

# **Superconducting RF Materials Workshop**

## **Report of Contributions**

Contribution ID: 0

Type: **not specified**

## **Introduction talk on SRF issues about materials and surfaces**

*Wednesday 23 May 2007 09:15 (15 minutes)*

**Presenter:** GIANLUIGI CIOVATI

**Session Classification:** Session 1 : Fundamental of SRF

Contribution ID: 1

Type: **not specified**

## **High-field surface resistance and RF breakdown in multilayer coatings**

*Wednesday 23 May 2007 09:45 (15 minutes)*

**Presenter:** ALEX GUREVICH

**Session Classification:** Session 1 : Fundamental of SRF

Contribution ID: 2

Type: **not specified**

## Edwards\_MWS07 Intro

*Wednesday 23 May 2007 09:30 (15 minutes)*

**Presenter:** EDWARDS

**Session Classification:** Session 1 : Fundamental of SRF

Contribution ID: 3

Type: **not specified**

## Hasan\_Sethna\_superheating field

*Wednesday 23 May 2007 10:00 (15 minutes)*

**Presenter:** H. PADAMSEE & J. SETHNA

**Session Classification:** Session 1 : Fundamental of SRF

Contribution ID: 4

Type: **not specified**

## **Fundamental limits to Hsh in Niobium- What can theory tell us?**

*Wednesday 23 May 2007 10:15 (10 minutes)*

**Presenter:** JAMES P. SETHNA, GIANLUIGI CATELANI

**Session Classification:** Session 1 : Fundamental of SRF

Contribution ID: 5

Type: **not specified**

## **Surface Analysis of Samples Dissected from a Cavity with a High-Field Q-Slope**

*Wednesday 23 May 2007 11:40 (20 minutes)*

**Presenter:** ALEXANDER ROMANENKO

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 6

Type: **not specified**

## Overview of Characterization Methodology

*Wednesday 23 May 2007 11:25 (15 minutes)*

**Presenter:** MICHAEL J. KELLEY

**Session Classification:** Session 2 : Material properties and characterization



Contribution ID: 7

Type: **not specified**

## **Recent progress in development of Near-field Scanning Microwave Microscopy (NSMM)**

*Wednesday 23 May 2007 11:05 (20 minutes)*

**Presenter:** JUDY WU, R. AGA AND J. DIZON

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 8

Type: **not specified**

## **Second Major Open Physics Topic in RF Superconductivity**

*Wednesday 23 May 2007 10:35 (15 minutes)*

**Presenter:** H. PADAMSEE

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: **10**

Type: **not specified**

# **Superconducting Electromagnetic Metamaterials**

*Wednesday 23 May 2007 13:10 (15 minutes)*

**Presenter:** STEVEN M. ANLAGE

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 11

Type: **not specified**

## High Field Q-slope of a Nearly Oxide-Free Niobium Cavity

*Wednesday 23 May 2007 13:25 (15 minutes)*

Correlation between XPS and temperature maps

**Presenter:** GRIGORY EREMEEV

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 12

Type: **not specified**

## **Heat transfer measurement of Niobium for SRF cavities**

*Wednesday 23 May 2007 13:40 (10 minutes)*

**Presenter:** S.K. CHANDRASEKARAN, A. AIZAZ, C. COMPTON, T.L. GRIMM, N.T. WRIGHT

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 13

Type: **not specified**

## **Tunneling Spectroscopy for SRF Development**

*Wednesday 23 May 2007 13:50 (10 minutes)*

**Presenter:** J.F. ZASADZINSKI

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 14

Type: **not specified**

## **The atomic scale investigation of Nb for superconducting RF cavity**

*Wednesday 23 May 2007 14:00 (15 minutes)*

**Presenter:** KEVIN YOON

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 15

Type: **not specified**

## **Brief Review of RF measurement of SRF sample**

*Wednesday 23 May 2007 14:15 (15 minutes)*

**Presenter:** CHARLES. E. REECE

**Session Classification:** Session 2 : Material properties and characterization



Contribution ID: 16

Type: **not specified**

## **Imaging of Microwave Currents and Microscopic Sources of Nonlinearities in Superconducting Resonators**

*Wednesday 23 May 2007 14:30 (15 minutes)*

**Presenter:** STEVEN M. ANLAGE

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 17

Type: **not specified**

# **A Novel Method to Measure the Absolute Value of the Magnetic Penetration Depth in Superconductors**

*Wednesday 23 May 2007 14:45 (15 minutes)*

**Presenter:** STEVEN M. ANLAGE

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: **18**

Type: **not specified**

## **Superconducting Materials Testing With a High-Q Copper RF Cavity**

*Wednesday 23 May 2007 15:00 (15 minutes)*

**Presenter:** SAMI TANTAWI

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 20

Type: **not specified**

## **Surface Oxide Study On Solid Niobium For Superconducting RF Accelerators Using Variable Photon Energy XPS**

*Wednesday 23 May 2007 10:50 (15 minutes)*

**Presenter:** HUI TIAN

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 21

Type: **not specified**

## **Coupled V-I data and Transport Magneto-Optics on YBCO coated conductor**

*Wednesday 23 May 2007 15:15 (15 minutes)*

**Session Classification:** Session 2 : Material properties and characterization

Contribution ID: 22

Type: **not specified**

## **New Materials for SRF Cavities**

*Wednesday 23 May 2007 15:45 (20 minutes)*

**Presenter:** ANNE-MARIE VALENTE-FELICIANO

**Session Classification:** Session 3: New materials for the future

Contribution ID: 23

Type: **not specified**

## **MgB<sub>2</sub> Thin Film and Its Application to RF Cavities**

*Wednesday 23 May 2007 16:05 (20 minutes)*

**Presenter:** XIAOXING XI

**Session Classification:** Session 3: New materials for the future

Contribution ID: 24

Type: **not specified**

## Atomic Layer Deposition for SRF cavities

*Wednesday 23 May 2007 16:25 (20 minutes)*

**Session Classification:** Session 3: New materials for the future



Contribution ID: 25

Type: **not specified**

## **Innovative Processing of SRF materials**

*Thursday 24 May 2007 09:00 (20 minutes)*

**Presenter:** CLAIRES ANTOINE

**Session Classification:** Session 4: Innovative processing methods

Contribution ID: 26

Type: **not specified**

## **Treatment of SRF 1-cell test cavities for evaluation of the effect of Gas Cluster Ion Beams on high power cavity Q**

*Thursday 24 May 2007 09:20 (30 minutes)*

**Presenter:** D. R. SWENSON

**Session Classification:** Session 4: Innovative processing methods

Contribution ID: 27

Type: **not specified**

## Plasma Etching of Niobium Surfaces

*Thursday 24 May 2007 09:50 (25 minutes)*

**Presenter:** M. RAŠKOVIĆ

**Session Classification:** Session 4: Innovative processing methods

Contribution ID: 28

Type: **not specified**

## **ECR plasma: a possible in-situ cavity processing technique**

*Thursday 24 May 2007 10:25 (20 minutes)*

**Presenter:** GENFA WU

**Session Classification:** Session 4: Innovative processing methods

Contribution ID: 29

Type: **not specified**

## **Advanced Nb oxide surface modification by cluster ion beams**

*Thursday 24 May 2007 11:10 (25 minutes)*

**Presenter:** ZEKE INSEPOV

**Session Classification:** Session 4: Innovative processing methods

Contribution ID: **30**

Type: **not specified**

## **Novel Surface Treatments for RRR Niobium**

*Thursday 24 May 2007 10:45 (25 minutes)*

**Presenter:** ROY CROOKS

**Session Classification:** Session 4: Innovative processing methods

Contribution ID: 31

Type: **not specified**

## **Chemical Mechanical Polishing for Manufacturing of Smooth Nb Surfaces**

*Thursday 24 May 2007 11:35 (25 minutes)*

**Presenter:** SINAN MUFTU

**Session Classification:** Session 4: Innovative processing methods

Contribution ID: 32

Type: **not specified**

## High-Purity TIG Welding at Michigan State University

*Thursday 24 May 2007 13:30 (20 minutes)*

**Presenter:** CHRIS COMPTON

**Session Classification:** Session 5: Niobium production



Contribution ID: 33

Type: **not specified**

## **Microstructural Refinement of Niobium for Superconducting RF Cavities**

*Thursday 24 May 2007 13:50 (25 minutes)*

**Presenter:** K. TED HARTWIG

**Session Classification:** Session 5: Niobium production

Contribution ID: 34

Type: **not specified**

## Texture of Niobium Sheet

*Thursday 24 May 2007 14:15 (25 minutes)*

**Presenter:** PETER R. JEPSON

**Session Classification:** Session 5: Niobium production

Contribution ID: 35

Type: **not specified**

## **Overview of the RRR Nb Specifications and the Evolution of SRF Technology**

*Thursday 24 May 2007 14:40 (30 minutes)*

**Presenter:** GANPATI RAO MYNENI

**Session Classification:** Session 5: Niobium production

Contribution ID: 36

Type: **not specified**

## **Orientation Effect on Recovery and Recrystallization of Deformed Niobium Single Crystals for SRF Cavities**

*Thursday 24 May 2007 15:50 (25 minutes)*

**Presenter:** VLADIMIR LEVIT

**Session Classification:** Session 5: Niobium production

Contribution ID: 37

Type: **not specified**

## **Metallurgy and Technological Request for High Purity Niobium in SRF Application Metallurgical and Technological Request for High Purity Niobium in SRF Applications**

*Thursday 24 May 2007 13:00 (30 minutes)*

**Presenter:** W.SINGER

**Session Classification:** Session 5: Niobium production

Contribution ID: **38**

Type: **not specified**

## **Preliminary Investigation of a Model for Predicting Recrystallization in Nb**

*Thursday 24 May 2007 15:25 (25 minutes)*

**Presenter:** D.BAARS

**Session Classification:** Session 5: Niobium production

Contribution ID: 39

Type: **not specified**

## **SRF materials workshop end discussion**

*Thursday 24 May 2007 16:15 (15 minutes)*