

# TECHNICAL DIGEST



## **SYMPOSIUM ON OPTICAL MEMORY 1994**

**— Higher Density Optical Recording  
Technologies and Their Application —**

**July 11–13, 1994**

**International Conference Center  
Waseda Univ., Tokyo, Japan**

## Technical Program

July 11, 1994 (Monday)

Welcome and Opening Remarks (10:15-10:20)

R. Ito (*Univ. of Tokyo, Japan*)  
Organizing Committee, Chairperson

Keynote Presentation (10:20-11:00)

Presider: M. Ojima (*Hitachi, Japan*)

Mo-K1 (Invited)

(10:15) **Optical Disk Industry, Present and Future**  
J.A.Th. Verhoeven (*ODME, The Netherlands*) ..... 3

High Density Recording (I) (11:00-12:00)

Presider: S. Kubota (*Sony, Japan*)

Mo A1 (Invited)

(11:00) **3-D Holographic Disk**  
Demetri Psaltis (*CAIST, U.S.A.*) ..... 7

Mo A2 (Invited)

(11:30) **Room Temperature Persistent Hole Burning of Sm<sup>2+</sup> in Aluminoborate Glasses**  
K. Hirao, K. Fujita, D. H. Cho and N. Soga (*Kyoto Univ., Japan*) ..... 9

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High Density Recording (II) (13:30-15:40)

Presider: M. Irie (*Kyusyu Univ., Japan*)

Mo B1 (Invited)

(13:30) **Photon Scanning Tunneling Microscopy and It's Application**  
M. Ohtsu (*Tokyo Inst. of Technol., Japan*) ..... 13

Mo B2 **Angle-Multiplexed Holographic Memory Using Ce-doped SBN Crystal**

(14:00) K. Nonaka, S. Yagi and M. Yamamoto (*NTT, Japan*) ..... 15

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(14:25) K. Wakabayashi, H. Sugiyama, T. Maeda, A. Saitou, H. Miyamoto and  
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(14:50) **Microscope Technology**  
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(15:15) S. Hosaka, T. Shintani, Y. Maruyama, K. Nakamura, A. Kikukawa and  
R. Imura (*Hitachi, Japan*) ..... 21

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### High Density Recording (III) (16:00-17:40)

Presider: T. Maeda (*Hitachi, Japan*)

- Mo C1 (16:00) A High Density Read-Only Optical Disk System Using Superresolution with an SHG Green Laser**  
M. Ono, K. Yasuda, A. Fukumoto and M. Kaneko (*Sony, Japan*) ..... 25
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T. Kawano, H. Ito, H. Yoshida and Y. Kobayashi (*Mitsubishi Kasei, Japan*)... 27
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- Mo C4 (17:15) MSR Land and Groove Recording Using 680nm LD**  
M. Birukawa, Y. Fukamachi, N. Miyatake and H. Kawabata (*Matsushita Elec. Ind., Japan*)..... 31

Welcome Party (18:00-20:00)

## July 12, 1994

### High Density Recording (IV) (9:45-11:55)

Presider: H. Inada (*NEC, Japan*)

- Tu A1 (9:45) (Invited) High Track Density Recording by Land and Groove Method on Phase Change Optical Disks**  
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I. Ichimura, Y. Takeshita, K. Aratani, Y. Sabi, A. Fukumoto, M. Kaneko and H. Owa (*Sony, Japan*)..... 43

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### Drive Technologies (I) (13:30-14:00)

Presider: J. Saito (*Nikon, Japan*)

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D.H. Shin (*Samsung Adv. Inst. of Technol., Korea*) ..... 47

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**Panelist:** D.H. Shin (*Samsung Adv. Inst. of Technol., Korea*)

**—Present and Future of Digital Video Disk Recorder—**

T. Maeda (*Hitachi, Japan*)

**—High Density Recording on Optical Disk Drive System—**

S. Kubota (*Sony, Japan*)

**—Optical Requirements for Visible Laser Sources for Higher Density Optical Storage—**

H. Kawabata (*Matsushita Elec. Ind., Japan*)

**—Advances in Optical Disk for High Density Recording—**

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