

1. Record Nr.	UNINA9911020129203321
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Titolo	Polarized light in liquid crystals and polymers / / Toralf Scharf
Pubbl/distr/stampa	Hoboken, N.J., : Wiley-Interscience, c2007
ISBN	9786610721559 9781280721557 1280721553 9780470074374 047007437X 9780470074367 0470074361
Descrizione fisica	1 online resource (412 p.)
Disciplina	535.52
Soggetti	Polarization (Light) Liquid crystals Polymer liquid crystals Light - Transmission
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 and index.
Nota di contenuto	POLARIZED LIGHT IN LIQUID CRYSTALS AND POLYMERS; CONTENTS; Preface; 1 Polarized Light; 1.1 Introduction; 1.2 Concept of Light Polarization; 1.3 Description of The State of Polarization; 1.4 The Stokes Concept; 1.5 The Jones Concept; 1.6 Coherence and Polarized Light; References; 2 Electromagnetic Waves in Anisotropic Materials; 2.1 Introduction; 2.2 Analytical Background; 2.3 Time Harmonic Fields and Plane Waves; 2.4 Maxwell's Equations in Matrix Representation; 2.5 Separation of Polarizations for Inhomogeneous Problems; 2.6 Separation of Polarizations for Anisotropic Problems 4.6 Reflection and TransmissionReferences; 5 Space-Grid Time-Domain Techniques; 5.1 Introduction; 5.2 Description of the FDTD Method; 5.3 Implementation and Boundary Conditions; 5.4 Rigorous Optics for Liquid Crystals; References; 6 Organic Optical Materials; 6.1 Introduction; 6.2 Polymers for Optics; 6.3 Physical Properties of

Polymers; 6.4 Optical Properties of Polymers; 6.5 Liquid Crystal Phases; 6.6 Liquid Crystal Polymers; 6.7 Birefringence in Isotropic Materials; 6.8 Form Birefringence; 6.9 Order-Induced Birefringence; 6.10 Optical Properties of Liquid Crystals and Oriented Polymers
References7 Practical Polarization Optics with the Microscope; 7.1 Introduction; 7.2 Microscope Characteristics; 7.3 Polarization Microscope; 7.4 Polarizers; 7.5 Polarization Colors; 7.6 Compensation and Retardation Measurement; 7.7 Conoscopy; 7.8 Local Polarization Mapping; References; 8 Optics of Liquid Crystal Textures; 8.1 Introduction; 8.2 Calculation of Liquid Crystal Director Distributions; 8.3 Optical Properties of Uniform Textures; 8.4 Optical Properties of Liquid Crystal Defects; 8.5 Surface Line Defects in Nematics; 8.6 Defects in Smectic Phases
8.7 Confined Nematic Liquid Crystals8.8 Instabilities in Liquid Crystals; 8.9 Deformation of Liquid Crystal Directors by Fringing Fields; 8.10 Resolution Limit of Switchable Liquid Crystal Devices; 8.11 Switching in Layered Phases; References; 9 Refractive Birefringent Optics; 9.1 Birefringent Optical Elements; 9.2 Fabrication of Refractive Components; 9.3 Optical Properties of Modified Birefringent Components; 9.4 Liquid Crystal Phase Shifters; 9.5 Modal Control Elements; 9.6 Interferometers Based on Polarization Splitting; 9.7 Birefringent Microlenses
9.8 Electrically Switchable Microlenses

Sommario/riassunto

Polarized Light in Liquid Crystals and Polymers deals with the linear optics of birefringent materials, such as liquid crystals and polymers, and surveys light propagation in such media with special attention to applications. It is unique in treating light propagation in micro- and nanostructured birefringent optical elements, such as lenses and gratings composed of birefringent materials, as well as the spatial varying anisotropic structures often found in miniaturized liquid crystal devices.
