Record Nr. UNINA9910825444003321 Autore Iwamoto Mitsumasa Titolo The physical properties of organic monolayers [[electronic resource] /] / Mitsumasa Iwamoto, Wu Chen-Xu Singapore; ; [River Edge], NJ, : World Scientific, c2001 Pubbl/distr/stampa **ISBN** 1-281-95189-7 9786611951894 981-281-039-0 Descrizione fisica 1 online resource (216 p.) Altri autori (Persone) WuChen-Xu Disciplina 530.4/275 530.4275 541.33 Soggetti Monomolecular films Organic compounds Thin films Surface chemistry Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. PREFACE; CONTENTS; CHAPTER 1 INTRODUCTION; 1.1 Monolayer Nota di contenuto Structure and Monolayer Properties; 1.2 Surface Pressure/Area Isotherm: 1.3 Maxwell Displacement Current Measurement Technique: 1.4 Molecular Dynamics of Monolayer Films; References; CHAPTER 2 POLARIZATION AND DIELECTRIC CONSTANT FOR 2D MEDIA; 2.1 Polarization: 2.2 Spontaneous Polarization: 2.3 First Order Polarization and Dielectric Constant; 2.4 Nonlinear Polarization; 2.5 Summary; References; CHAPTER 3 MAXWELL DISPLACEMENT CURRENT METHOD; 3.1 Maxwell Displacement Current; 3.2 Maxwell Displacement Current by Monolayer Compression 3.3 MDC Generated across Organic Monolayers Consisting of Molecules with Dielectric Anisotropy 3.4 Phase Transition of Chiral Phospholipid Monolayers by Maxwell Displacement Current Measurement; 3.5 Maxwell Displacement Current by Photoirradiation; 3.6 Evaluation of

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Sommario/riassunto

This book provides a fundamental physical picture of various phenomena occurring in organic monolayers, dealing with dielectric, elastic, and electronic properties. The dielectric properties are discussed in terms of orientational order parameters, which are used to interpret the dielectric spectrum observed through Maxwell displacement current measurement and optical second harmonic generation measurement. The elastic theory of organic monolayers is based on that of liquid crystals and emphasis is placed on the interfacial effect when discussing the electronic properties of organic monolayers