

UNIVERSITY OF MINNESOTA

Department of Electrical & Computer Engineering

4-174 EE/CSci Building

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Minneapolis, MN 55455

www.ece.umn.edu/groups/mint/

THE CENTER FOR MICROMAGNETICS AND INFORMATION TECHNOLOGIES

SEVENTEENTH MINT RESEARCH REVIEW

EE/CSci 3-180, Thursday, August 23, 2001

9:00-10:00 AM THIN FILM MEDIA, HEADS, & RECORDING RESEARCH

- O01: Perpendicular Magnetic Recording Media: ITO/Pd/(13xCoB/Pd)/C Multilayers
- O02: Recording Performance and MFM of NiFe/CoB/Pd Multilayer Perpendicular Media
- O03: Thermal Decay of Magnetic Recording Media: Experiment and Modeling
- O04: Electromigration Reliability of NiFe, CoFe, & NiFe/CoFe GMR Spin-Valve Heads

Jack Judy

Wenbin Peng
Wenzhong Zhu
Steve Kimble
Seongtae Bae

10:15-11:15 AM THEORETICAL MICROMAGNETIC RESEARCH

- O05: Quantitative Micromagnetic Simulations of Exchange Bias in NiFe/NiMn Bilayers
- O06: Frequency Dependence of Thermal Magnetization Fluctuations in GMR Heads
- O07: Search for a High Moment Head Material: Mn Compounds
- O08: Modeling of Noise in Perpendicular Recording

Randall Victora

Karland Kilian
Jianhua Xue
Mohammed Patwari
Kanawat Senanan

11:30-12:45 PM SIGNAL PROCESSING, MFM, CORROSION, & MEMS,

- O09: Properties of FPGA-Based Read-Channel Simulator
- O10: Soft Signal Space Detection for ISI Channels
- O11: High Resolution Magnetic Force Microscopy
- O12: Functional NSOM Studies of Reactive Surfaces and Magnetic Microstructures
- O13: Microassembly and Magnetic Microactuators

Jinghuan Chen
Baldur Steingrímsson
Dan Dahlberg (Phys),
Pete Eames
Bill Smyrl (CEMS)
Brad Nelson (ME)

1:00-3:00 PM LUNCH and ORAL & POSTER-ONLY PRESENTATIONS

- P01: Comparisons of Recording Performance of Longitudinal and Perpendicular Media
- P02: Dynamic Micromagnetics for Thermally-Activated Perpendicular Recording Media
- P03: Modeling of Stable Perpendicular Recording
- P04: Angle-Dependence Optimization of 20% GMR NiO/Co/Cu/Co Bottom Spin-Valves
- P05: GMR Spin-Valve Transpinner for Magnetic Random Access Memories
- P06: Effects of Gas-Cluster Ion Beam Etching on GMR of α -Fe₂O₃ Bottom Spin-Valves
- P07: Electronic Structure of the Ni₂MnIn/InAs(100) Interface Relevant to Spin Injection
- P08: Integrated Magneto-Optical Isolator for Feasible Photonic Integrated Circuits

Northrup Foyer

Wenzhong Zhu
Jianhua Xue
Steve Kimble
Seongtae Bae
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Karland Kilian
Beth Stadler

3:00-4:00 PM VISIT MINT LABORATORIES

- L01: Magnetic Recording Laboratory (Jack Judy, Randy Victora)
- L02: Communications and Data Storage Laboratory (Jae Moon)
- L03: Thin Film Reactive RF Sputtering Laboratory (Beth Stadler)
- L04: Magnetic Microscopy Center Laboratory (Dan Dahlberg)
- L05: Functional Microscopy Laboratory (Bill Smyrl)
- L06: Advanced Microsystems Laboratory (Brad Nelson)

EE/CSci 6-140
EE/CSci 6-158
EE/CSci 6-114
S74 Physics
B18 Amundson Hall
3124 Mech Eng

4:00-6:00 PM MINT PARTY

Northrup Foyer