Record Nr. UNINA9910822275103321 Laser beam propagation: generation and propagation of customized Titolo light / / edited by Andrew Forbes, CSIR National Laser Centre, Pretoria, South Africa Boca Raton:,: CRC Press, Taylor & Francis Group,, [2014] Pubbl/distr/stampa ©2014 **ISBN** 0-429-19406-4 1-4665-5440-1 Descrizione fisica 1 online resource (355 p.) Disciplina 621.36/6 Soggetti Laser beams Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references at the end of each chapters. Nota di contenuto Front Cover; Contents; Editor; Preface; Contributors; Section I - Back to Basics; Chapter 1 - Optical Waves; Chapter 2 - From Classical to Quantum Optics; Chapter 3 - Time Domain Laser Beam Propagation; Section II - Generation and Characterization of Laser Beams; Chapter 4 - Spatial Laser Beam Characterization; Chapter 5 - Characterization of Time Domain Pulses; Chapter 6 - Generation of Laser Beams by Digital Holograms; Section III - Novel Laser Beams; Chapter 7 - Flat-Top Beams; Chapter 8 - Helmholtz-Gauss Beams; Chapter 9 - Vector Beams; Chapter 10 - Low-Coherence Laser Beams Chapter 11 - Orbital Angular Momentum of LightBack Cover Sommario/riassunto How do laser beams propagate? Innovative discoveries involving laser beams and their propagation properties are at the heart of Laser Beam Propagation: Generation and Propagation of Customized Light. This book captures the essence of laser beam propagation. Divided into three parts, it explores the fundamentals of how laser beams propagate, and provides novel methods to describe and characterize general laser beams. Part one covers the physical optics approach to the propagation of optical waves, the concept of plane waves, the mathematical description of diffraction