Table of Contents

Preface 1

Committees and Sponsors 2

Group Photo 3

Introduction to ingot niobium 4
  Ganapati R. Myneni and Andrew Hutton

WORLD VIEW ON INGOT NIOBIUM

Advances in large grain resonators for the European XFEL 13
  W. Singer, S. Aderhold, J. Iversen, G. Kreps, A. Matheisen, X. Singer, K. Twarowski, H. Weise, M. Pekeler, F. Scholz, B. Spaniol, and E. Stiedl

America’s overview of superconducting science and technology of ingot niobium 25
  Gianluigi Ciovati, Peter Kneisel, and Ganapati R. Myneni

Curvature, hydrogen, Q 38
  John P. Wallace, Ganapati R. Myneni, and Robert Pike
SUPERCONDUCTING SCIENCE AND TECHNOLOGY OF INGOT NIOBIUM - 1

Thermodynamic evaluation of hydrogen absorption by niobium during SRF fabrication
   R. E. Ricker and G. R. Myneni  49

Research and development on superconducting niobium materials via magnetic measurements
   S. B. Roy, V. C. Sahni, and G. R. Myneni  56

Production of high purity niobium ingots at CBMM
   Lourenço de Moura, Clovis A. de Faria Sousa, and Edmundo B. Cruz  69

Niobium production at Tokyo Denkai
   Hiroaki Umezawa  79

Fabrication of a demountable TM_{020} cavity from large grain ingot methods
   John Mammosser and Sang-Ho Kim  84

Characterization of large grain Nb ingot microstructure using EBSP mapping and Laue camera methods
   Di Kang, Derek C. Baars, Thomas R. Bieler, and Chris C. Compton  90

Ingot niobium RF cavity design and development at BARC

SUPERCONDUCTING SCIENCE AND TECHNOLOGY OF INGOT NIOBIUM - 2

Effect of electropolishing and low-temperature baking on the superconducting properties of large-grain niobium
   A. S. Dhavale, G. Ciovati, and G. R. Myneni  119

Comparison of the role of moderate heat treatment temperatures on the thermal conductivity of ingot niobium
   S.K. Chandrasekaran, T.R. Bieler, C. Compton, W. Hartung, and N.T. Wright  131
Suppressed superconductivity on the surface of superconducting RF quality niobium for particle accelerating cavities
Z. H. Sung, A. A. Polyanski, P. J. Lee, A. Gurevich, and D.C. Larbalestier 142

Analysis of interstitial elements in niobium with secondary ion mass spectrometry (SIMS)
P. Maheshwari, F. A. Stevie, G. Myeneni, G. Ciovati, J. M. Rigsbee, and D. P. Griffis 151

Q-slope analysis of low-beta SRF cavities
Anna Grassellino, Carl Beard, Philipp Kolb, Robert Laxdal, David Longuevergne, Vladimir Zvyagintsev, and Alexander Romanenko 161

Large grain cavity R&D in KEK
Fumio Furuta, Kenji Saito, and Taro Konomi 169

A new approach for RRR determination of niobium single crystal based on AC magnetic susceptibility
Alexey Ermakov, Alexander V. Korolev, Waldemar Singer, and Xenia Singer 178

Magneto-optical study high-purity niobium for superconducting RF application
A. A. Polyanskii, P. J. Lee, A. Gurevich, Zu-Hawn Sung, and D. C. Larbalestier 186

SHORT COURSE

Proton in SRF niobium
John P. Wallace 205

List of participants
N/A

Author index
341