

**Ministry of State for Scientific Research
Academy of Scientific Research & Technology**

The fourth Workshop On Photonics and Its Application



NATIONAL INSTITUTE OF LASER ENHANCED SCIENCES

Organized by:
**Academy of Scientific Research & Technology
(National Radio Science Committee)
Institution of Electric Electronic Engineering
And
National Institute of Laser Enhanced Science**

**National Institute of Laser Enhanced Science
Cairo University
Giza, Egypt
May, 4, 2004**

UB/TIB Hannover 89
125 789 289





Content

New Trends High Resolution Image Processing. By Mohiy M. Hadhoud, Fathi E. Abd El-Samie, and Said E. El-Khamy,	1
Ultra-Wide Multiplexing (WDM+SDM) Techniques In High- Speed Optical Communication Cables By Ahmad M. El- Sherbini, Farag Z. El- Halafawy, Abd El-Naser A. Mohamed, and Abdallah M. Sharaf	24
High-Speed Optical Computing Devices Based On VCSEL Diodes With Feedback By Hamdy. M. A. Kelash , Hoda S. Soror , and Nabila. F. El-Halafawy	35
Optical CDMA Protocols: Upper Layers Analysis By Hossam M. H. Shalaby.	44
Recent Trends In Optical MEMS For Telecommunication Applications By Diaa Khalil	55
Hollow Waveguides For NxN Optical Cross Connect Switch By Diaa Khalil Kareem Madkour and Hesham Maaty	82
Optical – Label –Based All- Optical Packet Switching Routers By Farouk S. EL-Khamy Hossam M.H. Shalaby Mohamed Nasr , and Hussein T. Mouftah	89
Frequency Chirping In Linbo Electrooptic Modulator By Salah-Eldin A. Ibrahim , and Khalid F.A. Hussein	97