

Technical Program

MORIS 1999

Sunday, January 10, 1999

TUTORIAL SESSION

Physical Backgrounds for the Near-Field Recording
M.Mansuripur
Nanomagnetism Studies using Nonlinear Magneto-Optics
Th. Rasing

Monday, January 11, 1999

11-A OPENING SESSION

Opening Address
G.Sincerbox

- 11-A-01 Optical Background for Near-Field Recording
G.S. Kino
- 11-A-02 High Density Magnetic Recording - Conquer the Ultimate Limit Predictions
Y. Miura, I. Okamoto
- 11-A-03 Progress and Prospects in Magnetic Data Storage
R.L.White

11-B TRENDS IN MAGNETIC RECORDING

- 11-B-01 Thermal Stability of Domains in Magneto-Optic Recording Materials
M.H.Kryder
- 11-B-02 MO recording and the Optical Storage Roadmap
G.W.R.Leibbrandt
- 11-B-03 Holographic Data Storage: Dream or Reality?
H.Coufal
- 11-B-04 Photoluminescence Materials and their Potentials for High Density Multi-Layer Recording
S.Esener, P.M.Rentzepis, F.McCormick, A.Dvornikov

11-C POSTER SESSION - I

- 11-C-01 Temperature-Induced Changes of Dynamical Processes in Exchange-Coupled Trilayers
H.Le Gall, R.Sbiaa, B.Bechevet, C.Thannous, J.Gieraltowski
- 11-C-02 Magneto-Optical Properties, of One-Dimensional Photonic Crystals Composed of Magnetic Materials
M.Inoue, K.Arai, M.Abe, T.Fujii
- 11-C-03 Order Dependent Magneto-Optical Spectroscopy of Co₃Pt Alloy Films
G.Lauhoff, Y.Yamada, Y.Itoh, T.Suzuki
- 11-C-04 Magneto-Optical Properties of MBE-Grown CoPt Alloy Films with L1₀, and L1₁, Ordered

Structure(s)

- T.Kato, S.Iwata, Y.Yamashita, T.Kogiso, S.Tsunashima
- 11-C-05 Photoinduced Disaccommodation Spectrum in Ca(0.001)-Doped Yttrium Iron Garnet
K.Hisatake, I.Matsubara, K.Maeda, C.de Francisco, J.M.Munoz, O.Alejos, P.Hernandez, C.Torres
- 11-C-06 Phase Change Data Recording Imaging Using Maxwell Stress Microscopy
D.Saluel, B.Bechevet, B.Roland, I.Lirzin, M.F.Armand
- 11-C-07 Nonlinear Optical Microscopy of Magnetic Interfaces
V.Kirilyuk, A.Kirilyuk, Th.Rasing
- 11-C-08 Novel Nonlinear Magneto-Optical Effects
A.Kirilyuk, Th.Rasing, V.V.Pavlov, R.V.Pisarev
- 11-C-09 Nonlinear Optical Diffraction from Periodic Domain Structures in Magnetic Films
N.N.Dadoenkova, I.L.Lyubchanskii, M.I.Lyubchanskii, Th.Rasing
- 11-C-10 Spin Dynamics in GaAs Studied with Time-Resolved Photo-Induced Nonlinear Magneto-Optics
EBentivegna, P.Yvernault, A.V.Petukhov, Th.Rasing
- 11-C-11 Surface-Induced Transverse Magneto-Optical Kerr Effect
A.V.Petukhov, A.Kirilyuk, A.Fasolino, Th.Rasing
- 11-C-12 Imaging of Sub-100 nm Magnetic Domains in Fe/Gd Multilayers by Magnetic Transmission X-Ray Microscopy
T.Eimuller, R.Kalchgruber, P.Fischer, G.Schutz, P.Guttman, G.Schmahl, M.Kohler, K.Prugl, F.Bammes, G.Bayreuther
- 11-C-13 Cluster Growth in Cluster Beam Deposition Process by Direct Simulation Monte Carlo
H.Mizuseki, Y.Kawazoe
- 11-C-14 Perpendicular Magnetic Anisotropy and Magneto-Optical Kerr Effect in Giant Magnetoresistive Co-Ag Granular Thin Films
Y.J.Chen, T.Suzuki, Y.Itoh, W.Y.Cheung, H.Sang
- 11-C-15 Magneto-Optical and Magnetic Properties of Interfaces in $[\text{NiO}/\text{Fe}_2\text{O}_3]_N$ and $[\text{Fe}_2\text{O}_3/\text{NiO}]_N$ Multilayers
R.Lopusnik, S.Visnovsky, N.Keller, M.Guyot, R.Krishnan, M.Tessier
- 11-C-16 Magnetization Reversal of Arrays of Micron Sized Dots under the Influence of Dipolar Coupling
T.Aign, P.Meyer, S.Lemerle, Jamet, J.P., J.Ferr6, V.Mathet, C.Chappert, J.Gierak, C.Vieu, H.Launois

11-D DOMAIN WALL DYNAMICS

- 11-D-01 Optical Control of Magnetization on an Ultrafast Timescale in Ferromagnetic Thin Films
G.Ju, A.V.Nurmikko, R.F.C.Farrow, R.F.Marks, M.J.Carey, B.A.Gurney
- 11-D-02 Domain Dynamics and Relaxation of Magnetization of Co/Pt Films with Perpendicular Magnetic Anisotropy
Theo Kleinfeld
- 11-D-03 Micromagnetics, Magnetic Recording and M-O Recording Media - Thermal Instability and Activation Volume
R.W. Chantrell, J.D. Hannay
- 11-D-04 Ghostless Signal Reproduction with the Domain Wall Displacement Detection Method
T.Shiratori, E.Fujii, Y.Miyaoka, Y.Hozumi, T.Kobayashi, M.Masuda
- 11-D-05 The Mark Position Recording on Domain Wall Displacement Detection Media
T.Sakamoto, S.Kai, A.Fukumoto, A.Nakaoki, M.Kaneko

11-E MAMMOS AND RELATED TOPICS (Night Session)

- 11-E-01 Domain Dynamic Phenomena of Domain Expansion Readout Disk (MAMMOS)
H.Awano, M.Sekine, M.Tani, H.Ido, M.Yoshihiro, K.Shimazaki, N.Ohta
- 11-E-02 Physics of Domain Wall in Readout Layer of MAMMOS
N.Hayashi, Y.Nakatani, H.Awano, N.Ohta
- 11-E-03 Write and Readout Characteristics of MAMMOS Disks
J.-H.Kim, K.-M.Hong, W.-S.Choi, T.-K.Yoo
- 11-E-04 MAMMOS Readout with Magnetic Field Modulation
N.Takagi, S.Sumii, H.Awano, KShimazaki, N.Ohta
- 11-E-05 Magnetic Expansion Readout with DC Laser and DC Field on an In-Plane MAMMOS Medium
H.Takao, KShimazaki, N.Ohta
- 11-E-06 Domain Expansion Phenomena in Exchange-Coupled Multilayer Limdow MO Disks
T.Tokunaga, Y.Fujii, K.Yamada

Tuesday, January 12,1999

12-A MAGNETISM AND MATERIALS - I

- 12-A-01 Magnetization Reversal Processes in Magnetic Dot Arrays with Perpendicular Anisotropy: Effect of the Dipolar Coupling
J.P.Jamet, T.Aign, P.Meyer, S. Lemerle, J.Ferre, B .Bartenlian, V.Mathet, C.Chappert, J.Gierak, C.Vieu, F.Rousseaux, H.Launois, H.Bernas
- 12-A-02 Magnetic Anisotropy in Magneto-Optical Recording Materials
F.Hellman, A. L.Shapiro, E.N.Abarra, P. W.Rooney, B.B.Maranville, M.Q.Tran
- 12-A-03 First Epitaxial Growth of MnBi Film and Characterization
J.Schoenes, K.-U.Harder, T.Legero, D.Menze1, T.Widmer
- 12-A-04 Domain Structure of Co₃Pt Films
L. Folks, U. Ebels, R. Sooryakumar, D. Weller, R.F.C. Farrow

12-B MAGNETISM AND MATERIALS - II

- 12-B-01 Computational Study of the Magneto-Optical Kerr Effect in Artificial FeAu and MnAu and in XAu₄ (X=V, Cr, Mn) Compounds
P.M.Oppeneer, O.Eriksson, P.Ravindran
- 12-B-02 Dynamic, In situ, Magneto-Optical Studies of Co-Pt Multilayers
R.Atkinson, W.R. Hendren, G. Didrichsen, R.J. Pollard, I.W. Salter
- 12-B-03 Nonlinear Optical and Magneto-Optical Effects in PtMnSb
M.L.Wears, R.Carey, D.M.Newman
- 12-B-04 Structural Anisotropy in Sputter-and Vacuum- Deposited Dy/Fe Multilayers
K.Yano, T.Masaki, Y.Fujiwara, X.Y.Yu, S.Iwata, S.Tsunashima

12-C POSTER SESSION - II

- 12-C-01 A New Type of Magneto-optical Card
C.Yang, H.Chen
- 12-C-02 A Method of Evaluation Lifetime of MO Disk

- C. Yang, Y. Zhang
- 12-C-03 High SNR Readout Method for Double Layered MO Disk with Single Wavelength Laser Beam
A. Itoh, K. Nakagawa, K. Shimazaki, M. Yoshihiro, N. Ohta
- 12-C-04 M (Magnetization) and M^2 Dependent Contributions to Magneto-Optic Effects Observed in PtMnSb Films
R. Carey, D. M. Newman, M. L. Wears
- 12-C-05 A Matlab-Based PRML Model for Magneto-Optic Recording
S. D. Jepsen, P. W. Nutter, C. D. Wright
- 12-C-06 Electrostatic Torsion Mirror for Optical Disk Drives
M. Yonezawa, M. Sekimura, K. Uchimaru, N. Uchida, A. Kasahara
- 12-C-07 The Optical and Magneto-Optical Behaviour of Particulate Cobalt Thin Films
R. Carey, D. M. Newman, B. Holmes
- 12-C-08 Enhancement of Magneto-Optical Effects through Polarized Pt and Pd in TbFeCo/(Pt,Pd) Multilayers
Y. Itoh, T. Suzuki, J. Weissenrieder
- 12-C-09 Magnetic and Magneto-Optical Properties of Strontium Ferrite Films Prepared by Large Area Laser Ablation
B. R. Acharya, Y. Itoh, W. van Drent, T. Suzuki
- 12-C-10 Structure and MCD Effect of Rare-Earth-Transition Metal Amorphous Multilayers
Y. Fujiwara, K. Yano, T. Masaki, X. Y. Yu, S. Tsunashima, S. Iwata, M. Masuda
- 12-C-11 MnBi Thin Films Prepared by Molecular-beam Epitaxy Technique
R. Hayashi, K. Terayama, T. Ishibashi, K. Sato
- 12-C-12 Magnetic and Magneto-optical Properties of Ordered Phase $Fe_{50}Pt_{50}$ Alloy Thin Films
H. Kanazawa, T. Suzuki, Y. Itoh, J. Osterman
- 12-C-13 Strain Related Effects on the Structure and Magnetic and Magneto-Optical Properties of Epitaxial (001) Oriented Mn_xPt_{1-x} ($x = 0.25$) Thin Films
A. Borgschulte, D. Menzel, K. U. Harder, T. Widmer, J. Schoenes
- 12-C-14 Magnetization Reversal Processes in CoNi/Pt Multilayers
Q. Meng, J. R. Schuurhuis, J. C. Lodder, P. Meyer, J. P. Jamet, J. Ferre
- 12-C-15 Crossing the Sub Micron Chasm, an Automatic MO Head Alignment and Manufacturing Station
W. Y. Mok, C. C. K. Cheng

12-D MAGNETIC SUPER-RESOLUTION

- 12-D-01 Advanced Storage Magneto-optical Disk (AS-MO) System
S. Sumi, A. Takahashi, T. Watanabe
- 12-D-02 3.5-Hmch MO Disk Using Double-Mask MSR Media
K. Shono
- 12-D-03 Feasibility Study of CAD-MSR with 7 GBIT/IN²
Y. Murakami, S. Maeda, A. Takahashi, Y. Tanaka, T. Watanabe
- 12-D-04 Gd-Layer-Inserted RAD MO Disk for MSR Readout with No Use of External Magnetic Field
M. Furuta
- 12-D-05 Magnetically-Induced Super Resolution for Read Only Memory Disks
M. Birukawa, N. Miyatake, T. Suzuki
- 12-D-06 Below "Optical Diffraction-Limited" Readout in Erasable Optical Disks
H.-P. D. Shieh, J.-R. Liu, W.-K. Hwang

Wednesday, January 13, 1999

13-A NOVEL OBSERVATION TECHNIQUE

- 13-A-01 Recent Advances in Spin-Polarized Scanning Tunneling Spectroscopy for Imaging of Magnetic Domains
R.Wiesendanger, M.Bode, M.Getzlaff
- 13-A-02 Observation of Recorded Marks of MO Disk by Scanning Near Field Magneto-optical Microscope
K.Sato, T.Ishibashi, T.Yoshida, J.Yamamoto, A.Iijima, Y.Mitsuoka, K.Nakajima
- 13-A-03 Apertureless Magneto-Optical Scanning Tunneling Microscope with High Resolution
H.van Kempen, R.Schad, S.M.Jordan, M.J.P.Stoelinga, M.W.J.Prins, R.H.M.Groeneveld, H.W.van Kesteren
- 13-A-04 Magnetic Domain Imaging with a Transmission X-ray Microscope
P.Fischer, T.Eimuller, G.Schutz, P.Guttmann, G.Schmahl, M. Kohler, G.Bayreuther

13-B HIGHER DENSITY MO RECORDING

- 13-B-01 Double-Wavelength Readout and Optical Head for Double-Layered MO Disk
K.Nakagawa, A.Itoh, K.Shimzaki, M.Yoshihiro, N.Ohta
- 13-B-02 A Method to Design an Integrated MO Head Using a Diffraction Calculation in Biaxial Crystals
N.Nishi, K.Toyota, K.Saito
- 13-B-03A New Perpendicular Magnetic Recording Method with a Magnetic -Optical Common Preformat
H.Saga, H.Nemoto, H.Sukeda, M.Takahashi
- 13-B-04 High Density Thermomagnetic Recording on Flux Detectable RE-TM Media
H.Nemoto, H.Saga, H.Sukeda, M.Takahashi
- 13-B-05 New Magnetic Recording Method Using Laser Assisted Read/Write Technologies
H.Katayama, S.Sawamura, Y.Ogimoto, K.Kojima, K.Ohta

13-C SURFACE MO RECORDING

- 13-C-01 Thermal Design of High Performance Magneto-Optical Data Storage Films
T.W.McDaniel
- 13-C-02 Signal Properties of Near Field Optical Disk Drive Using a Catadioptric Optical System
C.W.Lee
- 13-C-03 Near-Field Laser Intensity Modulation SIL MO Recording in TbFeCo Magneto-optical Media
A.Chekanov, M.Birukawa, Y.Itoh, T.Suzuki
- 13-C-04 Optical Tunneling Effect of Solid Immersion Lens for High Density Optical Recording
S.Hasegawa, N.Aoyama, A.Futamata, T.Uchiyama
- 13-C-05 Noise Improvement for a High NA MO System
Y.Sabi, Y.Takemoto, K.Aratani, A.Kouchiyama, A.Nakaoki

Closing Address

A.Itoh