1. Record Nr. UNISOBVAN0117598

Autore	Priscianese, Francesco <fl. 1540>
Titolo	[1]
Descrizione fisica	36 carte
Lingua di pubblicazione	Italiano Latino
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Segnatura: 1-4 5

2. Record Nr. UNINA9911007483803321

Autore	Abushagur Mustafa A. G
Titolo	Applied Photonics : An Introduction for Physicists and Engineers / / by Mustafa A. G. Abushagur
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-031-86457-3
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (706 pages)
Collana	Graduate Texts in Physics, , 1868-4521
Disciplina	535
Soggetti	Optics Photonics Optical engineering Optical communications Quantum optics Electronics Optics and Photonics Photonics and Optical Engineering Optical Communications Quantum Optics Electronics and Microelectronics, Instrumentation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

Nota di contenuto	Chapter 1: What is Light? -- Chapter 2: Geometrical Optics -- Chapter 3: Physical Optics -- Chapter 4: Fourier Optics -- Chapter 5: Light Polarization -- Chapter 6: Optical Beams and Resonators -- Chapter 7: Optical Waveguides -- Chapter 8: Optical Fibers -- Chapter 9: Introduction to Quantum Mechanics -- Chapter 10: Semiconductor Energy Bands -- Chapter 11: Optoelectronic Semiconductors -- Chapter 12: Semiconductor Light Sources -- Chapter 13: Optical Detectors -- Chapter 14: Optical Modulators -- Chapter 15: Optical Fiber Communication Systems.
Sommario/riassunto	This textbook provides upper-undergraduate and graduate students in engineering and physics with a well-rounded foundation in optics and photonics, equipping them to tackle a wide range of research challenges. The first part of the book introduces readers to the classical wave theory of light, exploring the fundamental question: What is the nature of light? Meanwhile, the second part approaches light as a stream of photons. In the first part, readers learn the principles of geometrical optics, essential for analyzing and designing imaging optical systems and laser resonators. Physical optics is covered in detail, addressing key phenomena such as interference, diffraction, and interferometry, along with a comprehensive chapter on Fourier optics. The discussion extends to the application of wave theory to optical waveguides, which are fundamental for both discrete and integrated laser resonators, forming the foundation of photonic integrated circuits. The second part of the book begins with an introduction to quantum mechanical principles necessary for designing semiconductor light sources, including laser diodes, light-emitting diodes, photodetectors, and light modulators. It concludes with a discussion on modern photonics applications, particularly optical communication systems, which have played a pivotal role in enabling the internet age. With a wealth of worked problems and solutions, this textbook allows students to explore and engage deeply with various optical phenomena. By addressing both the wave and particle nature of light, presenting quantum mechanics in an accessible manner, and covering a broad spectrum of crucial topics, this book serves as an essential resource for courses in optics, photonics, and optoelectronics.