composites Containing Acid-Treated CNT Filler as an Insulator on the Thermal Properties of 7.87 T NbTi Magnet
Hyun Sung NOH, Department of Materials Science and Engineering, Korea University, Seoul, KOREA, REPUBLIC OF

- 3PoA07-04 · GF-L1-10 · Quench and recovery characteristics of superconducting current limiting coil immersed in liquid nitrogen / tetrafluoromethane mixture under DC impact
Zhihao ZHOU, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

- 3PoA07-05 · GF-L2-01 · Numerical analysis of electromagnetic behavior and control characteristics of large scale HTS synchronous motor Using no-insulation field winding
Satoshi FUKUI, Niigata University, Niigata, JAPAN

- 3PoA07-06 · GF-L2-02 ·Thermal analysis of NI HTS field coils for a partially superconducting motor under high-speed operation
Seungyong HAHN, Seoul National University, Seoul, KOREA, REPUBLIC OF

- 3PoA07-07 · GF-L2-03 · Effect of contact resistivity on characteristics of multi-pole no-insulation HTS field coils in synchronous motors
Uijong BONG, Seoul National University, Seoul, KOREA, REPUBLIC OF

- 3PoA07-08 · GF-L2-04 · An inverse study of transient response of a no-insulation coil with AC currents based on simplified equivalent circuit models
Yingzhen LIU, Harbin Institute of Technology, Harbin, CHINA

- 3PoA07-09 · GF-L2-05 · Electromagnetic characteristics of large scale metal insulation HTS magnet during excitation process
Tong CHE, SWIP, CHENGDU, CHINA

- 3PoA07-10 · GF-L2-06 · Evaluation of effectiveness of strand transposition in multi-stacked coils wound with no-insulation bundle REBCO conductor for SMES
Tomoki OGASAWARA, Waseda University, Tokyo-to, JAPAN

- 3PoA07-11 · GF-L2-07 · Study on the electromagnetic-thermal-mechanical behaviors of HTS non-insulation coils during transient processes
Li LU, Shanghai Jiao Tong University, Shanghai, CHINA

3PoA08 - Magnets for Power and Energy - Test Coils Analysis and Design Tools II

Session chair: Fedor GÖMÖRY / Session location: Ground Floor Bar (GF)

- 3PoA08-01 · GF-L2-08 · Design and Test of No-insulation Class HTS Magnet based Magnetohydrodynamics Ship
Chaemin IM, Seoul National University, Seoul, KOREA, REPUBLIC OF

- 3PoA08-02 · GF-L2-09 · Time Constant of Shielding Current Induced in No-Insulation High-Temperature Superconducting Magnetic Shields
Yoh NAGASAKI, Tohoku University, Sendai, JAPAN

- 3PoA08-03 · GF-L2-10 · Operation control for verification of power grid operation of no-insulation class HTS magnet using 7kW converter
Chaemin IM, Seoul National University, Seoul, KOREA, REPUBLIC OF

- 3PoA08-04 · GF-L3-01 · Analysis and optimization of impregnating materials for superconducting coils
Jiajie WU, Huazhong University of Science and Technology, wuhan, CHINA

- 3PoA08-05 · GF-L3-02 · Testing of a Vanadium-oxide-coated Smart Insulation Motor
Hyung-Wook KIM, Korea Electrotechnology Research Institute, Changwon-si, KOREA, REPUBLIC OF

- 3PoA08-06 · GF-L3-03 · Evaluation of the Fatigue Life of Solder REBCO Joints under Thermal Loadings as a Tool to Estimate the Current Lead Lifetime
Min Kyu SUN, Department of Materials Science and Engineering, Korea University, Seoul, KOREA, REPUBLIC OF

- 3PoA08-07 · GF-L3-04 · Investigation of Minimum Tolerable Bending Strain of High-Temperature Superconductor Solder Joint by Varying the Thickness of the Stabilizer and Solder
Jungmin KIM, Department of Materials Science and Engineering, Korea University, Seoul, KOREA, REPUBLIC OF

- 3PoA08-08 · GF-L3-05 · Influence of Joints on the Pre-loading Process in High-Temperature Superconducting Magnet Design
Jongsung LEE, Department of Materials Science and Engineering, Korea University, Seoul, KOREA, REPUBLIC OF

- 3PoA08-09 · GF-L3-06 · Sensitivity of YBCO thin film to y-radiation
Babak TAHERI, ENEA, Superconductivity Laboratory, Department of Fusion and Technologies for Nuclear Safety and Security, FRASCATI, ITALY

3PoA09 - Numerical Analysis and Modelling Tools

Session chairs: Tiina SALMI, Lorenzo GIANNINI / Session location: Ground Floor Bar (GF)

- 3PoA09-01 · GF-L3-07 · Numerical investigation of current distribution in composite multifilamentary/bundle HTS conductor
Hiroshi UEDA, Okayama University, Okayama, JAPAN

- 3PoA09-02 · GF-L3-08 · Creating precisely-shaped and fully-confined magnetic fields in magnets with no forces between wires
Alvar SANCHEZ, Universitat Autonoma Barcelona, Bellaterra, SPAIN

- 3PoA09-03 · GF-L3-09 · Numerical Calculation of Mutual Inductance of D-shaped Coils Applied to High-Temperature Superconducting Magnetic Energy Storage Magnets
Wenxu LIU, Beijing Jiaotong University, Beijing, CHINA

- 3PoA09-04 · GF-L3-10 · Impact of the interplay between ferromagnetic slice and overlapped magnetic field on the output of an HTS dynamo
Gang REN, State Key Laboratory of Traction Power, Southwest Jiaotong University, Chengdu, CHINA

- 3PoA09-05 · GF-L4-01 · Towards complete workflow automation of superconducting magnet and circuit simulations with the STEAM framework
Mariusz WOZNIAK, CERN, Meyrin, SWITZERLAND

- 3PoA09-06 · GF-L4-02 · Multiphysics analysis of a quadrupole magnet using SIMULIA tools on the 3DEXPERIENCE Platform
Ben PINE, Dassault Systemes, Wallingford, UNITED KINGDOM

- 3PoA09-07 · GF-L4-03 · Investigation of relationship between screening current and magnetic flux invasion in REBCO coils
Seishiro UCHIYAMA, Waseda University, Nishigahara, Kita-ku, Tokyo-to, JAPAN

- 3PoA09-09 · GF-L4-05 · Parallel performance of Radia 3D magnetostatics code
Marco MUSARDO, Brookhaven National Laboratory, Upton, USA

- 3PoA09-10 · GF-L4-06 · Feasibility study of equivalent Young's modulus for HTS pancake coil
Jaemin KIM, Seoul National University, Seoul, KOREA, REPUBLIC OF

- 3PoA09-11 · GF-L4-07 · A COMSOL application for a user-friendly model generation for multi-physics simulation of coated conductor tape solenoids
Mohsen HAAJARI, Tampere University, Tampere, FINLAND

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EVENTS

13:00 - 14:30
Lunch Break

09:45 - 10:45 / 15:00 - 15:45
Coffee Breaks - *Ground Floor Bar (GF) & Big One (BO)*
Sponsored by Faraday Factory & Shi Cryogenics

15:30 - 18:30
Tour Regular - *ITER Site, Saint Paul Lez Durance*

10:00 - 16:00
Exhibits - *Ground Floor Bar (GF) & Big One (BO)*

19:00 - 22:00
Conference Dinner - *Grand Theatre – Rooftop Terrace*

ORAL SESSIONS

08:00 - 08:15 **Announcements**

08:15 - 09:45 **4PL - Very high field MRI: scientific and industrial perspectives**

Session chairs: Michael PARIZH, Thierry SCHILD
Session location: Grand théâtre - Amphithéâtre

08:15 Exploring the Human Brain with Ultra-high Field MRI: Perspectives from the Iseult Project · 4PL-1
Denis LE BIHAN, NeuroSpin, CEA Saclay, Paris, FRANCE

08:45 To be announced · 4PL-2
Rebecca RAMB, Siemens Healthineers, Erlangen, GERMANY

11:30 - 13:00 **Student Competition & Awards**

Session location: Grand théâtre - Amphithéâtre

16:00 - 18:00 **4OrA1 - Medical Applications**

Session chairs: Michael PARIZH, Hitoshi KITAGUCHI
Session location: Grand théâtre - Amphithéâtre

16:00 Progress toward medical use of the Iseult whole body 11.7 T MRI · 4OrA1-1
Lionel QUETTIER, CEA, Saint-Paul-lez-Durance, FRANCE

16:15 The Design and Construction of a Low-cryogen, Light-weight, Head-only 7T MRI Magnet · 4OrA1-2
Anbo WU, GE Research, Niskayuna, USA

16:30 Design of an asymmetric, cryogen-free REBCO no-insulation brain MRI magnet · 4OrA1-3
Hubertus WEIJERS, Paihau-Robinson Research Institute, Victoria University of Wellington, Lower Hutt, NEW ZEALAND

16:45 Magnetic Design of a Compact GaToroid for Very High Energy Electron and Pre-clinical Hadron Beams · 4OrA1-4
Luca BOTTURA, CERN, Meyrin, SWITZERLAND

17:00 Status of Nb-Ti CCT magnet EU programs for hadron therapy · 4OrA1-5
Fernando TORAL FERNÁNDEZ, CIEMAT (Centro de Investigaciones Energéticas Medioambientales y Tecnológicas), Madrid, SPAIN

17:15 Conceptual design of an HTS Canted Cosine Tetha dipole magnet for research and hadron therapy accelerators · 4OrA1-6
Ernesto DE MATTEIS, INFN, Milano, ITALY

17:30 Conceptual design of a curved superconducting dipole demonstrator magnet for an ion gantry · 4OrA1-7
Marco PRIOLI, INFN, Milan, ITALY

17:45 Magnetic design of the scanning magnet system for a novel hadron therapy gantry · 4OrA1-8
Enrico FELCINI, CNAO, Pavia, ITALY

11:00 - 13:00 4OrSM - Fusion Magnets - Conductors and Engineering Analysis

Session chairs: Alexander VOSTNER, Chao ZHOU
Session location: Grand théâtre - Studio 1

11:00 Invited – High current Density Cables for Simpler HTS Magnets in Fusion Energy Systems · 4OrSM-1
Yuhu ZHAI, Princeton Plasma Physics Laboratory, Princeton, New Jersey, USA

11:25 Recovery options for TF coil of ITER with the excess heat load · 4OrSM-2
Junjun LI, ITER, Saint-Paul-lez-Durance, FRANCE

11:40 Qualification test of prototype samples of the REBCO SECAS fusion conductor · 4OrSM-3
Antonio DELLA CORTE, ENEA, Frascati, ITALY

11:55 Finite Element modeling of full-size ReBCO CORC-like CICCs for fusion · 4OrSM-4
Arend NIJHUIS, University of Twente, Enschede, THE NETHERLANDS

12:10 Impact of conductor aspect ratio on AC losses: measurements and modelling using effective input parameters in the COLISEUM model · 4OrSM-5
Romain BABOUCHE, CEA, Saint-Paul-lez-Durance, FRANCE

12:25 Latest developments of OLYMPE platform for optimizing design of fusion cryomagnetic systems · 4OrSM-6
Benoit LACROIX, CEA, Saint-Paul-lez-Durance, FRANCE

12:40 Thermohydraulical analysis and fast assessment of operating windows for JT-60SA TFC commissioning · 4OrSM-7
Sylvie NICOLLET, CEA, IRFM, 13108 Saint-Paul-les-Durance, France, Saint-Paul-lez-Durance, FRANCE

13:30 - 14:30 Short Courses Magnets for fusion

Session location: Grand théâtre - Studio 1

Dr Jean-Luc DUCHATEAU, CEA Cadarache - Dr Kinga GÁL, EUROfusion Consortium
History of fusion / Tokamaks and superconductivity / The emergence of Superconducting machines / ITER Tokamak / ITER Magnet systems / ITER strands and cable in conduits / From ITER to DEMO: The EUROfusion approach

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11:00 - 13:15 **4OrM2 - Accelerator Magnets - Design and Analysis II**

Session chairs: Lucio ROSSI, Stephane SANFILIPPO
Session location: Pavillon Noir - Amphithéâtre

11:00 A CAD engine for the design of curved accelerator magnets based on the differential geometry of the frenet frame · 4OrM2-1
Melvin LIEBSCH, CERN, Meyrin, SWITZERLAND

11:15 Modelling training in Nb3Sn superconducting magnets · 4OrM2-2
Giorgio VALLONE, Lawrence Berkeley National Laboratory, Berkeley, USA

11:30 Magnet designs for High-Intensity Muon Beams (HIMB) at PSI's Accelerator Complex HIPA · 4OrM2-4
Rebecca RICCIOLI, Postdoc researcher, Paul Scherrer Institut, Villigen PSI, SWITZERLAND

11:45 Uni-Layer Magnets: a Novel Idea for Superconducting Magnets and the Path Towards a First HTS Demonstrator · 4OrM2-5
Jose Luis RUDEIROS FERNANDEZ, Lawrence Berkeley National Laboratory, Berkeley, USA

12:00 Design and plan of a 10 T HTS dipole for the Italian facility IRIS · 4OrM2-6
Lucio ROSSI, University of Milan and INFN-Milan, Segrate, ITALY

12:15 Design, construction, and test of a novel direct wind, medium field superconducting dipole based on the optimum integral design · 4OrM2-7
Ramesh GUPTA, Brookhaven National Laboratory, Upton, USA

12:30 Analysis of Bi-2212 Superconducting Filament Joining using Deep Learning Methods · 4OrM2-8
Reed OBERG, University of Wisconsin - Eau Claire, Eau Claire, USA

12:45 Magnets for the Upgrade of the Synchrotron Swiss Light Source at the Paul Scherrer Institute - design and production aspects, measurement strategy and challenges · 4OrM2-9
Stephane SANFILIPPO, Paul Scherrer Institut, Villigen, SWITZERLAND

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16:00 - 18:05 4OrA2 - High Field HTS Magnets and Joints

Session chairs: Gen NISHIJIMA, Xavier CHAUD
Session location: Pavillon Noir - Amphithéâtre

16:00 Seven-year operation of 25-T cryogen-free superconducting magnet as a user magnet at HFLSM, IMR, Tohoku University · 4OrA2-1
Kohki TAKAHASHI, Tohoku University, Sendai, JAPAN

16:15 Very High Field Commercial Magnets Using Bi-2212 and REBCO · 4OrA2-2
Stephen MINTER, Cryomagnetics, Oak Ridge, TN, USA

16:30 Progress and challenges of Bi-2212 magnet technology · 4OrA2-3
Ulf TROCIEWITZ, Applied Superconductivity Center - NHMFL, Tallahassee, USA

16:45 Review on progresses of the REBCO magnets with pancake coils for high field applications: design, manufacture and testing · 4OrA2-4
Huajun LIU, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

17:00 33T cryogen-free superconducting magnet development at HFLSM · 4OrA2-5
Satoshi AWAJI, Tohoku University, Seandai, JAPAN

17:15 High temperature superconductor cable-wound solenoids tested in a 12 tesla background field with low-cycle fatigue and high current ramp rate results · 4OrA2-6
Daniel S DAVIS, NHMFL, Tallahassee, USA

17:30 The 35T Superconducting Magnet Project at the Institute of Electrical Engineering of Chinese Academy of Sciences · 4OrA2-7
Jianhua LIU, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

17:45 Resistance evaluation of superconducting joint for Ni-alloy reiforced Bi-2223 tape · 4OrA2-8
Yasuaki TAKEDA, National Institute for Materials Science, Tsukuba, JAPAN

11:00 - 13:00 4OrM3 - Special Session: Fiber Optics and Quench Detection

Session chair: Marco BRESCHI
Session location: Conservatoire - Amphithéâtre

11:00 HTS quench detection using Rayleigh-backscattering Interrogated Optical Fibers in a mechanically noisy environment · 4OrM3-1
William LO, The Pennsylvania State University, University Park, USA

11:13 Irradiation Sensitivity Investigation of Rayleigh Interrogated Optical Fiber (RIOF) Sensors for Superconducting Magnets · 4OrM3-2
William LO, The Pennsylvania State University, University Park, USA

11:26 Temperature monitoring in superconducting magnetic bearings using fiber Bragg grating sensors · 4OrM3-3
Mohammad SIAMAKI, Paihau-Robinson Research Institute, Victoria University of Wellington, Lower Hutt, NEW ZEALAND

11:39 Strain and temperature sensitivities experiments of distributed fiber Bragg grating sensors with different coatings in a large temperature range · 4OrM3-4
Peng Nian ZHANG, LANZHOU university, LANZHOU, CHINA

11:52 Fiber-Optics Quench Detection Schemes in HTS Cables for Fusion Magnets · 4OrM3-5
Gianluca DE MARZI, ENEA, Frascati, ITALY

12:05 Fiber Optic Thermometry for Quench Detection in High-Temperature Superconducting Cables for Fusion Devices · 4OrM3-6
Cristina MAZZOTTA, ENEA, Frascati, ITALY

12:18 Coherent-Phase Optical Time Domain Reflectometry for Monitoring High Temperature Superconducting Magnet Systems · 4OrM3-7
Matthew LEOSCHKE, The Pennsylvania State University, University Park, USA

12:31 Quench Detection and Temperature Measurement with Optical Fibers · 4OrM3-8
Hugues BAJAS, EPFL-SPC, Villigen PSI, SWITZERLAND

12:44 Measuring the quench dynamics and distributed optical fiber quench detection feasibility of the Taipan PIT-VIPER coil · 4OrM3-9
Erica SALAZAR, Commonwealth Fusion Systems, Cambridge, USA

16:00 - 18:00 4OrA3 - Magnets for Power and Energy

Session chairs: Pascal TIXADOR, Naoyuki AMEMIYA
Session location: Conservatoire - Amphithéâtre

16:00 High power density induction motors and drives for aircraft propulsion, using cryofuels for thermal management · 4OrA3-1
Matt RINDFLEISCH, Hyper Tech Research, Inc., Columbus, USA

16:15 Engineering design of forced-flow cooling HTS SMES with 6 kA current capacity used for NICA Accelerator · 4OrA3-2
Li MING, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

16:30 Development of the NI HTS Magnet Applications in SuperGenics; Quadrupole magnets for Accelerator and Racetrack coils for Ultra High-Speed Maglev · 4OrA3-3
Jongho CHOI, SuperGenics Co., Ltd., Changwon, KOREA, REPUBLIC OF

16:45 The progress of the second generation high temperature superconductor tapes in Shanghai Superconductor Technology Co., Ltd. · 4OrA3-4
Jiamin ZHU, Shanghai Superconductor Technology Co., Ltd., Shanghai, CHINA

17:00 Application of technical high-temperature superconducting (HTS) wire in <5T magnets · 4OrA3-5
Cornelia HINTZE, THEVA Dünnschichttechnik GmbH, Ismaning, GERMANY

17:15 Fabrication, characterizations and conceptual design of Spiral Copper-plated Striated Coated-conductor cables (SCSC cables) · 4OrA3-6
Naoyuki AMEMIYA, Kyoto University, Kyoto, JAPAN

17:30 Lightweight and large-current stacked high-temperature superconducting tapes · 4OrA3-7
Sataro YAMAGUCHI, Chubu University, Kasugai, JAPAN

17:45 Various properties of face-to-face double stacked (FFDS) coated conductors · 4OrA3-8
Machi TAKATO, The National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, JAPAN

POSTERS

09:45 - 11:30 **4PoM - Poster sessions**

4PoM01 - Detector Magnets

Session chairs: Matthias MENTINK, Benoit CURE / Session location: Big One (BO)

- 4PoM01-01 · BO-L1-01 · High-field magnets for axion dark matter detection
Clément GENOT, CEA SACLAY, Gif-sur-Yvette, FRANCE

- 4PoM01-02 · BO-L1-02 · Design and test a 1/6 prototype of the superconducting dipole magnet for the CEE detector
Wei YOU, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 4PoM01-03 · BO-L1-03 · Design and Prototyping of a Novel Toroid Magnet System for the MOLLER Experiment at Jefferson Lab
David KASHY, Thomas Jefferson National Accelerator Facility, Newport News, USA

- 4PoM01-05 · BO-L1-05 · MADMAX cryogenic stability: preliminary design of the MACUMBA demo-coil for physics
Clément LORIN, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

- 4PoM01-06 · BO-L1-06 · Pre-manufacturing design and manufactured items of the superconducting dipole magnet for the CBM detector
Aleksei BRAGIN, Budker Institute of Nuclear Physics, Novosibirsk, RUSSIAN FEDERATION

4PoM02 - High Luminosity LHC Magnets

Session chairs: Carla MARTINS JARDIM, Veronica ILARDI / Session location: Big One (BO)

- 4PoM02-01 · BO-L1-08 · Classifying the electromagnetic behavior of LHC main dipole magnets
Emmanuele RAVAIOLI, CERN, Meyrin, SWITZERLAND

- 4PoM02-02 · BO-L2-01 · AUP first Pre-series Cold Mass installation into the Cryostat
Thomas STRAUSS, Fermi National Accelerator Laboratory, Batavia, USA

- 4PoM02-03 · BO-L2-02 · Analysis of the MQXFA low beta quadrupoles for HL-LHC after 65% magnet assembly complete
Giorgio AMBROSIO, Fermi National Accelerator Laboratory, Batavia, USA

- 4PoM02-04 · BO-L2-03 · Status and Challenges in the Nb3Sn MQXFB Quadrupoles for HL-LHC
Susana IZQUIERDO BERMUDEZ, CERN, Meyrin, SWITZERLAND

- 4PoM02-05 · BO-L2-04 · AUP first pre-series cryo-assembly design production and test overview
Sandor FEHER, Fermi National Accelerator Laboratory, Batavia, USA

- 4PoM02-06 · BO-L2-05 · First CERN cold masses for the HL-LHC interaction regions
Herve PRIN, CERN, Meyrin, SWITZERLAND

- 4PoM02-08 · BO-L2-08 · Fermilab's horizontal test stand upgrade overview and commissioning
Guram CHLACHIDZE, Fermi National Accelerator Laboratory, Batavia, USA

- 4PoM02-09 · BO-L2-08 · HL-LHC IT string: status and perspectives
Marta BAJKO, CERN, Geneva, SWITZERLAND

- 4PoM02-10 · BO-L3-01 · Experimental Program of the HL-LHC Inner Triplet String Test at CERN
Samer YAMMINE, CERN, Geneva, SWITZERLAND

- 4PoM02-12 · BO-L3-02 · Study on the thermal contraction behavior of state-of-the-art MQXF superconducting magnet coils in the azimuthal, radial, and axial direction
Óscar SACRISTÁN DE FRUTOS, CERN, Geneva, SWITZERLAND

4PoM03 - Accelerator Magnets - Measurement Techniques

Session chair: Pierre BAUER / Session location: Big One (BO)

- 4PoM03-01 · BO-L3-03 · Strain measurement method based on new compensation bridge with double two-wire configuration for superconducting magnet detector
Ming Zhi GUAN, Institute of Modern Physics, Chinese Academy of Science, Lanzhou, CHINA

- 4PoM03-02 · BO-L3-04 · Analysis of the strain gauge data from the coils of the MQXFA magnets during the vertical test in liquid helium
Laura GARCIA FAJARDO, Lawrence Berkeley National Laboratory, Berkeley, USA

- 4PoM03-03 · BO-L3-05 · Strain monitoring of superconducting magnets in real-time at low temperatures using distributed optical fiber strain sensing technology
Xingzhe WANG, Key Lab of Mechanics on Western Disaster and Environment, College of Civil Engineering and Mechanics, Lanzhou University, Lanzhou, CHINA

- 4PoM03-04 · BO-L3-06 · Validating the physics-driven lumped-element model of the LHC magnet dipole magnet
Marvin JANITSCHKE, CERN, Meyrin, SWITZERLAND

- 4PoM03-05 · BO-L3-07 · Electrical simulations of the SIS100 superconducting dipole and quadrupole circuits: transients, earthing and failure modes
Piotr SZWANGRUBER, GSI Helmholtzzentrum für Schwerionenforschung GmbH, Darmstadt, GERMANY

- 4PoM03-06 · BO-L3-08 · Study on the overshooting current and shimming-coil optimizing methods for the mitigation of the Screening Current-Induced Magnetic Field effect in a model dipole coil based on coated conductors
Ze FENG, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

- 4PoM03-07 · BO-L4-01 · New measurement techniques used for the Electrical Quality Assurance of HL-LHC superconducting magnets
Jaromir LUDWIN, Institute of Nuclear Physics Polish Academy of Sciences, Kraków, POLAND

- 4PoM03-08 · BO-L4-02 · Optimizing Secondary-CLIQ for protecting high-field accelerator magnets
Emmanuele RAVAIOLI, CERN, Meyrin, SWITZERLAND

- 4PoM03-09 · BO-L4-03 · Effect of CLIQ on training of HL-LHC quadrupole magnets
Stoyan STOYNEV, Fermi National Accelerator Laboratory, Batavia, USA

- 04PoM03-10 · BO-L4-04 · Acoustic emission reveals persistent locations of elastic energy release during training of Nb3Sn canted-cosine-theta dipoles
Maxim MARCHEVSKY, Lawrence Berkeley National Laboratory, Berkeley, USA

- 4PoM03-12 · BO-L4-05 · Test of distributed fiber optic sensing in a subscale dipole magnet using CORC® wires
Linqing LUO, Lawrence Berkeley National Laboratory, Berkeley, USA

- 4PoM03-14 · BO-L4-06 · Enabling real-time impedance measurements of operational superconducting circuits of accelerator magnets
Magnus Bøgh Borregaard CHRISTENSEN, CERN, Geneva, SWITZERLAND

- 4PoM03-15 · BO-L4-07 · Design considerations of a magnet-based diagnostic system with compact layout for typical beam injector
Xu LIU, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoM03-16 · BO-L4-08 · Design of control system for electron-beam diagnostic equipment based on electrical magnets
Tongning HU, Huazhong University of Science and Technology, Wuhan, CHINA

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4PoM04 - Accelerator Magnets - Field Measurement Techniques

Session chair: Stephan RUSSENSCHUCK / Session location: Big One (BO)

- 4PoM04-01 · BO-L5-01 · Pulsed wire magnetic-field measurement system on permanent quadrupole magnet
Chin-Kang YANG, National Synchrotron Radiation Research Center, Hsinchu, TAIWAN

- 4PoM04-02 · BO-L5-02 · Alignment of a solenoid system by means of a translating-coil magnetometer
Mariano PENTELLA, CERN, Meyrin, SWITZERLAND

- 4PoM04-03 · BO-L5-03 · A translating-coil magnetometer for the magnetic measurement of the HL-LHC higher-order corrector magnets at room temperature
Mariano PENTELLA, CERN, Meyrin, SWITZERLAND

- 4PoM04-04 · BO-L5-04 · A rotating-coil mapper for field quality measurements in static and dynamic operation conditions
Melvin LIEBSCH, CERN, Meyrin, SWITZERLAND

- 4PoM04-05 · BO-L5-05 · PCB-based rotating coils for measuring sextupole magnets
Joseph DIMARCO, Fermi National Accelerator Laboratory, Batavia, USA

- 4PoM04-06 · BO-L5-06 · The Online Undulator Magnetic Field Measurement System
Jia-Ying HU, Shanghai Institute of Applied Physics, Chinese Academy of Sciences, Shanghai, CHINA

- 4PoM04-07 · BO-L5-07 · Encoder-less acquisition system for rotating-coil measurements
Piotr ROGACKI, CERN, Meyrin, SWITZERLAND

- 4PoM04-08 · BO-L5-08 · A Flexible Field Mapping System for Accelerator Magnets
Jerzy NOGIEC, Fermi National Accelerator Laboratory, Batavia, USA

4PoM05 - Accelerator Magnets - Superconducting Wires

Session chairs: Ian PONG, Thitipong SATIRAMATEKUL / Session location: Big One (BO)

- 4PoM05-01 · BO-L6-01 · Bi2212 standard wire design and low cost volume fabrication development
Alexander OTTO, Solid Material Solutions, LLC, North Chelmsford, USA

- 4PoM05-02 · BO-L6-02 · Effect of Hf Addition to Nb-alloy Core on Nb3Sn Grain Morphology under the High Sn Diffusion Driving Force
Koki ASAI, Sophia University, Narashino, JAPAN

- 4PoM05-03 · BO-L6-03 · Internal strain measurement by neutron diffraction under transverse compressive stress for Nb3Sn wires with and without Cu-Nb reinforcement
Mio NAKAMOTO, National Institues for Quantum Science and Technology, Naka, JAPAN

- 4PoM05-04 · BO-L6-04 · A new numerical approach to study critical current degradation in Nb3Sn wires due to pre-HT transverse strain deformations
Sergio BURIOLI, INFN, Genova, ITALY

- 4PoM05-05 · BO-L6-05 · Numerical study of electromagnetic behavior of an elliptical superconducting filament
Thitipong SATIRAMATEKUL, Kasetsart University, Nakhon Pathom, THAILAND

- 4PoM05-06 · BO-L6-06 · The effect of Xe-ion irradiation on the pinning properties of 2G HTS wire
Pavel DEGTYARENKO, S-Innovations LLC, Moscow, RUSSIAN FEDERATION

4PoM06 - Fusion Magnets - Quench and NI Coils II

Session chairs: Nicolai MARTOVETSKY, Nicholas CLAYTON / Session location: Ground Floor Bar (GF)

- 4PoM06-01 · GF-L1-01 · W7-X magnet system thermal insulation analysis under fast plasma decay conditions
Mikhail KHOKHLOV, Max Planck Institute for Plasma Physics, Greifswald, GERMANY

- 4PoM06-02 · GF-L1-02 · Research On Insulation Process Reliability And Stability Of Superconducting Twin-box Joint
Nengtao ZHOU, Institute of plasma physics, Chinese Academy of Sciences (ASIPP), Hefei, CHINA

- 4PoM06-03 · GF-L1-03 · Design of non-insulated TF coils for the EU DEMO reactor
Mattia ORTINO, EPFL-SPC, Villigen, SWITZERLAND

- 4PoM06-04 · GF-L1-04 · Effects of resonance phenomenon and transient response on voltage between conductor in JT-60SA PF coils
Tomoka KOBAYASHI, Sophia University, Tokyo, JAPAN

- 4PoM06-05 · GF-L1-05 · Research on insulation technology for Super-X Test Facility
Yuanyuan MA, Institute of plasma physics, Chinese Academy of Sciences, Hefei, CHINA

- 4PoM06-06 · GF-L1-06 · Dynamic electromagnetic response of irregularly shaped no-insulation coil under time variant background field
Xueliang WANG, Shanghai Jiao Tong University, Shanghai, CHINA

- 4PoM06-07 · GF-L1-07 · Parallel-wound No-insulation High Temperature Superconducting Magnet for Large-scale High Field Fusion Applications
Yutong FU, Shanghai Jiao Tong University, Shanghai, CHINA

- 4PoM06-08 · GF-L1-08 · Application of high voltage insulation on the magnet feeder superconducting joints during ITER machine assembly
Nicholas CLAYTON, ITER Organization, Saint-Paul-lez-Durance, FRANCE

- 4PoM06-09 · GF-L1-09 · Developments of the ITER magnet protection system in case of High Voltage insulation failure
Christine HOA, ITER Organization, Saint-Paul-lez-Durance, FRANCE

4PoM07 - Fusion Magnets - Test Coils and Testing I

Session chair: Stefano SGOBBA / Session location: Ground Floor Bar (GF)

- 4PoM07-01 · GF-L1-10 · A Pre-Conceptual Study of Compact Tokamak Solenoid Insert with an Ultra-Compact No-Insulation REBCO Magnet
Yi LI, Princeton Plasma Physics Laboratory, Princeton, New Jersey, USA

- 4PoM07-02 · GF-L2-01 · Iter magnets superconducting joints prototype tests in the cea selfie facility for operators qualification
Clément NGUYEN THANH DAO, CEA, Saint-Paul-lez-Durance, FRANCE

- 4PoM07-03 · GF-L2-02 · Central control system for CFETR CS model coil testing platform
Tong LI, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei, CHINA

- 4PoM07-07 · GF-L2-03 · Experimental study on the DC performance of a Nb3Al Cable-in-conduit Conductor
Ma HONGJUN, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

- 4PoM07-08 · GF-L2-04 · Analysis of the leakage events of the ITER actively cooled magnet system thermal shields pipes
Stefano SGOBBA, CERN, Genève, SWITZERLAND

4PoM08 - Pulsed Magnets

Session chairs: Doan NGUYEN, Sergei ZHERLITSYN / Session location: Jessye Norman (JN)

- 4PoM08-01 · JN-L1-01 · Non-destructive high-field pulsed solenoids for electronics and plasma physics
Mikhail GLYAVIN, IAP RAS, Nizhny Novgorod, RUSSIAN FEDERATION

- 4PoM08-02 · JN-L1-02 · Quasi-force-free magnets of small volume for generators of short-wave microwave radiation
Mikhail GLYAVIN, IAP RAS, Nizhny Novgorod, RUSSIAN FEDERATION

- 4PoM08-03 · JN-L1-03 · Design of A 20 T Pulsed Magnet for the pulsed field magnetometer
Jinqiao CHEN, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoM08-04 · JN-L1-04 · Optimization algorithm of high stable flat-top pulsed magnetic field system
Shuang WANG, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoM08-05 · JN-L1-05 · Design and test of a 30T-100ms flat-top magnet with a conical bore at the WHMFC
Huidong SHANG, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoM08-06 · JN-L1-06 · Analysis of the influence of assembly deviation on a duplex magnet and design of a new multiplex magnet for 80T
Shaobo LIU, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoM08-07 · JN-L1-07 · Design of a high-homogeneity 55 T pulsed magnet for high-resolution nuclear magnetic resonance measurement
Wenqi WEI, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoM08-08 · JN-L2-01 · Experimental and Simulation Study on Fast Cooling Method of Pulsed Magnetic Coil Based on Heat Pipe
Yiliang LV, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

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4PoM09 - Power Supplies for Pulsed & DC Resistive Magnets

Session chair: Houxiu XIAO / Session location: Jessye Norman (JN)

- 4PoM09-01 · JN-L2-03 · A Novel Magnetic Integrate L-C Filter for Multi-Phase Interleaved Buck Converter to Generate High Stability Magnet Field
Tao JIANG, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoM09-02 · JN-L2-03 · Research on a novel combined power supply system for a high pulsed flat-top two-coil magnet
Yun XU, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoM09-03 · JN-L2-04 · Upgrading of the control system for the pulsed high magnetic field facility at WHMFC
Jianfeng XIE, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoM09-04 · JN-L2-05 · A high current Marx generator with energy recovery for the repetitive frequency pulsed magnetic field
Shaozhe ZHANG, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoM09-05 · JN-L2-06 · Development of a pulsed power supply for laboratory astrophysics experiments under high magnetic fields
Jérôme BEARD, CNRS, TOULOUSE, FRANCE

- 4PoM09-06 · JN-L2-07 · Design of a new 14-MW Highly Stabilized Power Supply at the CHMFL
Can WANG, High Magnetic Field Laboratory, Chinese Academy of Sciences, Hefei, CHINA

4PoM10 - Magnets for Medical Systems - Manufacturing, Test of Magnets and Components

Session chair: Shohei NOJIMA / Session location: Ground Floor Bar (GF)

- 4PoM10-01 · GF-L2-05 · Fabrication and test of Nb3Sn-NbTi superconducting joint for a 14-T MRI magnet
Zhidong SHEN, Department of Electrical Engineering, Tsinghua University, Beijing, CHINA

- 4PoM10-02 · GF-L2-06 · Fabrication and experiments on a 1/2-scale demonstration NI-REBCO coil system of skeleton cyclotron for cancer therapy
Rui KUMAGAI, Waseda University, Tokyo, JAPAN

- 4PoM10-03 · GF-L2-07 · Genetic-Algorithm-based Room-Temperature Shimming and Long-term Operational Protocol for 400 MHz all-HTS NMR magnet
Jae Young JANG, Korea University of Technology and Education, Cheonan, KOREA, REPUBLIC OF

- 4PoM10-04 · GF-L2-08 · Ferromagnetic shimming of an all-ReBCO NMR magnet employing topology optimization
Minchul AHN, Kunsan National University, Gunsan, KOREA, REPUBLIC OF

- 4PoM10-05 · GF-L2-09 · Sensitivity analysis and optimization of ferromagnetic shim design of NMR magnets using ANOVA
Minchul AHN, Kunsan National University, Gunsan, KOREA, REPUBLIC OF

- 4PoM10-06 · GF-L2-10 · Monte Carlo probabilistic sensitivity analysis for ferromagnetic shim design of NMR/MRI magnets considering manufacturing errors
Minchul AHN, Kunsan National University, Gunsan, KOREA, REPUBLIC OF

- 4PoM10-08 · GF-L3-01 · Screening Currents Induced Magnetic Field Reduction for HTS Pre-polarization Coil in Ultralow-Field MRI
Pai PENG, Shanghai Jiao Tong University, Shanghai, CHINA

4PoM06 - Fusion Magnets - Quench and NI Coils II

Session chairs: Nicolai MARTOVETSKY, Nicholas CLAYTON / Session location: Ground Floor Bar (GF)

- 4PoM11-01 · GF-L3-02 · Effects of muli-step high temperature heating treatments in multifilamentary Nb3Sn strands
Pengju LI, Western Superconducting Technologies Co., Ltd., Xi'an, CHINA

- 4PoM11-02 · GF-L3-03 · Persistent Current Switch with a Superconducting Joint for a 7.87 T NbTi Magnet
Hyun Sung NOH, Department of Materials Science and Engineering, Korea University, Seoul, KOREA, REPUBLIC OF

- 4PoM11-03 · GF-L3-04 · Magnetic field angle dependence of longitudinal magnetic field effect in NbTi superconducting wire
Shoichi YOKOYAMA, Japan Superconductor Technology,Inc., Kobe,HYOGO, JAPAN

- 4PoM11-04 · GF-L3-05 · Investigation on the recrystallization and Nb3Sn formation for various Nb alloys with large deformation during heat treatment
Bo WU, Western Superconducting Technologies Co., Ltd., Xi'an, CHINA

- 4PoM11-05 · GF-L3-06 · Analysis of strain effect in High-Jc Nb3Sn superconducting wire
Young-Kyoung KIM, Kiswire Advanced Tech. Ltd., Daejeon, KOREA, REPUBLIC OF

- 4PoM11-06 · GF-L3-07 · Design of Lap Joint for a 16 T Superconductor Test Facility
Myounghun KIM, Korea Institute of Energy Technology, Naju, KOREA, REPUBLIC OF

14:30 - 16:30 4PoA - Poster sessions

4PoA01 - Undulators
Session chair: Stephane SANFILIPPO / Session location: Big One (BO)

- 4PoA01-02 · BO-L1-01 · Design and Manufacturing of S-PRESSO, a Superconducting Undulator Prototype for the European XFEL
Achim HOBL, Bilfinger Noell GmbH, Wuerzburg, GERMANY

- 4PoA01-05 · BO-L1-02 · Magnetic Design of High-Field, Short-Period Synchrotron Undulatorsby Wide, Patterned, High-Temperature Superconductors
Lorenzo BORTOT, Renaissance Fusion, Grenoble, FRANCE

- 4PoA01-06 · BO-L1-03 · Development of the Motion Control for a Short Elliptically Polarized Undulator at Taiwan Photon Source
Chunyi WU, National Synchrotron Radiation Research Center (NSRRC), Hsinchu, TAIWAN

- 4PoA01-07 · BO-L1-04 · Fabrication and cryogenic test of a 1.5-m-long planar superconducting undulator at IHEP
Junhao WEI, Institute of High Energy Physics, Chinese Academy of Sciences, Dongguan, CHINA

- 4PoA01-08 · BO-L1-05 · Design and measurement of a compact epu magnetic structure
Shudong ZHOU, Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai, CHINA

- 4PoA01-09 · BO-L1-06 · Electromagnetic design of a 12 mm-period bulk high-temperature superconducting undulator
Dabin WEI, Shanghai Institute of Applied Physics, Chinese Academy of Sciences, Shanghai, CHINA

- 4PoA01-10 · BO-L1-07 · The design of a double-period undulator based on magnetic force compensation technology
Shudong ZHOU, Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai, CHINA

- 4PoA01-11 · BO-L1-08 · Control System for a Tapper Cryogenic Permanent Magnet Undulator at Taiwan Photon Source
Chunyi WU, National Synchrotron Radiation Research Center (NSRRC), Hsinchu, TAIWAN

- 4PoA01-13 · BO-L2-01 · Status of various types of undulators at SXFEL
Cheng YU, Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai, CHINA

- 4PoA01-14 · BO-L2-02 · Development of superconducting wiggler based on force-heat-electromagnetic multifield analysis
Wei LIU, Western Superconducting Technologies Co.,Ltd, Xi'an, CHINA

- 4PoA01-15 · BO-L2-03 · Modelling of winding and machining tolerances in a helical superconducting undulator
Alex HINTON, STFC Daresbury Laboratory, Warrington, UNITED KINGDOM

4PoA02 - Accelerator Magnets - Field Analysis
Session chair: Stephane SANFILIPPO / Session location: Ground Floor Bar (GF)

- 4PoA02-01 · GF-L1-01 · Model sensitivity analysis and comparison with the magnetic measurements results of the High order correctors for HL-LHC
Ernesto DE MATTEIS, INFN, Milano, ITALY

- 4PoA02-02 · GF-L1-02 · Accurate calculation of integrated multipoles in FEM magnetostatic simulations
Vasily MARUSOV, GSI Helmholtzzentrum für Schwerionenforschung GmbH, Darmstadt, GERMANY

- 4PoA02-03 · GF-L1-03 · Magnetic Field Simulation of a Planar Superconducting Undulator for the FEL Demonstrator
Yuko SHIROYANAGI, Argonne National Laboratory, Lemont, USA

- 4PoA02-04 · GF-L1-04 · Comparative analysis of resistive dipole accelerator magnets for a Muon Collider
Marco BRESCHI, University of Bologna, Bologna, ITALY

- 4PoA02-05 · GF-L1-05 · Study on leakage field shielding for the septum magnet of particle accelerator
Yanqun WEI, Institude of Modern Physics, Chinese Academy of Sciences, LanZhou, CHINA

- 4PoA02-06 · GF-L1-06 · Numerical analysis of screening current induced field in an iron-less cyclotron based on the T-A formulation
Wei FU, China Institute of Atomic Energy, Beijing, CHINA

- 4PoA02-07 · GF-L1-07 · Simulation and Measurement of Harmonic Injection and Dynamic Inductance of CSNS/RCS Magnets
Changdong DENG, Institute of High Energy Physics, Chinese Academy of Sciences, Dongguan, CHINA

- 4PoA02-08 · GF-L1-08 · Efficient Magnetic Field Simulation of Superconducting Magnets using a Reduced Vector Potential Formulation
Laura D'ANGELO, Technische Universität Darmstadt, Darmstadt, GERMANY

- 4PoA02-09 · GF-L1-09 · Demonstration of periodic field generation with hybrid bulk superconducting staggered array
Kii TOSHITERU, Kyoto University, Uji, JAPAN

- 4PoA02-10 · GF-L1-10 · Design of the high homogeneity irregular shaped magnet in the Magnetic Recoil Spectrometer system
Pengcheng HUANG, High Magnetic Field Laboratory, Chinese Academy of Sciences., Hefei, Anhui, CHINA

4PoA03 - Superconductors for Accelerator and Detector Magnets

Session chairs: Matthew JEWELL, Chao Zhou / Session location: Ground Floor Bar (GF)

- 4PoA03-02 · GF-L2-01 · Status of conductor design and R&D for the MADMAX dipole
Francesco STACCHI, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

- 4PoA03-03 · GF-L2-02 · Study of the CICC copper jacket junctions for MADMAX
Christophe BERRIAUD, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

- 4PoA03-04 · GF-L2-03 · Electro-thermo-hydraulic simulation of the CICC-wound, superfluid helium-cooled MACQU solenoid
Guillaume DILASSER, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

- 4PoA03-05 · GF-L2-04 · CoCaSCOPE-Mesh Generator: a tool for the generation of 3D numerical model of Rutherford Cable
François NUNIO, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

- 4PoA03-06 · GF-L2-05 · Wire Quality Inspection And Rutherford Cable Fabrication
Ian PONG, Lawrence Berkeley National Laboratory, Berkeley, USA

- 4PoA03-07 · GF-L2-06 · Study of the interface adhesions between Nb3Sn Rutherford cables, impregnation system and coil components in conditions representative of high-field magnets
Guillaume CAMPAGNA, CEA Paris Saclay, Gif-sur-Yvette, FRANCE

- 4PoA03-08 · GF-L2-07 · 3D mechanical and thermomechanical simulations of Nb3Sn Rutherford cables during coil fabrication and magnet operation
Gilles LENOIR, CEA Paris-Saclay, Gif-Sur-Yvette, FRANCE

- 4PoA03-09 · GF-L2-08 · R&D of Rutherford cables and Al-stabilized conductors for superconducting magnets
Yu ZHAO, Wuxi Toly Electric Works Co.,Ltd, Wuxi, CHINA

- 4PoA03-10 · GF-L2-09 · Bending effect of the super fine strands Nb3Al cable on the superconducting performance
Norihito OHUCHI, High Energy Accelerator Research Organization, Tsukuba, JAPAN

- 4PoA03-11 · GF-L2-10 · Uniaxial tensile stress tolerance of ultra-thin Nb3Sn composite wires and cables
Michinaka SUGANO, High Energy Accelerator Research Organization (KEK), Tsukuba, JAPAN

- 4PoA03-12 · GF-L3-01 · Critical current of prototype REBCO round cables at 77 K
Xudong WANG, High Energy Accelerator Research Organization, Tsukuba, JAPAN

- 4PoA03-13 · GF-L3-02 · Numerical simulation of the mechanical behavior of a transposed cable with the in-plane bending of REBCO tapes
Yaqiang WANG, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

- 4PoA03-14 · GF-L3-03 · Bending characteristics of a transposed cable with in-plane bending of REBCO tapes (X-cable)
Juan WANG, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

- 4PoA03-15 · GF-L3-04 · Development of the Aluminum stabilized superconductor for CEPC
Ling ZHAO, Institute of High Energy Physics, CAS, Beijing, CHINA

- 4PoA03-16 · GF-L3-05 · Design and Demonstration of Al-Stabilized MgB2 Conductor for Higher-Sensitivity Particle Detection Magnet
Tsuyoshi YAGAI, Sophia University, Tokyo, JAPAN

4PoA04 - Fusion Magnets - Conductors and Current Leads

Session chair: Kamil SEDLAK / Session location: Big One (BO)

- 4PoA04-01 · BO-L2-04 · Results of HTS Current Lead Series Manufacturing for ITER
Pierre BAUER, ITER Organization, Saint-Paul-lez-Durance, FRANCE

- 4PoA04-02 · BO-L2-05 · Analysis of electromechanical properties of each layer of superconducting tape of multi-layer CORC cable under transverse compression load
Yangyang SHI, School of Electrical Engineering, Beijing Jiaotong Universisty, Beijing, CHINA

- 4PoA04-03 · BO-L2-06 · Evaluating Conductor Design and Performance for the TF Coil Conductor in CFETR: A Preliminary Study
Muhammad Talib HUSSAIN, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, 230031, People's Republic of China; University of Science and Technology of China, Hefei, 230026, People's Republic of China, HEFEI, CHINA

- 4PoA04-04 · BO-L2-07 · Mechanical analysis of CORC CICC for fusion tokamak magnet
Yongsheng WU, The Institute of Plasma Physics Chinese Academy of Sciences, HeFei, CHINA

- 4PoA04-05 · BO-L2-08 · Joint resistance evaluation of demountable edge joint depending on magnetic field orientation for remountable high-temperature superconducting magnet
Kazuya SUZUKI, Tohoku Univ, Sendai, JAPAN

- 4PoA04-06 · BO-L3-01 · Mechanical tests results of high current prototypes of ReBCO cables with different designs
Dmitry DIEV, NRC «Kurchatov Institute», Moscow, RUSSIAN FEDERATION

- 4PoA04-07 · BO-L3-02 · Feasibility study of HTS current leads with MgB2 shunt for Tokamak application
Nitin BAIRAGI, Institute for Plasma Research, Bhat, Gandhinagar-382 428 Gujarat, India & Homi Bhaba National Institute, Anushakti Nagar, Mumbai-400 085, Maharashtra, India, Gandhinagar, INDIA

- 4PoA04-08 · BO-L3-03 · Characterization of JA DEMO candidate reinforced Nb3Sn wires under contact stress
Nobuya BANNO, National Institute for Materials Science, Adachi, JAPAN

- 4PoA04-09 · BO-L3-04 · Characterization of Nb3Sn, NbTi and Cu wires for the magnet system of the DTT fusion tokamak
Rosa FREDA, ENEA, Frascati, ITALY

- 4PoA04-10 · BO-L3-05 · AC Loss Calculation of Fusion Magnets Made of Roebel Tapes
Luning HAO, University of Cambridge, Cambridge, UNITED KINGDOM

4PoA05 - Fusion Magnets - Thermal and Electromagnetic Design and Analysis II

Session chairs: Federica DEMATTE, Alexandre TORRE / Session location: Big One (BO)

- 4PoA05-01 · BO-L3-06 · Mechanical and thermal-hydraulic analysis on the high current R&W TF winding pack for the EU DEMO
Federica DEMATTE, EPFL-SPC, Villigen PSI, SWITZERLAND

- 4PoA05-02 · BO-L3-07 · Analysis of AC losses in KSTAR superconducting PF magnets at low current ramp rates
Kim MU-YONG, KOREA INSTITUTE OF FUSION ENERGY, Daejeon, KOREA, REPUBLIC OF

- 4PoA05-03 · BO-L3-08 · Study of hysteretic losses in partial penetration oscillations through experiment and new numerical tool
Alexandre TORRE, CEA, Saint-Paul-lez-Durance, FRANCE

- 4PoA05-04 · BO-L4-01 · Development of Thermo-hydraulic Models of JT-60SA TF02 Coil and Feeder for First Operation Predictions Using the CryoSoft Suite
José LORENZO, Fusion for Energy, Barcelona, SPAIN

- 4PoA05-05 · BO-L4-02 · Validation of hysteresis loss models for HTS stacks and conductors
Andrea ZAPPATORE, Politecnico di Torino, Dipartimento energia, Torino, ITALY

- 4PoA05-06 · BO-L4-03 · Test and analysis of AC losses in CORC cable
Qiangwang HAO, Institute of Plasma Physics,Chinese Academy of Sciences, Hefei, CHINA

- 4PoA05-07 · BO-L4-04 · Heat transfer coefficient measurement in single chanel cable-in-conduit conductor
Quentin GORIT, CEA, Saint-Paul-lez-Durance, FRANCE

- 4PoA05-08 · BO-L4-05 · Experimental Analysis of Thermal Runaway Temperature Using Simply Stacked HTS Tape for HTS CICCs of Toroidal Field Coils
Seokho NAM, Korea Institute of Fusion Energy, Daejeon, KOREA, REPUBLIC OF

- 4PoA05-09 · BO-L4-06 · Quantification of critical current prediction uncertainty in fusion cables introduced by variations in high temperature superconductor datasets
Jl CHENG, Commonwealth Fusion Systems, Devens, USA

- 4PoA05-10 · BO-L4-07 · High performance Nb3Sn superconducting cable for future fusion devices
Xiaguang SUN, Southwestern Institute of Physics, Chengdu, CHINA

4PoA06 - Fusion Magnets - Test Coils and Testing II

Session chairs: Paolo ROSSI, François BONNE / Session location: Big One (BO)

- 4PoA06-01 · BO-L4-08 · The experimental study on temperature variation of the superconducting magnets according to the thermal shield flow
Dong-Seong PARK, Korea Institute of Fusion Energy (KFE), Daejeon, KOREA, REPUBLIC OF

- 4PoA06-02 · BO-L5-01 · Development and Test of Magnetic Compression Coil System for HFRC
Qinglong ZHANG, Wuhan National High Magnetic Field Center, State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoA06-03 · BO-L5-02 · Mechanical tests on reduced scale mock-ups of ITER Pre-Compression Rings
Paolo ROSSI, ENEA, Frascati, ITALY

- 4PoA06-04 · BO-L5-03 · Method to reduce the influence of superconducting cable on feeder busbar partial discharge test
Linlin FANG, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

- 4PoA06-05 · BO-L5-04 · KSTAR grounding system and operation result of ground current detection system
Young Min PARK, Korea Institute of fusion energy, Daejeon, KOREA, REPUBLIC OF

- 4PoA06-06 · BO-L5-05 · Simulation of the JT60SA Supercritical Helium Toroidal Field Coil Loop During Fast Discharge Using Simcryogenics. Comparison With Experimental Data and Extrapolation to Higher Currents
François BONNE, Univ. Grenoble Alpes, CEA, IRIG, DSBT, Grenoble, FRANCE

- 4PoA06-07 · BO-L5-06 · A rapid and advanced examination methodology for round-in-square jacket based on PAUT from inner circular bore
Liu XIAOCHUAN, Institute of Plasma Physics, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei, CHINA

- 4PoA06-08 · BO-L5-07 · Structural Qualification of ITER Central Solenoid Module During Transport from California, USA to ITER site
Aravind SHANMUGASUNDARAM, US ITER, Oak Ridge National Laboratory, Knoxville, USA

4PoA07 - Fusion Magnets - Design Tools

Session chairs: Yuhu ZHAI, Sam TIPPETTS / Session location: Big One (BO)

- 4PoA07-01 · BO-L5-08 · Analysis of the fast safety discharge of the JT-60SA TF coils performed during the commissioning phase by means of the TACTICS code
Quentin LE COZ, CEA, Saint-Paul-lez-Durance, FRANCE

- 4PoA07-02 · BO-L6-01 · Design toolset for PF coilsets on STEP
Richard GOWLAND, UKAEA, Abingdon, UNITED KINGDOM

- 4PoA07-03 · BO-L6-02 · An optimisation approach for novel magnet topologies as applied to a levitated dipole
Tom SIMPSON, Open Star Technologies, Wellington, NEW ZEALAND

SEPTEMBER 14TH, 2023

4PoA08 - Magnets for Power and Energy - Mechanical Design and Analysis

Session chair: Frederic TRILLAUD / Session location: Jessye Norman (JN)

- 4PoA08-01 · JN-L1-01 · The influence of permanent magnet surface defects on the maximum high temperature superconducting magnetic levitation force
Zhao XIAN-FENG, Lanzhou Jiaotong University, Lanzhou, CHINA

- 4PoA08-02 · JN-L1-02 · Magnetizing characteristics of double quench flux-coupling type SFCL using dual iron cores due to its winding direction
Sung-Hun LIM, Soongsil University, Seoul, KOREA, REPUBLIC OF

- 4PoA08-03 · JN-L1-03 · Electromagnetic Performance Optimization of a Superconducting Linear Motor with an Improved Armature Winding Structure
Kang LIU, Southwest Jiaotong University, Chengdu, CHINA

- 4PoA08-04 · JN-L1-04 · Study on the performance of electric motor and soft magnetic material under extremely low temperature
Anqi WANG, Shenyang University of Technology, Shenyang, CHINA

- 4PoA08-05 · JN-L1-05 · Modeling and Analysis of Superconducting Motor Hybrid Damping and Shielding System
Wenfeng ZHANG, Nanjing University of Posts and Telecommunications, Nanjing, CHINA

- 4PoA08-06 · JN-L1-06 · Optimal design study of metal-as-insulation HTS synchronous motor with multiple operating points for electric vehicle based on many-objective optimization
Seok-Won JUNG, Sungkyunkwan University, Suwon-si, KOREA, REPUBLIC OF

- 4PoA08-07 · JN-L1-07 · Comparative evaluation of 3D magnetic-field analysis models for pulsed magnet design
Tomohiro TAKAYANAGI, Japan Atomic Energy Agency, Tokai-mura, JAPAN

- 4PoA08-08 · JN-L2-01 · Investigation on deformation behavior of stacked REBCO tapes under compressed loads for design of high field superconducting magnets
Seungcheol RYU, Changwon National University, Changwon, KOREA, REPUBLIC OF

- 4PoA08-09 · JN-L2-02 · Relaxation of stress concentration by applying Clothoid curve at the intersection of straight and curved sections in REBCO racetrack coil
Changhyung LEE, Changwon National University, Changwon, KOREA, REPUBLIC OF

- 4PoA08-10 · JN-L2-03 · Experimental investigation and optimization of electromagnetic force distribution of magnet based on two field-shaper modules
Haixiang LIU, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Wuhan, CHINA

- 4PoA08-11 · JN-L2-04 · Study on Local Force and Mechanical Characteristics of Null-Flux Track Coil for Superconducting Electrodynamic Suspension Train
Libin CUI, Southwest Jiaotong University, Chengdu, CHINA

- 4PoA08-12 · JN-L2-05 · Stress Analysis of the High-temperature Superconducting Electrodynamic Suspension Magnet
Guangtong MA, Southwest Jiaotong University, Chengdu, CHINA

- 4PoA08-13 · JN-L2-06 · A simple method based on the reduction of cost for the stress calculation of racetrack superconducting magnets
Pengyang XIE, Southwest Jiaotong University, Chengdu, CHINA

4PoA09 - AC Losses and Thermal Analysis

Session chair: Gabriele COLOMBO / Session location: Ground Floor Bar (GF)

- 4PoA09-02 · GF-L3-06 · Distributed Electromagnetic Thermal Modeling Method for Closed-Loop High Temperature Superconducting Magnet
Lingfeng ZHU, University of Houston, Houston, USA

- 4PoA09-03 · GF-L3-07 · Analysis of thermal conductivity of the REBCO tape winding coil
Hankil YEOM, Korea Institute of Machinery and Materials, Daejeon, KOREA, REPUBLIC OF

- 4PoA09-04 · GF-L3-08 · Possibilities of overcurrent in AC high-temperature superconducting magnets for high magnetic field
Jun OGAWA, Niigata University, Niigata, JAPAN

- 4PoA09-05 · GF-L3-09 · Nitrogen boil-off method of measuring AC losses in twisted-stacked HTS conductor
Xinsheng YANG, southwest jiaotong university, chengdu, CHINA

- 4PoA09-06 · GF-L3-10 · Evaluation of AC losses in an HTS capacitor using REBCO tapes as electrodes
Jun OGAWA, Niigata University, Niigata, JAPAN

- 4PoA09-07 · GF-L4-01 · Electromagnetic evaluation of YBCO multi-filament film fabricated on a substrate patterned by striped Zr
Hiroki FUJIMOTO, Kyushu University, Fukuoka, JAPAN

- 4PoA09-08 · GF-L4-02 · Experimental Study on a Current Sweep Method Combined with Thermal Cycle for Mitigation of Screening Current-induced Field in a Conduction-Cooled REBCO Magnet
Young Jin HWANG, Korea Maritime and Ocean University, Busan, KOREA, REPUBLIC OF

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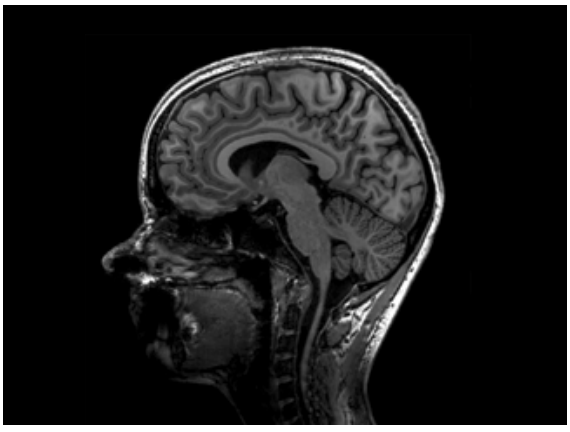

StudyID: 4aaaa0264 / 8Tx32Rx head coil

** MAGNETOM Terra.X is still under development and not commercially available yet. Its future availability cannot be ensured.*

SIEMENS Healthineers

SEPTEMBER 15TH, 2023

EVENTS

09:45 - 10:45
Coffee Break - *Ground Floor Bar (GF) & Big One (BO)*
Sponsored by Faraday Factory & Shi Cryogenics

14:00 - 18:30
Tour Premium - *ITER Site, Saint Paul Lez Durance*

ORAL SESSIONS

08:00 - 08:15 **Announcements**

08:15 - 09:45 **5PL - Special Forum: Alternative Paths to Commercial Fusion**

GAUSS FUSION

Session chairs: Mio NAKAMOTO, Neil MITCHELL
Session location: Grand Théâtre - Amphithéâtre

GENERAL ATOMICS

This plenary is exclusively sponsored by Gauss Fusion and General Atomics

08:15 Research and Development Progress of Magnetic Confinement Fusion Superconducting Magnets in China · 5PL-1
Yuntao SONG, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

08:45 Prospects for bolstering fusion technology development in Europe · 5PL-2
Gianfranco FEDERICI, EUROFusion, Garching, GERMANY

09:15 REBCO magnets and the path to compact fusion · 5PL-3
Dennis WHYTE, Plasma Science & Fusion Center, Massachusetts Institute of Technology, Cambridge, USA

11:00 - 13:00 **5OrM1 - REBCO Coated Conductors, Cables, and their Characterization**

Session chairs: Naoyuki AMEMIYA, Luigi MUZZI
Session location: Grand Théâtre - Amphithéâtre

11:00 Recent status of 2G HTS tapes at Fujikura · 5OrM1-1
Masanori DAIBO, Fujikura Ltd., Sakura, Chiba, JAPAN

11:15 Application of technical high-temperature superconducting (HTS) wire in high-field magnets · 5OrM1-2
Anis SMARA, THEVA Dünnschichttechnik GmbH, Ismaning, GERMANY

11:30 Properties of recent coated conductors relevant to their high field, low temperature magnet use · 5OrM1-3
Jan JAROSZYNSKI, NHMFL, Tallahassee, USA

11:45 Low cost and large-scale manufacturing of high-temperature superconducting multifilamentary coated conductors · 5OrM1-4
Anders WULFF, SUBRA A/S, Farum, DENMARK

12:00 SRutherford-type cabling for REBCO fine-filament tapes · 5OrM1-5
Makoto TAKAYASU, MIT, Cambridge, MA, USA

12:15 AC loss reduction in round HTS cables achieved by the filamentization of tape conductors · 5OrM1-6
Fedor GÖMÖRY, Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, SLOVAKIA

12:30 Critical current degradation in REBCO coated conductors subjected to thermomechanical loads · 5OrM1-7
Pablo CAYADO, University of Geneva, Geneva, SWITZERLAND

12:45 Observation of crack propagation caused by twisting in REBCO coated conductors by using scanning Hall-probe microscopy · 5OrM1-8
Inoue MASAYOSHI, Fukuoka Institute of Technology, Fukuoka, JAPAN

13:00 - 14:00 **Closing Session**

Session location: Grand Théâtre - Amphithéâtre

... PAVILLON NOIR *Amphithéâtre*

11:00 - 13:00 **5OrM2 - Accelerator Magnets - Nb3Sn**

Session chairs: Ian PONG, Michael SUMPTION
Session location: Pavillon Noir - Amphithéâtre

11:00 Investigating the impact of transverse compressive stress on Nb3Sn wires for high-field accelerator magnets · 5OrM2-1
Carmine SENATORE, University of Geneva, GENEVA, SWITZERLAND

11:15 Measurement and computation of Nb3Sn Rutherford cables strength under multi-axial loading conditions · 5OrM2-2
Giorgio VALLONE, Lawrence Berkeley National Laboratory, Berkeley, USA

11:30 Nucleation and growth of oxide nanoparticles in internally oxidized APC Nb3Sn: mechanisms, properties, and performance for accelerator magnet applications · 5OrM2-3
Michael SUMPTION, The Ohio State University, Columbus, USA

11:45 Microstructure characterization of Nb3Sn wires with oxide nanoprecipitate artificial pinning centers using synchrotron high-energy x-rays · 5OrM2-4
Jean-Francois CROTEAU, Lawrence Berkeley National Laboratory, Berkeley, USA

12:00 Towards rod-type internal-Sn Nb3Sn wires matching the layer Jc target of FCC by internal oxidation · 5OrM2-6
Francesco LONARDO, University of Geneva, Geneva, SWITZERLAND

12:15 Numerical simulations and analysis of thermomagnetic instability in Nb3Sn wires · 5OrM2-7
Wei LI, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

12:30 Partnership Models for Stewardship of Superconducting Magnet Technology and Assurance of Supply Chains for Large Science Facilities · 5OrM2-8
Lance COOLEY, FAMU-FSU College of Engineering, Tallahassee, USA

11:00 - 13:00 5OrM3 - Fusion Magnets - Quench Protection

Session chairs: Marco BRESCHI, Boris BELLESIA
Session location: Conservatoire - Amphithéâtre

11:00 Invited – Testing a novel method for detection of quench events in superconducting magnets using MEMS acoustic sensor-array · 5OrM3-1
Peter MOORE, Tufts University, Medford, USA

11:25 REBCO conductor quench detection tests for MEMS acoustic sensor array diagnostics · 5OrM3-2
Makoto TAKAYASU, MIT, Cambridge, MA, USA

11:40 Progress of quench detection for CFETR TF prototype coil · 5OrM3-3
Teng WANG, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

11:55 Inductive noise suppression in quench detection circuits of ITER central solenoid · 5OrM3-4
Nicolai MARTOVETSKY, ORNL, Oak Ridge, USA

12:10 Quench analysis on no-insulation-class high temperature superconductor toroidal field coil for compact high magnetic field fusion · 5OrM3-5
Seungyong HAHN, Seoul National University, Seoul, KOREA, REPUBLIC OF

12:25 Long-length acoustic fibers for quench detection and localization in HTS accelerator and fusion magnets · 5OrM3-7
Maxim MARCHEVSKY, Lawrence Berkeley National Laboratory, Berkeley, USA

POSTERS

09:45 - 11:30 **5PoM - Poster sessions**

5PoM01 - Accelerator Magnets - Progress and Systems status

Session chair: Matthias MENTINK / Session location: Big One (BO)

- 5PoM01-01 · BO-L1-01 · Overview of HTS accelerator magnet developments at CEA Saclay
Maria DURANTE, CEA Paris-Saclay, Gif-sur-Yvette, FRANCE

- 5PoM01-02 · BO-L1-02 · Compact High Intensity Proton Accelerator Using High Temperature Superconducting Coils
Takafumi HARA, Osaka University, Osaka, JAPAN

- 5PoM01-03 · BO-L1-03 · Proof-of-principle, energy-efficient, iron-dominated electromagnet for physics experiments
Arnaud DEVRED, CERN, Geneva, SWITZERLAND

- 5PoM01-04 · BO-L1-04 · Performance limits of accelerator dipole and quadrupole for a Muon Collider
Daniel NOVELLI, INFN and Sapienza University of Rome, Genoa, ITALY

- 5PoM01-05 · BO-L1-05 · Design and Experimental Study of Conduction Cooled MgB2 Superconducting Dipole
Enming MEI, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 5PoM01-06 · BO-L1-06 · Overview of the Magnet Designs for the Interaction Region of the Electron-Ion Collider EIC
Holger WITTE, Brookhaven National Laboratory, Upton, USA

- 5PoM01-07 · BO-L1-07 · HTS accelerator magnets conceptual design for future lepton colliders
Vladimir KASHIKHIN, Fermi National Accelerator Laboratory, Batavia, USA

- 5PoM01-08 · BO-L1-08 · Status of mu2e Transport Solenoid
Vito LOMBARDO, Fermi National Accelerator Laboratory, Batavia, USA

- 5PoM01-09 · BO-L2-01 · ORBUMP Pulsed Dipole Magnet System Design For Fermilab Booster
Vladimir KASHIKHIN, Fermi National Accelerator Laboratory, Batavia, USA

- 5PoM01-10 · BO-L2-02 · Status of Magnets for WALS Ring
Yuan CHEN, The Institute for Advanced Studies, Wuhan University, Wuhan, CHINA

5PoM02 - Permanent Magnets and Septum Kickers

Session chair: Alessandro BERTARELLI / Session location: Jessye Norman (JN)

- 5PoM02-01 · JN-L1-01 · Design, Prototyping Experiences, and Fabrication of AC-Dipole Magnet
Luciano ELEMENTI, Fermi National Accelerator Laboratory, Batavia, USA

- 5PoM02-02 · JN-L1-02 · Installation and future developement of permanent magnet dipoles at SOLEIL
Fabrice MARTEAU, Synchrotron SOLEIL, Saint-Aubin, FRANCE

- 5PoM02-03 · JN-L1-03 · Design Improvement of Bipolar Correction Magnet with Permanent Magnets
Yasutoshi KURIYAMA, Kyoto University, Kumatori-cho, JAPAN

- 5PoM02-04 · JN-L1-04 · Performance Evaluation of Combined-Function Permanent Magnet for High-Intensity Beam Transportation
Yasuhiro FUWA, Japan Atomic Energy Agency, Tokai-mura, JAPAN

- 5PoM02-05 · JN-L1-05 · Development of permanent magnet quadrupoles at NSRRC
Chin-Kang YANG, National Synchrotron Radiation Research Center, Hsinchu, TAIWAN

- 5PoM02-06 · JN-L1-06 · Combined function magnets for the Fermilab PIP-II Booster upgrade
Karie BADGLEY, Fermi National Accelerator Laboratory, Batavia, USA

- 5PoM02-07 · JN-L1-07 · Superconducting truncated cosine theta magnets for high field septa
Kei SUGITA, GSI Helmholtzzentrum für Schwerionenforschung GmbH, Darmstadt, GERMANY

- 5PoM02-08 · JN-L2-01 · Physical design and pototype development of septum magnet for HEPS storage ring
Yuwen WU, Institute of High Energy Physics, Chinese Academy of Sciences, Dongguan, CHINA

5PoM03 - Accelerator Magnets - Large Device Design

Session chairs: Hélène FELICE, Tengming SHEN / Session location: Big One (BO)

- 5PoM03-01 · BO-L2-03 · Magnetic studies of the Low Beta Quadrupole Q1ApF in the interaction region (IR) for the Electron-Ion Collider (EIC)
Julien AVRONSART, Brookhaven National Laboratory, Upton, USA

- 5PoM03-02 · BO-L2-04 · The design of B1APF dipole for the EIC interaction region
Mithlesh KUMAR, Brookhaven National Laboratory, Upton, USA

- 5PoM03-04 · BO-L2-05 · Preliminary magnetic design of the superconducting Electron Spin Rotator Solenoid magnet (SRS) for the Electron-Ion Collider (EIC)
Julien AVRONSART, Brookhaven National Laboratory, Upton, USA

- 5PoM03-05 · BO-L2-06 · HTS short straight sections for FCC-ee: concepts and sub-scale demonstrators
Jaap KOSSE, Paul Scherrer Institute, Villigen PSI, SWITZERLAND

- 5PoM03-06 · BO-L2-07 · Magnetic design of the interaction region quadrupole Q2pF for EIC
Ramesh GUPTA, Brookhaven National Laboratory, Upton, USA

- 5PoM03-07 · BO-L2-08 · Research progress of superconducting quadrupole magnets in CEPC interaction region
Chuang SHEN, Institute of High Energy Physics, Chinese Academy of Sciences, Beijing, CHINA

5PoM04 - Accelerator Magnets - Quench and Insulation II

Session chairs: Roland PICCIN, Alexandre LOUZGUITI / Session location: Big One (BO)

- 5PoM04-01 · BO-L3-01 · Design and test of a cold resistor in cryostat to control the quench-back effect of the DCT&CCT superconducting magnets
Yujin TONG, Institute of modern physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 5PoM04-02 · BO-L3-02 · Quench detection method of HTS tapes based on ultrasonic guided wave
Rui XU, Dalian Maritime University, Dalian, CHINA

- 5PoM04-03 · BO-L3-03 · Interlaminar fracture toughness testing of Nb3Sn insulation systems
Steven KRAVE, Fermi National Accelerator Laboratory, Batavia, USA

- 5PoM04-04 · BO-L3-04 · Upgrade of the quench detection system for the LHC Individually Powered Dipole and Quadrupole magnets
Tetiana PRIDII, CERN, Geneva, SWITZERLAND

- 5PoM04-05 · BO-L3-05 · Quench analysis and experiment of CiADS iLinac superconducting solenoid
Shijun ZHENG, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 5PoM04-06 · BO-L3-06 · Simulation of thermo-mechanical stresses after a quench in the 16 T Test Facility Dipole magnet
Giorgio VALLONE, Lawrence Berkeley National Laboratory, Berkeley, USA

- 5PoM04-07 · BO-L3-07 · Study of the factors influencing adhesion between constituting parts of Nb3Sn impregnated coils
Roland PICCIN, CERN, Meyrin, SWITZERLAND

- 5PoM04-08 · BO-L3-08 · Study on properties of No-Insulation HTS solenoid based on ASTC cable
Menglin WANG, Institute of High Energy Physics, CAS, Beijing, CHINA

- 5PoM04-09 · BO-L4-01 · Electrical-magnetic-thermal behavior of fast charged solder impregnated REBCO coils
Hongjun ZHANG, Institute of High Energy Physics, Chinese Academy of Sciences (IHEP, CAS), Beijing, CHINA

- 5PoM04-11 · BO-L4-02 · Nonlinear control of No-Insulation HTS coils
Stefano SORTI, University of Milan and INFN-Milan, Segrate, ITALY

- 5PoM04-12 · BO-L4-03 · Transient behavior of a REBCO metal-as-insulation racetrack coil using a partial element equivalent circuit model
Clément GENOT, CEA SACLAY, Gif-sur-Yvette, FRANCE

5PoM05 - Fusion Magnets - Mechanical Design Analysis and Characterization

Session chairs: Fang LIU, Jinggang QIN / Session location: Big One (BO)

- 5PoM05-01 · BO-L4-04 · Experiments and analysis of the effect of a segregated copper for cryogenic stability of NbTi/Cu wires
Tomoki SHIMAMOTO, National Institute for Fusion Science, Toki, JAPAN

- 5PoM05-02 · BO-L4-05 · TF Coils displacement distortion FE analysis simulating non-constant assembly gap between wedging interfaces of TF Coils
Yong FENG, ITER Organization, Saint-Paul-lez-Durance, FRANCE

- 5PoM05-03 · BO-L4-06 · A new closed second-generation high-temperature toroidal superconducting magnet for fusion
Hao DONG, Laboratory of Applied Superconductivity and Institute of Electrical Engineering, Chinese Academy of Science;University of Chinese Academy of Sciences, Beijing, CHINA

- 5PoM05-04 · BO-L4-07 · Analysis of the structural behavior of the KSTAR TF magnet for the safety operation
Hee-Jae AHN, Korea Institute of Fusion Energy, Daejeon, KOREA, REPUBLIC OF

- 5PoM05-05 · BO-L4-08 · Study on mechanical properties and microstructure of welded CICC jacket
Chuanyi ZHAO, Hefei Institutes of Physical Science, Chinese Academy of Sciences, Hefei, CHINA

- 5PoM05-06 · BO-L5-01 · Analysis of strains in SPARC CS PIT-VIPER cables
Sergey KUZNETSOV, Commonwealth Fusion Systems, Cambridge, USA

- 5PoM05-07 · BO-L5-02 · Mechanical characterization of pultruded fiberglass reinforced composites for the pre-compression rings of the ITER magnet system
Ignacio AVILES, CERN, Geneve, SWITZERLAND

- 5PoM05-08 · BO-L5-03 · Finite Element Analysis of the Energized ITER TF Coil in Test Conditions
José LORENZO, Fusion for Energy, Barcelona, SPAIN

- 5PoM05-09 · BO-L5-04 · Analytical method of designing force-balanced tokamaks
Alexey RADOVINSKY, Commonwealth Fusion Systems, Cambridge, USA

- 5PoM05-10 · BO-L5-05 · The preload analysis of CFETR CSMC under eddy current field
Xianwei WANG, Jiangsu University of Technology, Changzhou, CHINA

5PoM06 - Fusion Magnets - Thermal and Electromagnetic Design and Analysis III

Session chairs: Louis ZANI, Mattia ORTINO / Session location: Big One (BO)

- 5PoM06-01 · BO-L5-06 · New features of the TRAPS code for accurate 3D magnetic field calculations
Louis ZANI, CEA, Saint-Paul-lez-Durance, FRANCE

- 5PoM06-02 · BO-L5-07 · On the stability analysis of HTS conductors for fusion application
Dong Keun OH, Korea Institute of Fusion Energy, Daejeon, KOREA, REPUBLIC OF

- 5PoM06-03 · BO-L5-08 · Pulse heat mitigation control of JT-60SA helium refrigeration system
Kazuma FUKUI, National Institutes for Quantum Science and Technology, Naka, JAPAN

- 5PoM06-04 · BO-L6-01 · Effect of heat transfer between forced-flow cooling channels on thermal stability of RE-BCO conductor in fusion magnets
Ho-Myung CHANG, Hong Ik University, Seoul, KOREA, REPUBLIC OF

- 5PoM06-05 · BO-L6-02 · Calculation and Factor Analysis of Thermal Temperature Field for Low-Inductance Laminated Transmission Busbar in Tokamak
Zhengyi HUANG, University of Science and Technology of China, Hefei, CHINA

- 5PoM06-06 · BO-L6-03 · AC Losses Analysis on Rutherford Cable Made from HTS Quasi-isotropic Strands
Ye HE, North China Electric Power University, Beijing, CHINA

- 5PoM06-07 · BO-L6-04 · Methodology for an efficient impact assessment on the ITER Magnet system exposed to new thermal loads from a repaired Thermal Shield
Germán PÉREZ-PICHEL, ITER, Saint-Paul-lez-Durance, FRANCE

- 5PoM06-08 · BO-L6-05 · Updated stability analysis of the PF/CC models with the ITER DINA 2016 plasma scenario
Alexandre LOUZGUITI, ITER, Saint-Paul-lez-Durance, FRANCE

- 5PoM06-09 · BO-L6-06 · Design and Stability analysis of 10 kA CICC multi-stage twisted by Bi-2212 round wires
Jian RONG, Lanzhou University, Lanzhou, CHINA

5PoM07 - High Field & NMR Magnets

Session chairs: Yu SUETOMI, Jungbin SONG / Session location: Ground Floor Bar (GF)

- 5PoM07-01 · GF-L1-01 · The electromagnetic and mechanical design of a 30T high temperature superconducting magnet
Yuhang LI, Shanghai Jiao Tong University, Shanghai, CHINA

- 5PoM07-02 · GF-L1-02 · Design and performance estimation of a 20-T 30-mm all REBCO conduction-cooled user magnet
Xintao ZHANG, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, CHINA

- 5PoM07-03 · GF-L1-03 · 20 Tesla, 40 mm cold bore all-HTS magnet
Andrey MEDNIKOV, JSC NIIEFA, Saint-Petersburg, RUSSIAN FEDERATION

- 5PoM07-05 · GF-L1-04 · Mechanical Analysis, Assembly and Preloading of the High Field Nb3Sn Superconducting Magnet for the FECR Ion Source
Beimin WU, Institute of Modern Physics, Chinese Academy of Sciences, Lanzhou, CHINA

- 5PoM07-06 · GF-L1-05 · Design of REBCO BLOCK-coil insert of 15 T transverse field all-superconducting magnet
Tianfa LIAO, Huizhou University, Huizhou, CHINA

- 5PoM07-07 · GF-L1-06 · Optimal design of homogeneous magnetic field for non-homogeneous DP coils
Yaohui WANG, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

- 5PoM07-08 · GF-L1-07 · Mechanical stress analysis in different winding configurations for a benchtop 1-GHz microcoil NMR magnet
Junseong KIM, Massachusetts Institute of Technology, Cambridge, USA

- 5PoM07-09 · GF-L1-08 · Construction and test of 19.6 T REBCO insert magnet for the MIT 1.3 GHz NMR magnet
Dongkeun PARK, Massachusetts Institute of Technology, Cambridge, USA

5PoM08 - Magnets for Power and Energy - Cables and SFCL

Session chair: Pascal TIXADOR / Session location: Ground Floor Bar (GF)

- 5PoM08-01 · GF-L1-09 · HTS magnets for hyperscale datacentres
Ismail PATEL, University of Cambridge, Cambridge, UNITED KINGDOM

- 5PoM08-02 · GF-L1-10 · Investigation of HTS power devices cooled by LN2/CF4 mixture
Zhihao ZHOU, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

- 5PoM08-03 · GF-L2-01 · Optimized Magnetic Coupler Design for Contactless Current Charging of a HTS Magnet
Jae Young JANG, Korea University of Technology and Education, Cheonan, KOREA, REPUBLIC OF

- 5PoM08-04 · GF-L2-02 · Design of solid nitrogen cooled homogeneous MgB2 superconducting magnet for gyrotron
Bangzhu WANG, School of Electrical Engineering, Beijing Jiaotong Universisty, Beijing, CHINA

- 5PoM08-05 · GF-L2-03 · Effects of moving magnetic materials in and out of superconducting magnet for active magnetic refrigeration system
Kyohei NATSUME, National Institute for Materials Science, Tsukuba, JAPAN

- 5PoM08-06 · GF-L2-04 · Test results of the SuperRail HTS cable system for the French railway electric grid
Loïc QUEVAL, University Paris-Saclay, Gif-sur-Yvette, FRANCE

- 5PoM08-08 · GF-L2-06 · Study of Improved Flux-Coupling-Type SFCLs to Increase the Hosting Capacity of Renewable Power Generators in Power Grid
Lei CHEN, Wuhan University, Wuhan, CHINA

SEPTEMBER 15TH, 2023

5PoM09 - Magnets for Power and Energy - Test Coils Analysis and Design Tools III

Session chairs: Christine HOA, Pascal TIXADOR / Session location: Ground Floor Bar (GF)

- 5PoM09-01 · GF-L2-07 · New configuration to improve the power input/output quality of a superconducting energy storage/convertor
Wenxin LI, Tinjin university, Tianjin, CHINA

- 5PoM09-02 · GF-L2-08 · A novel time-phased distributed voltage calculation method for SMES magnets
Dengquan LIN, Huazhong University of Science and Technology, Wuhan, CHINA

- 5PoM09-03 · GF-L2-09 · Numberical and experimental investigations of ReBCO pancake inductance for energy storage
Dai TIANLI, Institute Plasma Physics, Chinese Academy of Science, Hefei, CHINA

- 5PoM09-04 · GF-L2-10 · Topology Design and Current Limiting Characteristics of DC Resistance-inductor Superconducting Current Limiter
Zheng Quan TANG, Xi'an Jiaotong University, Xi'an, CHINA

- 5PoM09-05 · GF-L3-01 · Simulation and experimental analysis of translational levitation characteristics in splicing superconducting plane under zero-field cooling
Zhao PENG, Beihang University, Beijing, CHINA

- 5PoM09-06 · GF-L3-02 · A superconducting magnetic levitation and electrostatic feedback hybrid system for gravity measurement
Feifei NIU, Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing, CHINA

- 5PoM09-07 · GF-L3-03 · Analysis of the influence of magnetic field in the propulsion force of a Permanent Magnet-HTS Hybrid Magnetically Levitated Transport System
Alex Hitoshi TAKINAMI, Kansai University, Osaka, JAPAN

- 5PoM09-08 · GF-L3-04 · Conceptual Design and Operating Characteristics of Wireless High Current Charging Units Combined with Supercapacitors for Superconducting Levitation Magnet of MAGLEV Train
Yoon Do CHUNG, Suwon Science College, Hwaseong-si, KOREA, REPUBLIC OF

- 5PoM09-10 · GF-L3-05 · An Electromagnetic-Thermal Coupled FEM Model of a Closed-Loop Coil Excitation Process for an HTS Maglev Mover Magnet
Yuwei ZHOU, Shanghai Jiao Tong University, Shanghai, CHINA

5PoM10 - HTS Bulks and Stacks

Session chair: Christopher REIS / Session location: Ground Floor Bar (GF)

- 5PoM10-01 · GF-L3-06 · Invited – Magnetization properties of HTS trapped field magnets
Difan ZHOU, Shanghai University, Shanghai, CHINA

- 5PoM10-03 · GF-L3-07 · Trapped Magnetic Field by Magnetization for Three HTS Bulks
Tetsuya IDA, Tokyo University of Marine Science and Technology, Tokyo, JAPAN

- 5PoM10-04 · GF-L3-08 · Measurement of Dynamic Magnetic Flux Density Distribution at the Two-dimensional Surface of HTS Bulk
Nagisa KAWASUMI, Tokyo University of Marine Science and Technology, Tokyo, JAPAN

- 5PoM10-05 · GF-L3-09 · Improvement of electromagnetic properties for YBCO superconducting bulk
Lee SANG HEON, Sunmoon University, Chung Nam, KOREA, REPUBLIC OF

- 5PoM10-06 · GF-L3-10 · Electromagnetic performance on REBCO canted stack structure for double-pancake HTS magnets
Xuan'Ang MENG, Shanghai Jiao Tong University, Shanghai, CHINA

- 5PoM10-07 · GF-L4-01 · Modelling and analysis of Iron-Yoke assisted Pulsed Field Magnetisation of Trapped Field Stacks at 77 K
Qi WANG, University of Cambridge, Cambridge, UNITED KINGDOM

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Aix-en-Provence, France, 10-15 September 2023

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