WAMSDO 2013 - Workshop on Accelerator Magnet, Superconductor, Design and Optimization - 15-16 January, Bldg. 6/2-024

Report of Contributions

Contribution ID: **0** Type: **not specified**

Welcome

Tuesday 15 January 2013 09:00 (15 minutes)

Presenter: DE RIJK, Gijs (CERN)

Contribution ID: **2** Type: **not specified**

coffee break

Tuesday 15 January 2013 10:15 (15 minutes)

Contribution ID: **5** Type: **not specified**

lunch break

Tuesday 15 January 2013 12:45 (1h 15m)

Contribution ID: **10** Type: **not specified**

coffee break

Tuesday 15 January 2013 15:00 (30 minutes)

Contribution ID: **14** Type: **not specified**

coffee break

Wednesday 16 January 2013 10:20 (30 minutes)

Contribution ID: **15** Type: **not specified**

lunch break

Wednesday 16 January 2013 12:35 (1h 25m)

Contribution ID: **16** Type: **not specified**

coffee break

Contribution ID: **17** Type: **not specified**

Quench 101

Tuesday 15 January 2013 09:15 (1 hour)

basics of quench thermal, electric and hydraulic phenomena. Physic models and their nature. Hot-spot, effect of cooling, helium flows. Voltages. Temperature gradients and thermal stresses. Propagation. Protection strategies depending on magnet size - scalings.

Presenter: Mr BOTTURA, Luca (CERN)

Contribution ID: **18** Type: **not specified**

Quench limits in the next generation of magnets

Tuesday 15 January 2013 11:30 (45 minutes)

What are the physical limits and how close to those limits should a magnet be during quenching, what will the new magnets in LHC require from QD+P point of view ?

Presenter: Dr TODESCO, Ezio (CERN)

Contribution ID: **19** Type: **not specified**

Report on quenches in LHC - the magnets and their operation side

Contribution ID: **20** Type: **not specified**

Quench protection for the LHC

Tuesday 15 January 2013 10:30 (1 hour)

Quenches experienced, natural (training), induced (beam), triggered (QH discharge) during operation. Quench propagation in the string. Quench protection in the machine vs. test benches (threshold, filters, etc.). Preventive thresholds (BLM) and related issues.

Presenter: VERWEIJ, Arjan (CERN)

Contribution ID: **21** Type: **not specified**

Quench protection of superconducting links and current leads

Issues of quench protection in composite LTS/HTS devices, quench protection practice for HTS. Protection of long HTS cables. Pressure increase in pipes ?

Contribution ID: **22** Type: **not specified**

Modelling quenches - a review of the tools

Tuesday 15 January 2013 14:00 (30 minutes)

physics, programming, validation, distribution and availability

Presenter: FELICE, Helene (Lawrence Berkeley National Lab. (LBNL))

Contribution ID: **23** Type: **not specified**

A view into the future: what will the new magnets in LHC require from QD+P point of view?

Contribution ID: **24** Type: **not specified**

Quench in HTS magnets

Tuesday 15 January 2013 14:30 (30 minutes)

physics and issues. State-of-the-art

Presenter: SCHWARTZ, Justin (North Carolina State University)

Contribution ID: **25** Type: **not specified**

Topic 1: Heat transfer and quench propagation from quench heaters

Tuesday 15 January 2013 15:30 (30 minutes)

modeling, issues, limits, ideas

Presenter: SALMI, Tiina (Lawrence Berkeley National Laboratory)

Contribution ID: **26** Type: **not specified**

Case study 1: Models and experimental results from the HQ-LQ and QXF

Wednesday 16 January 2013 09:00 (20 minutes)

Presenter: AMBROSIO, Giorgio (Fermilab)

Contribution ID: **27** Type: **not specified**

Case study 2: Models and experimental results from the 11 T DS Nb3Sn dipole

Wednesday 16 January 2013 09:20 (20 minutes)

Presenter: CHLACHIDZE, Guram (Fermilab)

Contribution ID: **28** Type: **not specified**

Case study 3: Models and experimental results from the wide aperture Nb-Ti magnets MQXC, D1 and Q4

Wednesday 16 January 2013 09:40 (20 minutes)

Presenter: KIRBY, Glyn (CERN)

Contribution ID: **29** Type: **not specified**

Case study 4: Quench analysis for the HD program

Wednesday 16 January 2013 10:00 (20 minutes)

Contribution ID: **30** Type: **not specified**

Case study 5: Detection thresholds for quenches, experience from the LHC

Contribution ID: **31** Type: **not specified**

Case study 5: Protection of Fresca2

Wednesday 16 January 2013 10:50 (20 minutes)

Presenter: FAZILLEAU, Philippe (DAPNIA)

Contribution ID: **32** Type: **not specified**

Case study 6: Protection of insert-outsert combined magnets

Wednesday 16 January 2013 11:10 (20 minutes)

Presenter: STENVALL, Antti Aleksis (Tampere University of Technology)

Contribution ID: **33** Type: **not specified**

New ideas on quench detection and protection

Tuesday 15 January 2013 12:15 (30 minutes)

Presenters: DE RIJK, Gijs (CERN); Mr BOTTURA, Luca (CERN)

Contribution ID: **34** Type: **not specified**

Topic 2: Detecting mechanical vibrations in superconducting magnets for quench detection and diagnostics

Tuesday 15 January 2013 16:00 (20 minutes)

Presenter: Mr MARCHEVSKY, Maxim (LBNL)

Contribution ID: **35** Type: **not specified**

Topic 3: Quench detection

Contribution ID: **36** Type: **not specified**

Topic 3: Propagation speed

Tuesday 15 January 2013 16:20 (20 minutes)

adiabatic, cooled, transverse, LTS, HTS, helium mediated - (some of this could also be in the first talk on basic quench theory)

Presenter: TEN KATE, Herman (CERN)

Contribution ID: **37** Type: **not specified**

Topic 5 Power circuits : diodes, switches etc.

technical choices, state-of-the-art and future perspective

Contribution ID: **38** Type: **not specified**

Case study 7: Radiation damage effects on RRR

Wednesday 16 January 2013 11:30 (20 minutes)

Presenter: FLUKIGER, Rene (Florida State University (US))

Contribution ID: **39** Type: **not specified**

Topic 5: Considerations on Quenching HTS Coils

Tuesday 15 January 2013 16:40 (30 minutes)

Presenter: DALBAN-CANASSY, Matthieu (Florida State University)

Contribution ID: **40** Type: **not specified**

Case study 8: Quenching the 32 T LTS-YBCO magnet

Presenter: NOYES, Patrick (Florida State University)

Contribution ID: **41** Type: **not specified**

Topic 6:

Presenter: LECREVISSE, Thibauld (CEA-Saclay)

Contribution ID: **42** Type: **not specified**

special seminar: Development of a textured powder Bi-2212/Ag conductor and Overpressure Processing of Bi-2212 Structured Cables

Presenter: DAMBORSKY, Kyle (Texas A&M University)

Contribution ID: **43** Type: **not specified**

discussion, what are the actions we need ?

Wednesday 16 January 2013 11:50 (40 minutes)

Contribution ID: **44** Type: **not specified**

closing of the workshop

Wednesday 16 January 2013 12:30 (5 minutes)

Presenter: DE RIJK, Gijs (CERN)