

CONTENTS

Preface	1
Surface and Interface Roughness Studies by Grazing Incidence X-ray Scattering Method	3
Shin-ya Matsuno, Zou Fen, Takeshi Nayuki and P. W. T. Yuen	
Quantitative Evaluation for Grazing Incidence X-Ray Scattering Data	7
Kazuhiro Omote and Yoshiyasu Ito	
Effects of Growth Process on GaInP/GaAs/GaInP Heterointerface Structures and Device Characteristics Revealed by X-ray CTR Scattering Measurements	11
Yoshikazu Takeda	
Critical Issues of New Gate Insulator/Si Interfaces in the Future ULSI	15
Toyohiro Chikyow, Parhat Ahmet, Kiyomi Nakajima, Noriaki Okazaki, Ken Hasegawa, Tetsuya Hasegawa and Hideomi Koinuma	
Characterization Techniques for Next Generation ULSI Materials using Synchrotron Radiation - Current Status and Future Prospects -	19
Shigeru Kimura	
Complimentary Use of Neutron and X-ray Reflection in Study on a Giant Magnetoresistance (GMR) Effect of Magnetic Multilayers	23
Masayasu Takeda, Yasuo Endoh, Atsushi Kamijo, Sean Langridge, Rob Dalglish, Jae Hyuk Her and Ki Bong Lee	
Application of GI-SAXS to Near-surface Microstructures in Al-based Alloys	27
Hiroshi Okuda, Shojiro Ochiai and Kazuki Ito	
In Situ Observation of Reactions at Liquid/Metal Interfaces	31
Masao Kimura	
Layered Structure Analysis of Magnetic Multilayers by X-ray Scattering and TEM Methods	35
Tatsumi Hirano, Kazuhiro Ueda and Takao Imagawa	
In-situ Observation of Solution/electrode Interfaces with Energy Dispersive X-ray Reflectometry Method	39
Shigeo Sato, Eiichiro Matsubara, Masatoshi Saito and Yoshio Waseda	
Next-Generation Synchrotron Light Sources and Applications Using Their Coherent Properties	43
Keiichi Hirano	
Design Concepts and Advanced Research Application of the J-PARC Neutron Reflectometer with Horizontal Sample Geometry	47
Naoya Torikai, Hideki Matsuoka, Kazuhiko Soyama, Hiroshi Takahashi, Masayasu Takeda, Seiji Tasaki, Dai Yamazaki, Toru Ebisawa, Toru Sakuma and Michihiro Furusaka	

X-Ray Reflectivity Studies on Buried GaAs Quantum Dots: Non-Destructive Determination of Depth and Density	51
Mari Mizusawa and Kenji Sakurai	
Proposal for New X-Ray CTR Scattering Measurement System to Analyze Thick and Complicated Layer Structures	55
Masao Tabuchi and Yoshikazu Takeda	
Phase Behavior of Octadecylurea Derivatives at the Air-Water Interface Studied by Langmuir Film Balance and Grazing-Incidence X-Ray Diffraction	59
Ken-ichi Iimura, Yoshinori Shirai, Masaaki Yoshida, Ichiro Hirosawa, Noritaka Kato and Teiji Kato	
Interpretation of Specular X-ray Reflectivity Profiles of Langmuir-Blodgett Films	63
Shin Takahashi, Satoko Yamashita, Masahiro Taniguchi and Akihiko Yamagishi	
Density Measurement of Thin Films by X-ray Reflectivity Spectra	67
Katsuhiko Tani, Hiroko Tashiro, Masato Ueha, Toshihiko Mitsueda, Hideo Saisho and Hiroshi Iwasaki	
Structure Determination of Hybrid Films of Clay and Clay/Dendrimer Nanocomposite on Langmuir-Blodgett Film by X-Ray Reflectometry	71
Koji Mitamura and Toyoko Imae	
Characterization on Nano-structures of Spin-on Mesoporous Low-k Dielectric Thin Films	75
Hironobu Shirataki, Shin-Ya Matsuno, Naoki Sakamoto, Toshiyuki Ohdaira and Ryoichi Suzuki	
Neutron Reflectivity Study of Surface and Interfacial Structure in Polymer Thin Films	81
Atsushi Takahara, Keiji Tanaka, Daisuke Kawaguchi, Seiji Tasaki, Masayasu Takeda, Naoya Torikai and Tisato Kajiyama	
Analysis of Aggregation States of Polymer Thin Films Based on Grazing Incidence X-ray Diffraction	85
Tomoyuki Koga, Masamichi Morita, Hideomi Ishida, Hirohiko Yakabe, Sono Sasaki, Osami Sakata and Atsushi Takahara	
Surface Adsorption of Hydrocarbon Gases on Polymeric Membranes	89
Tsukasa Miyazaki, Akira Shimazu and Toshiji Kanaya	
Development of Multilayers for Soft X-ray Mirrors and Depth Analysis	95
Hisataka Takenaka, Satoshi Ichimaru and Yoshikazu Homma	
XAES Study of Thin Films Fabricated with Cluster Ion Assisted Deposition Technique	101
Jiro Matsuo, Teruyuki Kitagawa, Yutaka Shimizugawa, Hiroyuki Kageyama, Kazuhiro Kanda, Toshio Seki, Takaaki Aoki, Shinji Matsui and Isao Yamada	
Soft-X-ray Emission Studies of Buried Interfaces in Multilayers	107
Takashi Imazono, Noboru Miyata and Mihiro Yanagihara	
Grazing Incidence X-ray Reflectometry: A Tool For Monitoring Growth Procedure In Nano-meter Scale	113
Tomoaki Kawamura, Satyaban Bhunia, Seiji Fujikawa and Yoshio Watanabe	