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Titolo	Optical Polymer Waveguides : From the Design to the Final 3D-Opto Mechatronic Integrated Device / / edited by Jörg Franke, Ludger Overmeyer, Norbert Lindlein, Karlheinz Bock, Stefan Kaierle, Oliver Suttmann, Klaus-Jürgen Wolter
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Nota di contenuto	Current development in the field of optical short-range interconnects -- Design and modeling of electro-optical, three-dimensional interconnect devices -- Three-dimensional simulations of optical multimode waveguides -- Conditioning of flexible substrates for the application of optical waveguides -- Aerosol Jet printing of optical waveguides -- 3D-Opto-MID coupling concept using printed waveguides -- Impact on the further development of optoelectronics. .
Sommario/riassunto	Light signals in optical waveguides can be used to transmit very large amounts of data quickly and largely without interference. In the industrial and infrastructural sectors, e.g. in the automotive and

aerospace industries, the demand to further exploit this potential is therefore increasing. Which technologies can be used to effectively integrate systems that transmit data by means of light into existing components? This is a central question for current research. So far, there have been some technical limitations in this regard. For example, it is difficult to couple the signal of an optical waveguide to other optical waveguides without interruption. There is also a lack of suitable fabrication technologies for three-dimensional waveguides, as well as design and simulation environments for 3D opto-MiD. This book addresses these and other challenges. The Editors Prof. Dr.-Ing Jörg Franke is head of the Institute for Factory Automation and Production Systems (FAPS) at Friedrich-Alexander-University of Erlangen-Nuremberg (FAU). Prof. Dr.-Ing. Ludger Overmeyer heads the Institute of Transport and Automation Technology (ITA) at the Leibniz University Hannover and is a member of the management board of the Institute of Integrated Production Hannover (IPH). In November 2009 Prof. Dr.-Ing. Overmeyer has become a member of the Executive Board of Laser Zentrum Hannover e.V. apl. Prof. Dr. rer. nat. Norbert Lindlein leads the group "Optical Design, Microoptics and Measurement (ODEM)" of the Institute of Optics, Information and Photonics at the Friedrich-Alexander University of Erlangen-Nürnberg (FAU). Prof. Dr.-Ing. Dr. h.c. mult. Karlheinz Bock is the head of the Institute of Electronic Packaging Technology (IAVT) at the Technische Universität Dresden. Prof. Dr.-Ing. Stefan Kaierle is Executive Board Member at the Laser Zentrum Hannover e.V. and Professor for Laser Additive Processing at the Leibniz University Hannover. Dr.-Ing. Oliver Suttmann is responsible for the Production & Systems Department at the Laser Zentrum Hannover e.V. Prof. Dr.-Ing. habil. Dr. h. c. mult. Klaus-Jürgen Wolter is emeritus professor and former head of the Institute of Electronic Packaging Technology (IAVT) at the Technische Universität Dresden.
