

1. Record Nr.	UNINA9910465410403321
Autore	Kim Youngkyoo
Titolo	Advances in organic light-emitting devices / / Youngkyoo Kim and Chang-Sik Ha
Pubbl/distr/stampa	[Stafa-Zuerich] : , : Trans Tech Publications, , [2008]
ISBN	3-03813-244-6
Descrizione fisica	1 online resource (153 p.)
Collana	Materials science foundations, , 1422-3597 ; ; volume 40
Disciplina	620.11295
Soggetti	Organic scintillators Electroluminescent devices Electronic books.
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.
Nota di contenuto	Advances in Organic Light-Emitting Device; Preface; Table of Contents; List of Abbreviations; Table of Contents; 1. History of the OLED; 2. Introduction to OLEDs; 2.1 Classification of OLEDs. 2.2 OLED Using Small Organic Molecules; 2.3 PLED Using Emissive Polymers; 2.4 Hybrid OLED; 2.5 Kinds of Devices According to Function and Structure; 3. The Physics behind OLEDs; 3.1 Basic Mechanism; 3.2 Charge Carrier Injection and Transport; 3.3 Delayed EL Owing to Low Charge Carrier Mobility; 3.4 Generation of Singlet and Triplet Excitons in OLEDs; 3.5 Efficiency of OLEDs 3.6 Exciton Energy Transfer from Donor (Host) to Acceptor (Guest)4. Organic Materials (Small Molecules) for OLEDs; 4.1 Hole-Injecting Materials; 4.2 Hole-Transporting Materials; 4.3 Light-Emitting Materials (Organic Light-Emitters); 4.4 Hole-Blocking Materials. 4.5 Electron-Transporting Materials; 4.6 Electron-Injecting Materials. 4.7 Electrodes; 5. Polymeric Materials for PLEDs; 5.1 Polymers for Buffer Layer; 5.2 Light-Emitting Polymers; 5.3 Hole-Blocking/Electron-Transporting/Electron-Injecting Polymers. 5.4 Electrode Materials; 6. Materials for Hybrid OLEDs 6.1 Materials for All-Organic HOLEDs6.2 Materials for Organic-Inorganic HOLEDs; 7. Reliability and Lifetime; 7.1 Moisture Effect; 7.2 Oxygen Effect; 7.3 Impurity Effect; 7.4 Progressive Electrical Short; 7.5 Solvent and Polymer Side-Chain Effects in PLEDs; 7.6 Intrinsic Material

Stability and Luminance Decay Mechanism; 8. OLED Displays; 8.1 Passive Matrix-Organic Light-emitting Display (PM-OLED); 8.2 Active-Matrix - Organic Light-Emitting Display (AM-OLED); 8.3 Full-Color OLED Displays; 9. Ongoing Challenges; 9.1 Flexible OLED; 9.2 Organic Light-Emitting Transistors
9.3 OLED for Lighting Applications10. OLED Market Trends and Outlook; 10.1 OLED Market Trends; 10.2 Outlook

Sommario/riassunto

Organic electroluminescence (OEL) is the phenomenon of electrically-driven emission of light from organic materials; including both fluorescent and phosphorescent organic solids. The organic light-emitting device (OLED), which exploits OEL emission from organic semiconducting thin films (with thicknesses of less than a few hundred nanometers), sandwiched between electrodes, has attracted keen interest in its application to flat-panel displays, due to its high luminous efficiency, low driving voltage, tunable colors as well as a convenient device-structure design and low fabrication costs when
