

1. Record Nr.	UNINA9910795498503321
Autore	Rostami Mohammad Ali
Titolo	Combining partial Jacobian computation and preconditioning : new heuristics, educational modules, and applications / / Mohammad Ali Rostami
Pubbl/distr/stampa	Gottingen, [Germany] : , : Cuvillier Verlag, , 2017 ©2017
ISBN	3-7369-8636-X
Descrizione fisica	1 online resource (105 pages) : illustrations, tables
Disciplina	515.983
Soggetti	Elliptic functions
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.

2. Record Nr.	UNINA9910830596403321
Titolo	Adhesion [[electronic resource] ] : current research and applications / / edited by Wulff Possart
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, c2005
ISBN	1-280-85418-9 9786610854189 3-527-60730-7 3-527-60710-2
Descrizione fisica	1 online resource (609 p.)
Altri autori (Persone)	PossartWulff
Disciplina	541.33 620.199
Soggetti	Adhesion Adsorption
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Based on lectures held at the 7th European Conference on Adhesion"-- P. vi.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Adhesion; Preface; Contents; List of Contributors; 1 The Interfacial Chemistry of Adhesion: Novel Routes to the Holy Grail?; Abstract; 1.1 Introduction; 1.2 Development of a Model Interphase; 1.3 The Buried Interface; 1.4 Conclusion; Acknowledgments; References; 2 Modeling Fundamental Aspects of the Surface Chemistry of Oxides and their Interactions with Coupling Agents; Abstract; 2.1 Introduction: Atomistic Simulations in Adhesion; 2.2 Prediction of Surface Properties: Ideal Reconstructions on -SiO(2) (0001); 2.3 Organic Components of the Adhesive and Substrate-Adhesive Interaction 2.4 Conclusion and OutlookReferences; 3 Adhesion at the Nanoscale: an Approach by AFM; Abstract; 3.1 Introduction; 3.2 Materials and Methods; 3.2.1 Preparation of Oxidized Silica Surface; 3.2.2 Grafting of Functionalized SAMs onto Silicon Wafer; 3.2.3 Crosslinking and Functionalization of PDMS Networks; 3.2.4 Characterization of the SAMs; 3.3 Results and Discussion; 3.3.1 Force-Distance Curve Measurements and AFM Calibration; 3.3.1.1 Force-Distance Curve Features; 3.3.1.2 The DD Curve (Contact Mode); 3.3.1.3 AFM

Calibration; 3.3.1.3.1 Determination of the Spring Constant of the Cantilever  
 3.3.1.3.2 Nonlinearity of the Quadrant of Photodiodes  
 3.3.1.3.3 Scan Rate of the Cantilever; 3.3.1.3.4 Systematic Check; 3.3.2 Force-Distance Curves on Rigid Systems of Controlled Surface Chemistry; 3.3.3 Force-Distance Measurements on Polymers; 3.3.3.1 Force-Indentation Measurements on Polymers; 3.3.3.2 Force-Indentation Curves on Systems of Controlled Surface Chemistry and Controlled Mechanical Properties; 3.4 Conclusion; References; 4 Organization of PCL-b-PMMA Diblock Thin Films: Relationship to the Adsorption Substrate Chemistry; Abstract; 4.1 Introduction; 4.2 Materials and Methods  
 4.2.1 PCL-b-PMMA Diblocks  
 4.2.2 Infrared Spectroscopy; 4.2.2.1 Transmission; 4.2.2.2 Polarization-Modulation Infrared Reflection-Absorption Spectroscopy (PM-IRRAS); 4.2.3 Atomic Force Microscopy (AFM); 4.3 Results and Discussion; 4.3.1 PCL-b-PMMA Bulk Characterization; 4.3.2 PCL-b-PMMA Thin Films on OH-Functionalized Gold Substrates; 4.3.3 PCL-b-PMMA Thin Films on Gold Substrates; 4.4 Conclusion; References; 5 Adhesion and Friction Properties of Elastomers at Macroscopic and Nanoscopic Scales; Abstract; 5.1 Introduction; 5.2 Materials and Methods; 5.3 Results and Discussion  
 5.3.1 Adherence Energy  
 5.3.2 Macroscale Friction; 5.3.3 Nanoscale Friction and Adhesion; 5.4 Conclusion; References; 6 Chemical Structure Formation and Morphology in Ultrathin Polyurethane Films on Metals; Abstract; 6.1 Introduction; 6.2 Materials and Methods; 6.2.1 Sample Preparation; 6.2.2 Experimental Characterization; 6.2.3 IR Spectra Calculation; 6.2.4 IR Band Assignment; 6.3 Results and Discussion; 6.3.1 Curing at Room Temperature; 6.3.2 Morphology of Thin Films; 6.3.3 Chemical Structure of Cured Films; 6.4 Conclusion; Acknowledgments; References  
 7 Properties of the Interphase Epoxy-Amine/Metal: Influences from the Nature of the Amine and the Metal

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## Sommario/riassunto

Emphasizing the most recent developments this book addresses both the basic and applied aspects of adhesion. The authors present the latest results on fundamental aspects, adhesion in biology, chemistry for adhesive formulation, surface chemistry and the pretreatment of adherends, mechanical issues, non-destructive testing and the durability of adhesive joints, as well as advanced technical applications of adhesive joints. Prominent scientists review the current level of knowledge concerning the role of chemical bonds in adhesion, new resins and nanocomposites for adhesives, and about the role

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