

1. Record Nr.	UNINA9910797020003321
Autore	Yoshimura Tetsuzo
Titolo	Optical electronics : self-organized integration and applications / / by Tetsuzo Yoshimura
Pubbl/distr/stampa	Singapore : , : Pan Stanford Publishing, an imprint of Pan Stanford, , 2012
ISBN	0-429-06555-8 981-4364-08-8
Edizione	[First edition.]
Descrizione fisica	1 online resource (396 p.)
Disciplina	621.36
Soggetti	Electrooptical devices Optical instruments - Data processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Front Cover; Contents; Preface; Chapter 1: Introduction; Chapter 2: From Electronics to Optical Electronics; Chapter 3: Analysis Tools for Optical Circuits; Chapter 4: Self-Organized Optical Waveguides: Theoretical Analysis; Chapter 5: Self-Organized Optical Waveguides: Experimental Demonstrations; Chapter 6: Optical Waveguide Films with Vertical Mirrors; Chapter 7: 3-D Optical Circuits with Stacked Waveguide Films; Chapter 8: Heterogeneous Thin-Film Device Integration; Chapter 9: Optical Switches; Chapter 10: OE Hardware Built by Optical Electronics Chapter 11: Integrated Solar Energy Conversion Systems Chapter 12: Future Challenges; Epilogue; Color Insert; Back Cover
Sommario/riassunto	This book proposes and reviews comprehensive strategies based on optical electronics for constructing optoelectronic systems with minimized optics excess. It describes the core technologies such as self-organized optical waveguides based on self-organized lightwave network (SOLNET), three-dimensional optical circuits, material-saving heterogeneous thin-film device integration process (PL-Pack with SORT), and high-speed/small-size light modulators and optical switches. The book also presents applications of optical electronics, including integrated optical interconnects within computers and massive optical switching systems utilizing three-dimensional self-

organized optical circuits, solar energy conversion systems, and bio/medical photonics such as cancer therapy.
