Characterization of Minerals, Metals, and Materials
2007

February 25 – March 1, 2007
Orlando, Florida, USA
Characterization of Minerals, Metals, and Materials

Characterization of Structure across Length Scales I

NanoCT: Visualizing internal 3D-Structures with Submicrometer Resolution ........................................... 1
Dirk Neuber, and Bill Eppich

Topological and Metric Considerations on Abnormal Grain Growth .......................................................... 7
Paulo Rios, and Martin E. Glicksman

Characterization of Structure across Length Scales II

3DAP Study of Alloy Element Effects on the Tempering of Steel ............................................................. 17
Chen Zhu, Xiangyuan Xiong, Alfred Cerezo, George Krauss, and George David Williams Smith

Texture Characterization of Cold-Rolled Ti-6Al-4V Specimens by Thermoelectric Power Measurements ................................................................. 24
Hector Carreon

Non-Metallic Inclusions in Metals: From Nanometer to Milimeter ............................................................. 34
Lifeng Zhang

Characterization of Mechanical and Physical Properties of Materials I

Grain Boundary Engineering (GBE) of Shot-Peened Type 304 Stainless Steel ........................................ 44
Osama Alyousif, Dirk L. Engelberg, and T. James Marrow

Study on the Tensile Properties of Copper Coated Carbon Fibers .......................................................... 52
Zhuokun Cao, Guangchun Yao, and Yihan Liu
Characterization of Mechanical and Physical Properties of Materials II

Comparison of the Influence of Hydrogen on the Mechanical Behavior of API X52, X65 and X70 Steels .......................................................... 59
  Victor Cortes, Julio Suarez, Guillermina Gonzalez, and Miguel Barron

Comparison between Traditional and Innovative Steels for Large Plastic Moulds .............................................. 67
  D. Firrao, M. Chiarbonello, P. Matteis, G. Mortarino, P. R. Spena,
  G. Scavino, G. Ubertalli, M. G. Lenco, G. Pellati, M. R. Pinasco, E. Stagno,
  R. Gerosa, B. Rivolta, A. Tavacsi, E. Tata, R. Montanari, A. Silvestri,
  G. Silva, S. Missori, and A. Ghidini

Characterization of Processing and Properties of Materials

Electrical Conductivity and Nd Solubility of NdF3-LiF-Nd2O3 Melts .............................................................. 77
  Xianwei Hu, Zhaowen Wang, Bingliang Gao, Zhongning Shi, Guimin Lu,
  Jianzhong Cui, and Xiaozhou Cao

Characterization of the Dore Metal and Gold-Rich Slimes from the Moebius Cells in a Copper Refinery Anode Slimes Treatment Circuit ................................................. 81
  Tzong Chen, and John Dutrizac

Effect of Fluorine on Electroless Nickel Plating of Magnesium Alloys ............................................................. 90
  Dong Guo, Zhaowu Fan, Zhongdong Yang, Lin Zhao, and Peng Gao

Mechanisms of Disintegration of Fine Disseminated Mineral Complexes Exposed to High-Power Nanosecond Electromagnetic Pulses ......................................................... 99
  Valentin Alekseevich Chanturiya, and Igor Bunin

Characterization of Processing of Materials I

Preparation of Alkali Porous Ceramic with Fibrous Wollastonite ................................................................. 105
  Bowen Li, Ying Huang, and Jiann-Yang Hwang

The Effect of Surface Preparation on the Rate of Mass Transfer in Carburizing ............................................... 113
  Olga Karabelchtkhova, Christopher A Brown,
  Mohammed Maniruzzaman, and Richard Sisson

Characterization of Processing of Materials II

A Study on Electro-Magnetism of Peg-20000 Doped with Nano-Cobalt Ferrite Oxide Powder Containing La3+ ................................................................. 123
  Xiao Li, Z. Fang, Q.R. Zhang, J.S. Liu, and G.Z. Qiu