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Descrizione fisica	1 online resource (XV, 444 p. 254 illus., 160 illus. in color.)
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Soggetti	Lasers Photonics Microwaves Optical engineering Optics, Lasers, Photonics, Optical Devices Microwaves, RF and Optical Engineering
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Light as electromagnetic radiation -- Plane waves in optical media -- Beam- and pulse propagation -- Optical interference -- Dielectric wave guides -- Light/matter interaction -- Optical oscillators -- Nonlinear optics and acousto-optic -- Photo detection.
Sommario/riassunto	This book provides a comprehensive introduction into photonics, from the electrodynamic and quantum mechanic fundamentals to the level of photonic components and building blocks such as lasers, amplifiers, modulators, waveguides, and detectors. The book will serve both as textbook and as a reference work for the advanced student or scientist. Theoretical results are derived from basic principles with convenient, yet state-of-the-art mathematical tools, providing not only deeper understanding but also familiarization with formalisms used in the relevant technical literature and research articles. Among the subject matters treated are polarization optics, pulse and beam propagation, waveguides, light–matter interaction, stationary and transient behavior of lasers, semiconductor optics and lasers (including low-dimensional systems such as quantum wells), detector technology, photometry, and colorimetry. Nonlinear optics are elaborated comprehensively. The

book is intended for both students of physics and electronics and scientists and engineers in fields such as laser technology, optical communications, laser materials processing, and medical laser applications who wish to gain an in-depth understanding of photonics.
