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Collana	Polyimides and other high-temperature polymers ; ; 2
Altri autori (Persone)	Mittal K. L. <1945->
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Soggetti	Polyimides Heat resistant plastics
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Contents; Preface; Poly(amic acid)s and their ionic salt solutions: Synthesis, characterization and stability study; A new interpretation of the kinetic model for the imidization reaction of PMDA-ODA and BPDA-PDA poly(amic acid)s; Synthesis and characterization of new organosoluble poly(ether imide)s derived from various novel bis(ether anhydride)s; Synthesis of novel polyimides from dianhydrides with flexible side chains; Polyimides based on rhenium(I) diimine complexes; New highly phenylated bis(phthalic) and bis(naphthalic) anhydrides and polyimides therefrom New photoalignable polyimides and their ability to control liquid-crystal alignment Proton conducting polyimides from novel sulfonated diamines; High-modulus poly(p-phenylenepyromellitimide) films obtained using a novel gel-drawing technique; Effect of structure on the thermal behaviour of bisitaconimide resins; 1-Amino-4,5-8-naphthalenetetracarboxylic acid-1,8-lactam-4,5-imide-containing macrocycles: Synthesis, molecular modeling and polymerization; Synthesis of aromatic benzoxazole polymers for high T <sub>sub(g)</sub> ], low dielectric properties

Polybenzobisthiazoles - Critical issues in their performance and properties  
 Electrical breakdown and electrostatic phenomena in ultra-thin polyimide Langmuir-Blodgett films; Humid ageing of polyetherimide: Chemical and physical interactions with water; Transport of water in high  $T_{\text{sub(g)}}$  polymers: A comparison between interacting and non-interacting systems; New developments in the adhesion promotion of electroless Ni or Cu films to polyimide substrates; Surface modification of polyimide to improve its adhesion to deposited copper layer  
 Study on the structure and adhesion of copper thin films on chemically modified polyimide surfaces  
 Chemical interaction of Fe, Ni and Au with poly(vinyl chloride) and poly(tetrafluoroethylene) during thermal evaporation and the effect of post-metallization X-ray irradiation studied by in situ X-ray; Plasma polymer adhesion promoters for metal-polymer systems; Metallized polyimide films with high reflectivity and electroconductivity; RF plasma etching of a polyimide film with oxygen mixed with nitrogen trifluoride  
 Comparison of polyimide film surface properties exposed to real and simulated space environments: Relevance of atomic oxygen effects to wettability in space  
 Development and optimization of a laser carbonized polyimide film as a sensor substrate for an all-polymer humidity sensor; Fluorinated copolyimides for microelectronics applications; Fabrication of thin-film transistors on polyimide films; Polyimide/polystyrene nanocomposite films as membranes for gas separation and precursors for polyimide nanofoams; Amine-quinone polyimides - High temperature polymers that protect iron against corrosion  
 Semicrystalline DABP-BTDA polyimide modified by fullerenes for wear protection

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## Sommario/riassunto

This volume documents the proceedings of the Second International Symposium on Polyimides and Other High Temperature Polymers: Synthesis, Characterization and Applications, held in Newark, New Jersey, December 3-6, 2001. Polyimides possess many desirable attributes, so this class of materials has found applications in many technologies ranging from microelectronics to high temperature adhesives to membranes. This volume contains a total of 32 papers, all rigorously peer reviewed and revised before inclusion, addressing many aspects and new developments in polyimides and other high temperature polymers. The book is divided into two parts: Synthesis, Properties and Bulk Characterization and Surface Modification, Interfacial or Adhesion Aspects and Applications. The topics covered include: synthesis and characterization of a variety of polyimides; photoalignable polyimides; high-modulus poly(p-phenylenepyromellitimide) films; structure-property relationships in polyimides; aromatic benzoxazole polymers; polybenzobisthiazoles; polyimide L-B films; transport of water in high  $T_g$  polymers; surface modification of polyimides; adhesion of metal films to polyimide and other polymers; investigation of interfacial interactions between metals and polymers; polyimide film surface properties; applications of polyimides in microelectronics, as membranes for gas separation, as composite films; fabrication of thin-film transistors on polyimide films; polyimide modified with fullerenes; semicrystalline polyimides for advanced composites; and wear performance of polyetherimide composite.

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