

1. Record Nr.	UNINA9910830284103321
Autore	Hitz C. Breck
Titolo	Introduction to laser technology // C. Breck Hitz, J.J. Ewing, Jeff Hecht
Pubbl/distr/stampa	Hoboken [New Jersey] : , : John Wiley and Sons, , 2012 [Piscataqay, New Jersey] : , : IEEE Xplore, , [2012]
ISBN	1-280-67487-3 9786613651808 1-118-21948-1 1-118-21949-X 1-118-21946-5
Edizione	[4th ed.]
Descrizione fisica	1 online resource (312 p.)
Classificazione	TEC007000
Altri autori (Persone)	HechtJeff EwingJ. J <1942-> (James J.)
Disciplina	621.36/6 621.366
Soggetti	Lasers
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	1. An Overview of Laser Technology -- What are Lasers Used For? -- Lasers in Telecommunications -- Lasers in Research and Medicine -- Lasers in Graphics and Grocery Stores -- Lasers in the Military -- Other Laser Applications -- 2. The Nature of Light -- 7. Energy Distributions and Laser Action -- Boltzmann Distribution -- Population Inversion -- L.A.S.E.R. -- Three-Level and Four-Level Lasers -- Pumping Mechanisms -- 8. Laser Resonators -- Why a Resonator? -- 12. Cavity Dumping and Modelocking -- Cavity Dumping -- Partial Cavity Dumping -- Modelocking - Time Domain -- Modelocking - Frequency Domain -- Applications of Modelocked Lasers -- Types of Modelocked -- 13. Nonlinear Optics -- 16. Fiber Lasers -- Acceptance Angle and Numerical Aperture -- Doping Optical Fibers -- Pumping Fiber Lasers -- Fabricating Optical Fibers -- Feedback for Fiber Lasers -- High Power Fiber Lasers -- Large-Mode-Area Fibers -- Holey Fibers --

520 The only introductory text on the market today that explains the underlying physics and engineering applicable to all lasers. Although lasers are becoming increasingly important in our high-tech environment, many of the technicians and engineers who install, operate, and maintain them have had little, if any, formal training in the field of electro-optics. This can result in less efficient usage of these important tools. Introduction to Laser Technology, Fourth Edition provides readers with a good understanding of what a laser is and what it can and cannot do. The book explains what types of laser to use for different purposes and how a laser can be modified to improve its performance in a given application. With a unique combination of clarity and technical depth, the book explains the characteristics and important applications of commercial lasers worldwide and discusses light and optics, the fundamental elements of lasers, and laser modification.
