

Table of Contents

Integrated Photonic Micro Logic Gate	1
<i>Arkady Rudnitsky, Asaf Shahmoon, Menachem Nathan, Moshe Nazarathy, Bar Larom, Alexander Martucci, Luca Businaro, Annamaria Gerardino, and Zeev Zalevsky</i>	
An Optical System for Prime Factorization Based on Parallel Processing	10
<i>Kowichi Nitta and Osamu Matoba</i>	
Optical Graph 3-Colorability	16
<i>Sama Goliaei and Saeed Jakili</i>	
Solving a Generalized Version of the Exact Cover Problem with a Light-Based Device.....	23
<i>S.M. Shabab Hossain, Md. Mahmudur Rahman, and M. Sohel Rahman</i>	
All-Optical Reconfigurable Logic Unit with Optically Controlled Microcavity Switches	32
<i>Mohit Prasad and Sukhdev Roy</i>	
Simulation and Optimized Design of High Density Optical Crossconnect Systems for Massively Parallel Computing Architectures	42
<i>Ulrich Lohmann, Jürgen Jahns, Steffen Limmer, and Dietmar Fey</i>	
An Optical Solution for the SAT Problem	53
<i>Mihai Oltean and Oana Muntean</i>	
Compressive Sensing of Object-Signature	63
<i>Dan E. Tamir, Natan T. Shaked, Wilhelmus J. Geerts, and Shlomi Dolev</i>	
Optics Goes Where No Electronics Can Go: Zero-Energy-Dissipation Logic	78
<i>H. John Caulfield</i>	
Nanotechnology Based Optical Solution for NP-Hard Problems (Extended Abstract)	86
<i>Eyal Cohen, Shlomi Dolev, Sergey Frenkel, Rami Puzis, and Michael Rosenblit</i>	

Holographic Computation of Balanced Succinct Permanent Instances
(Extended Abstract) 100
 Shlomi Dolev, Nova Fandina, and Joseph Rosen

Being Analog 113
 Sunny Bains

Exceeding the Diffraction and the Geometric Limits of Imaging
Systems: A Review 119
 Zeev Zalevsky

Author Index 131