Record Nr. UNINA9910814122303321 Polymers, liquids and colloids in electric fields [[electronic resource]]: **Titolo** interfacial instabilities, orientation and phase transitions / / editors Yoav Tsori, Ullrich Steiner New Jersey, : World Scientific, c2009 Pubbl/distr/stampa **ISBN** 1-282-44258-9 9786612442582 981-4271-69-1 Descrizione fisica 1 online resource (294 p.) Series in soft condensed matter;; v. 2 Collana Altri autori (Persone) TsoriYoav SteinerUllrich Disciplina 530.413 Soggetti Soft condensed matter Electric fields 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 Foreword; Preface; Contents; Chapter 1 The Phenomenology of Modulated Phases: From Magnetic Solids and Fluids to Organic Films and Polymers D. Andelman and R. E. Rosensweig; Chapter 2 Solvation Effects of Ions and Ionic Surfactants in Polar Fluids A. Onuki; Chapter 3 Change of Critical Mixing Temperature in a Uniform Electric Field K. Orzechowski; Chapter 4 Electrohydrodynamic Instabilities of Thin Liquid Films T. P. Russell and J. Bae; Chapter 5 Electrowetting: The External Switch on the Wettability and Its Applications For Manipulating Drops F. Mugele Chapter 6 Phase Separation and Morphology of Polymer Mixtures Driven by Light Q. Tran-Cong-Miyata and H. Nakanishi Chapter 7 Thermodynamics and the Phase Diagrams of Block Co-polymers in Electric Fields M. Schick; Chapter 8 Orienting and Tuning Block Copolymer Nanostructures with Electric Fields A. Boeker and K. Schmidt; Chapter 9 Block Copolymers Under An Electric Field: A Dynamic Density Functional Approach A. V. Zvelindosky and G. J. A. Sevink: Index

This unique book aims to expose the reader to a wide range of

Sommario/riassunto

phenomena occurring when soft matter systems are put under the influence of an external electric field. The book shows how an electric field can be used to affect objects at the submicron scale, and how it controls the phase behavior of liquids and polymers. The main focus is on the basic underlying mechanisms. Some technological applications are dealt with as well. Book chapters are arranged in a logical order, from "simple" systems to more complicated ones. In addition, each topic is covered by the mixed bag of theory, experiment