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Nota di contenuto	Photoalignment of Liquid Crystalline Materials; Contents; About the Authors; Series Editor's Foreword; 1 Introduction; References; 2 Mechanisms of LC Photoalignment; 2.1 Cis-Trans Isomerization; 2.1.1 'Command Surface'; 2.1.2 Cis-Trans Transformations in Azo-Dye Side-Chain Polymers and Azo-Dye in a Polymer Matrix; 2.2 Pure Reorientation of the Azo-Dye Chromophore Molecules or Azo-Dye Molecular Solvates; 2.2.1 Diffusion Model; 2.2.2 Polarized Absorption Spectra; 2.2.3 Modifications: Repeated Cis-Trans Photoisomerization Reaction Resulting in the Reorientation of the Backbone Structure 2.3 Crosslinking in Cinnamoyl Side-Chain Polymers2.4 Photodegradation in Polyimide Materials; 2.5 Photoinduced Order in Langmuir-Blodgett Films; References; 3 LC-Surface Interaction in a Photoaligned Cell; 3.1 Pretilt Angle Generation in Photoaligning Materials; 3.2 Generation of Large Pretilt Angles; 3.2.1 Generation of Large Pretilt Angles by Controlled Photodegradation; 3.2.2 Generation of Large Pretilt Angles by Nanostructured Surfaces; 3.3 Anchoring

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6.1 Bistable Nematic Displays; 6.2 Photoaligned Liquid-Crystal-on-Silicon Microdisplays; 6.3 Photoaligned Ferroelectric LCDs; 6.4 New Optical Rewritable Electronic Paper; 6.5 Application of Photoalignment in Photonic LC Devices; References; 7 US Patents Related to Photoalignment of Liquid Crystals; 7.1 Introductory Remarks; 7.2 List of Patents: Patent Classification; 7.3 Analysis and Comments on the Patents; Index

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## Sommario/riassunto

Photoalignment possesses significant advantages in comparison with the usual 'rubbing' treatment of the substrates of liquid crystal display (LCD) cells as it is a non-contact method with a high resolution. A new technique recently pioneered by the authors of this book, namely the photo-induced diffusion reorientation of azodyes, does not involve any photochemical or structural transformations of the molecules. This results in photoaligning films which are robust and possess good aligning properties making them particularly suitable for the new generation of liquid crystal devices. Photoa

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