Twentieth Annual Conference on Properties and Applications of Magnetic Materials

May 14-16, 2001

PROGRAM

Illinois Institute of Technology
Hermann Hall
Chicago
Monday, May 14

9:00 Registration
9:50 Introduction: Jafar Saniie, Illinois Institute of Technology
   Welcome: David Jiles, Ames Laboratory, Iowa State University

Session 1: Special tutorial session

10:00 "How the Steel Producer/Lamination Producer Partnership Affects Lamination Properties"
   R.R. Judd, Inland Steel Company

10:45 Coffee break

11:15 "Overview of Magnetic Measurements for Quality Control and Grading of Electrical Steels"
   R.F. Lyke, AK Steel, Middletown, Ohio

12:00 Lunch

Session 2: New materials and designs for energy efficiency Chair:
   J.W. Schoen, AK Steel, Middletown, Ohio

2:00 "Development of Electrical Steels for Higher Frequency Applications" M. Komatsubara,
   O. Kondo, M. Kawano and A. Honda, Kawasaki Steel Company, Japan

2:30 "Evaluation of a Thermomechanical and a Hot Dipping/Diffusion Production Scheme for Silicon
   Steel up to 6.5%-Si" T. Ros Yanez and Y. Houbaert Department of Metallurgy and Materials
   Science, Ghent University, Belgium

3:00 Coffee break

3:30 "The Effect of Core Material and Assembly Technology on Transformer Performance" D.
   Snell and A. Coombs, European Electrical Steels, United Kingdom

4:00 "Effects of Warm Rolling on the Magnetic Properties of Grain Oriented Electrical Steel" B. D.
   Hong and K. S. Han, POSCO Steel Company, South Korea

4:30 Wine and Cheese Party

Tuesday, May 15

Session 3: Electrical Steels I: Magnetic materials for transformers and related devices
   Chair: E. Hilinski, US Steel, Monroeville, Pennsylvania

9:30 "Influence of Higher Harmonics Superposition on Transformer Core Loss"
   M. Komatsubara, M. Ishida and K. Sadahiro, Kawasaki Steel Company, Japan

10:00 "Effects of the Microstructure prior to High Temperature Annealing on Secondary Recrystallization
   of Conventional Grain Oriented Electrical Steel" K. S. Han, G. S. Choi and J. S. Woo, POSCO Steel
   Company, South Korea

10:30 Coffee break
11:00 "Weakly-Oriented Lamination Steel for Electrical Device Applications" J. P. Anderson, B. A. Lauer, R. J. Blotzer, LTV Steel Company, USA

11:30 "Modeling the Magnetostriction of Textured Ferromagnetic Materials with a Cubic Structure" R. Decocker, L. Kestens and Y. Houbaert, Department of Metallurgy and Materials Science, Ghent University, Belgium

12:00 Lunch

Messinger Lecture

1:00 "The future of magnetically levitated transportation" Kendrall H. Flessas, MAGLEV Inc., Monroeville, Pennsylvania

Session 4: Electrical Steels II - Magnetic materials for motors and generators
Chair: E. Bloom, Inland Steel Company, East Chicago, Indiana

2:00 "Relation between Efficiency and Core Material in Inverter Driven Induction Motor and DC Brushless Motor" M. Komatsubara, I. Shiga and M. Ishida, Kawasaki Steel Company, Japan

2:30 "Effect of Processing History on Properties of CRML Steel" S. Cheong and A. Rollett, Department of Materials Science and Engineering, Carnegie Mellon University, USA and E. Hilinski, U. S. Steel Company, USA

3:00 "Practical Laboratory and Commercial Annealing of Motor Lamination Steels" R. J. Blotzer, B. A. Lauer, and J. P. Anderson, LTV Steel Company, USA

3:30 Coffee break

4:00 "Improvement of Motor Core Performance by Practical Use and Developed Evaluation Technique for Electrical Steel" M. Yabumoto, T. Wakisaka and C. Kaido, Nippon Steel Company, Japan

4:30 "Effect of Laser Cutting on Microstructure and Magnetic Properties of Non Oriented Electrical Steels" A. Belhadj and Y. Houbaert, Department of Metallurgy and Materials Science, Ghent University, Belgium, M. De Wulf, Department of Electronic Power Engineering, Ghent University, Belgium, F. Breaban, Université d'Artois, France

6:30 Social event and dinner cruise

Wednesday, May 16

Session 5: Magnetic sensors and actuators
Chair: D.C. Jiles, Ames Laboratory, Iowa State University

9:00 "High Sensitivity Magnetic Field Sensor and its Application in Nondestructive Evaluation". G. Vertesy, Institute for Technical Physics, Hungarian Academy of Sciences, Budapest, Hungary
9:30 "Magnetic Hysteresis Portrait of Structural Variations in Ferromagnetic Samples" I. Tomas, Institute of Physics, Academy of Sciences of the Czech Republic, Prague, Czech Republic.

10:00 "Measurement and Modeling of Stress Dependent Magnetic Properties in Amorphous Materials" M. Pasquale, Istituto Elettrotecnico Nazionale, Galileo Feraris, Torino, Italy.


11:00 "Magnetoresistive Sensors for Industrial Applications: Position Sensing and Eddy Current Detection" M. Tondra and D. Wang, NonVolatile Electronics, Minneapolis

11:30 "A Coupled Structural Magnetic Strain and Stress Model for Magnetostrictive Transducers" M. Dapino, Iowa State University

12:00 Closing remarks

12:10 Lunch
Directions to IIT Main Campus
From Lake Shore Drive:
Exit at 31st Street and go west to Michigan Avenue (1/2 Mile). Turn left (south) on Michigan Avenue and proceed toward 33rd Street.

From Dan Ryan Expressway:
Exit at 31st Street and go east on 31st Street to State Street. Turn right and proceed toward 33rd Street.

Parking will be available south of 33rd Street between Michigan Avenue and State Street.

Hotel Information
Hyatt Regency Chicago, on Chicago's Riverwalk
151 East Wacker Drive, Chicago, IL 60601
(312) 565-1234, (800) 233-1234
Transportation between Hyatt Regency and IIT will be provided by the hotel.

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