1. Record Nr. UNINA9910768192503321

Titolo	Optical SuperComputing : First International Workshop, OSC 2008, Vienna, Austria, August 26, 2008, Proceedings / / edited by Shlomi Dolev, Tobias Haist, Mihai Oltean
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2008
ISBN	3-540-85673-0
Edizione	[1st ed. 2008.]
Descrizione fisica	1 online resource (IX, 132 p.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 5172
Disciplina	006.37
Soggetti	Artificial intelligence Spintronics Quantum theory Quantum optics Lasers Computer science Artificial Intelligence Quantum Physics Quantum Optics Laser Theory of Computation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Optics Goes Where No Electronics Can Go: Zero-Energy-Dissipation Logic -- Recent Advances in Photonic Devices for Optical Super Computing -- Ultrafast Digital-Optical Arithmetic Using Wave-Optical Computing -- Photonic Reservoir Computing with Coupled Semiconductor Optical Amplifiers -- Electro-Optical DSP of Tera Operations per Second and Beyond (Extended Abstract) -- Parallel and Sequential Optical Computing -- The Use of Hilbert-Schmidt Decomposition for Implementing Quantum Gates -- A Method for Modulo Operation by Use of Spatial Parallelism -- Learning at the Speed of Light: A New Type of Optical Neural Network -- Solving NP-Complete Problems with Delayed Signals: An Overview of Current

Research Directions.

Sommario/riassunto

This book constitutes the refereed proceedings of the The International Workshop on Optical SuperComputing, OSC 2008, held in Vienna, Austria, August 2008 in conjunction with the 7th International Conference on Unconventional Computation UC 2008. OCS is a new annual forum for research presentations on all facets of optical computing for solving hard computation tasks. Topics of interest include, but are not limited to: Design of optical computing devices, electrooptics devices for interacting with optical computing devices, practical implementations, analysis of existing devices and case studies, optical and laser switching technologies, applications and algorithms for optical devices, alpha practical, x-rays and nano-technologies for optical computing.