

Overview 2006

- [133] "Understanding of Working Mechanism of Iron-based Materials for the Arsenic Removal and Surface Environmental Catalysts by Selective Spectroscopy"
D. Masih
Doctor Thesis (Tokyo Institute of Technology), , (2006), 1-176
- [134] "High-Pressure Phases of CaCO₃: Crystal Structure Prediction and Experiment"
Artem R. Oganov, Colin W. Glass, S. Ono
Earth and Planetary Science Letters, **241**, (2006), 95-103
- [135] "Equation of State of CaIrO₃-type MgSiO₃ up to 144 GPa"
S. Ono, T. Kikegawa, Y. Ooishi
American Mineralogist, **91**, (2006), 475-478
- [136] "Structural Property of CsCl-type Sodium Chloride under Pressure"
S. Ono, T. Kikegawa, Y. Ooishi
Solid State Communications, **137**, (2006), 517-521
- [137] "The Stability and Compressibility of MgAl₂O₄ High-Pressure Polymorphs"
S. Ono, T. Kikegawa, Y. Ohishi
Physics and Chemistry of Minerals, **33**, (2006), 200-206
- [138] "High-pressure Behavior of MnGeO₃ and CdGeO₃ Perovskites and the Post-Perovskite Phase Transition"
S. Tateno, K. Hirose, N. Sata, Y. Ohishi
Physics and Chemistry of Minerals, **32**, (2006), 721-725
- [139] "High-Pressure Transformations of Ilmenite to Perovskite, and Lithium Niobate to Perovskite in Zinc Germanate"
H. Yusa, M. Akaogi, N. Sata, H. Kojitani, R. Yamamoto, Y. Ohishi
Physics and Chemistry of Minerals, **33**, (2006), 217-226

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Refereed Journals

[2003]

- [1] "Evaluation of Internal Stresses in Single-, Double- and Multi-Layered TiN and TiAlN Thin Films by Synchrotron Radiation"
T. Hanabusa, K. Kusaka, T. Matsue, M. Nishida, O. Sakata, T. Sato
Proceedings of International Conference on Advanced Technology in Experimental Mechanics 2003, , (2003), OS4W0203
- [2] "Crystal Orientation and Residual Stress in TiN Film by Synchrotron Radiation"
T. Hanabusa, K. Kusaka, M. Nishida, T. Matsue, O. Sakata
International Journal of Materials Research and Advanced Techniques (Zeitschrift fur METALLKUNDE), **94**, (2003), 662-666
- [3] "Analysis of Aggregation States of Polymer Thin Films Based on Grazing Incidence X-ray Diffraction"
T. Koga, M. Morita, H. Ishida, H. Yakabe, S. Sasaki, O. Sakata, A. Takahara
Transactions of the Materials Research Society of Japan, **28**, (2003), 85-88
- [4] "Two Dimensional Metal-Oxianion Surface Complexes Formation During the Upd Process on a Au(111) Electrode Studied by in-situ Surface X-Ray Diffraction and Infrared Reflection Absorption Spectroscopy"
M. Nakamura, K. Matsunaga, K. Kitahara, M. Ito, O. Sakata
Journal of Electroanalytical Chemistry, **554-555**, (2003), 175-182
- [5] "Beamline for Surface and Interface Structures at SPring-8"
O. Sakata, Y. Furukawa, S. Goto, T. Mochizuki, T. Uruga, K. Takeshita, H. Ohashi, T. Ohata, T. Matsushita, S. Takahashi, H. Tajiri, T. Ishikawa, M. Nakamura, M. Ito, K. Sumitani, T. Takahashi, T. Shimura, A. Saito, M. Takahashi
Surface Review and Letters, **10**, (2003), 543-547
- [6] "Three-Dimensional Reconstruction of Atoms in Surface X-Ray Diffraction"
K. Sumitani, T. Takahashi, S. Nakatani, A. Nojima, O. Sakata, Y. Yoda, S. Koh, T. Irisawa, Y. Shiraki
Japanese Journal of Applied Physics, **42**, (2003), L189-L191
- [7] "Paracrystalline Lattice Distortion in the Near-Surface Region of Melt-Crystallized Polyethylene Films Evaluated by Synchrotron-Sourced Grazing-Incidence X-Ray Diffraction"
H. Yakabe, S. Sasaki, O. Sakata, A. Takahara, T. Kajiyama
Macromolecules, **36**, (2003), 5905-5907

- [2004]
- [8] "Evaluation of Internal Stresses in TiN Thin Films by Synchrotron Radiation"
T. Hanabusa, K. Kusaka, T. Matsue, M. Nishida, O. Sakata, T. Sato
Vacuum, **74**, (2004), 571-575
 - [9] "Evaluation of Internal Stresses in Single-, Double- and Multi-Layered TiN and TiAlN Thin Films by Synchrotron Radiation"
T. Hanabusa, K. Kusaka, T. Matsue, M. Nishida, O. Sakata, T. Sato
JSME International Journal Series A, **47**, (2004), 312-317
 - [10] "Residual Stress and Thermal Stress Observation in Thin Copper Films"
T. Hanabusa, K. Kusaka, O. Sakata
Thin Solid Films, **459**, (2004), 245-248
 - [11] "Structure Analysis of Cu(001)-c(4x4)-In by Surface X-ray Diffraction"
S. Hatta, Walker J. Christopher, O. Sakata, T. Aruga, H. Okuyama
Surface Science, **565**, (2004), 144-150
 - [12] "Disordered Structure of Pt(111)-*p*(2x2) Induced by Synchrotron X-ray Beam Irradiation"
M. Nakamura, K. Sumitani, M. Ito, T. Takahashi, O. Sakata
Surface Science, **563**, (2004), 199-205
 - [13] "Structural Analysis of NiO Ultra-Thin Films Epitaxially Grown on Ultra-Smooth Sapphire Substrates by Synchrotron X-Ray Diffraction Measurements"
O. Sakata, M. Yi, A. Matsuda, J. Liu, S. Sato, S. Akiba, A. Sasaki, M. Yoshimoto
Applied Surface Science, **221**, (2004), 450-454
 - [14] "High-Energy X-ray Scattering in Grazing Incidence from Nanometer-Scale Oxide Wires"
O. Sakata, M. Takata, H. Suematsu, A. Matsuda, S. Akiba, A. Sasaki, M. Yoshimoto
Applied Physics Letters, **84**, (2004), 4239-4241
 - [15] "High-Quality As-Grown MgB₂ Thin-Film Fabrication at a Low Temperature using an in-Plane-Lattice Near-Matched Epitaxial-Buffer Layer"
O. Sakata, S. Kimura, M. Takata, S. Yata, T. Kato, K. Yamanaka, Y. Yamada, A. Matsushita, S. Kubo
Journal of Applied Physics, **96**, (2004), 3580-3582
 - [16] "Applications of Femtosecond Laser Ablation of Metals to Microprocessing"
T. Sano
Doctor Thesis (Osaka University), , (2004),
 - [17] "Surface X-ray Diffraction in Transmission Geometry"
H. Tajiri, O. Sakata, T. Takahashi
Applied Surface Science, **234**, (2004), 403-408
 - [18] "Metal/Semiconducor Interfaces Studied by Transmitted X-ray Reflectivity"
I. Takahashi, K. Inoue, A. Kitahara, H. Terauchi, O. Sakata
Japanese Journal of Applied Physics, **43**, (2004), 1561-1565
 - [19] "Crystal Structure in the Near-Surface Region of Melt-Crystallized Polyethylene Films Investigated by Grazing Incidence X-ray Diffraction"
H. Yakabe, S. Sasaki, O. Sakata, A. Takahara, T. Kajiyama
Transactions of the Materials Research Society of Japan, **29**, (2004), 251-254
- [2005]
- [20] "Order-Disorder Transition in the Surface Charge-Density-Wave Phase of Cu(001)-*c*(4x4)-In"
S. Hatta, H. Okuyama, T. Aruga, O. Sakata
Physical Review B, **72**, (2005), 081406(R)
 - [21] "Charge Density Wave and Order-disorder Transition on In/Cu(001)"
S. Hatta,
Doctor Thesis (Kyoto University), , (2005),
 - [22] "Molecular Aggregation Structure of Poly(fluoroalkyl acrylate) Thin Films Evaluated by Synchrotron-sourced Grazing-incidence X-ray Diffraction"
K. Honda, H. Yakabe, T. Koga, S. Sasaki, O. Sakata, H. Otsuka, A. Takahara
Chemistry Letters, **34**, (2005), 1024-1025
 - [23] "Study of Solid/Solid Interface by Transmitted X-ray Reflectivity"
K. Inoue, A. Kitahara, K. Matsushita, H. Kikkawa, F. Nakabayashi, N. Ageishi, H. Terauchi, O. Sakata, I. Takahashi
Surface and Interface Analysis, **37**, (2005), 185-189
 - [24] "Dependence of the Molecular Aggregation State of Octadecylsiloxane Monolayers on Preparation Methods"
T. Koga, S. Sasaki, O. Sakata, M. Morita, H. Yakabe, H. Ishida, H. Otsuka, A. Takahara
Langmuir, **21**, (2005), 905-910

Overview 2006

- [25] "Study on the Molecular Aggregaton Structure and Microfabrication of Organosilane Monolayers"
T. Koga
Doctor Thesis (Kyushu University), , (2005),
- [26] "Monomer Structures of Water Adsorbed on $p(2 \times 2)$ -Ni(111)-O Surface at 25 and 140 K by Surface X-Ray Diffraction"
M. Nakamura, M. Ito
Physical Review Letters, **94**, (2005), 035501
- [27] "Water Adsorption on a $p(2 \times 2)$ -Ni(111)-O Surface Studied by Surface X-ray Diffraction and Infrared Reflection Absorption Spectroscopy at 25 and 140 K"
M. Nakamura, M. Tanaka, M. Ito, O. Sakata
The Journal of Chemical Physics, **122**, (2005), 224703
- [28] "Reciprocal-Lattice Space Imaging of X-ray Intensities Diffracted from Nanowires"
O. Sakata, A. Kitano, W. Yashiro, K. Sakamoto, K. Miki, A. Matsuda, W. Hara, S. Akiba, M. Yoshimoto
Materials Research Society Symposia Proceedings, **840**, (2005), Q6.4.1-6
- [29] "Encapsulation of Atomic-Scale Bi Wires in Epitaxial Silicon without Loss of Structure"
O. Sakata, W. Yashiro, David R. Bowler, A. Kitano, K. Sakamoto, K. Miki
Physical Review B, **72**, (2005), 121407(R)
- [30] "Femtosecond Laser Driven Shock Synthesis of the High-Pressure Phase of Iron"
T. Sano, O. Sakata, H. Mori, E. Ohmura, I. Miyamoto, A. Hirose, Kojiro F. Kobayashi
Applied Surface Science, **247**, (2005), 571-576
- [31] "Comparison of Ordered Structure in Buried Oxide Layers in High-Dose, Low-Dose, and Internal-Thermal-Oxidation Separation-by-Implanted-Oxygen Wafers"
T. Shimura, K. Fukuda, K. Yasutake, T. Hosoi, M. Umeno
Thin Solid Films, **476**, (2005), 125-129
- [32] "Study on the Structures and the Phase Transitions of Ag/Si(111) Surfaces by X-ray Diffraction"
K. Sumitani
Doctor Thesis (The University of Tokyo), , (2005),
- [33] "Residual Stresses Distribution in the Sub-Surface Region of Shot-Peened Ceramics"
K. Tanaka, Y. Akiniwa, Y. Morishita
日本機械学会論文集 A編 (Transactions of the Japan Society of Mechanical Engineers, Series A), **71**, (2005), 1714-1721
- [34] "Grazing Incidence X-ray Diffraction Study on Surface Crystal Structure of Polyethylene Thin Films"
H. Yakabe, K. Tanaka, T. Nagamura, S. Sasaki, O. Sakata, A. Takahara, T. Kajiyama
Polymer Bulletin, **53**, (2005), 213-222
- [35] "Study on Fine Structure Analysis of Crystalline Polymers in the Constrained State"
H. Yakabe
Doctor Thesis (Kyushu University), , (2005), 1-68
- [36] "Dependence of Electrical Properties of Epitaxial $Pb(Zr,Ti)O_3$ Thick Films on Crystal Orientation and $Zr/(Zr+Ti)$ Ratio"
S. Yokoyama, Y. Honda, H. Morioka, S. Okamoto, H. Funakubo, T. Iijima, H. Matsuda, K. Saito, T. Yamamoto, H. Okino, O. Sakata, K. Shigeru
Journal of Applied Physics, **98**, (2005), 094106
[2006]
- [37] "Observation of Domain Switching in Fatigued Epitaxial $Pb(Zr,Ti)O_3$ Thin Films "
Y. Kim, S. Yokoyama, R. Ueno, H. Morioka, O. Sakata, S. Kimura, K. Saito, H. Funakubo
Materials Research Society Symposia Proceedings, **902E**, (2006), 67.1-67.6
- [38] "Structural Analyses of Fractional Monolayer $(GaAs)_m/(AlAs)_n$ Superlattices by X-ray Resonant/Off-Resonant Scattering"
H. Miyagawa, S. Koshiba, K. Takao, K. Fujii, M. Mizumaki, O. Sakata, S. Kimura, R. Ueji, N. Sumida
Japanese Journal of Applied Physics, **45**, (2006), 3548
- [39] "Femtosecond Laser Synthesis of the High-Pressure Phase of Iron"
T. Sano, O. Sakata, E. Ohmura, I. Miyamoto, A. Hirose, K. Kobayashi
Materials Science Forum, **512**, (2006), 349-354
- [40] "Epitaxial Growth of Cu Nanodot Arrays Using an AAO Template on a Si Substrate"
T. Shimizu, M. Nagayanagi, T. Ishida, O. Sakata, T. Oku, H. Sakaue, T. Takahagi, S. Shingubara
Electrochemical and Solid-State Letters, **9**, (2006), J13-J16

- [41] "Growth of GaNAs/GaAs Multiple Quantum Well by Molecular Beam Epitaxy Using Modulated N Radical Beam Source"
 K. Takao, K. Fujii, H. Miyagawa, M. Mizumaki, O. Sakata, N. Tsurumachi, H. Itoh, N. Sumida, S. Nakanishi, H. Akiyama, S. Koshiha
Japanese Journal of Applied Physics, **45**, (2006), 3540-3543

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Refereed Journals

[2003]

- [1] "Local Structure of Rare-Earth-Doped Diluted Magnetic Semiconductor GaGdN"
 M. Hashimoto, S. Emura, R. Asano, H. Tanaka, N. Teraguchi, A. Suzuki, T. Honma, N. Umesaki, Y. Nanishi, H. Asahi
Physica Status Solidi C, **0**, (2003), 2650-2653
- [2] "The Study on the Materials for the All Solid Lithium Secondary Battery"
 Y. Kobayashi
Doctor Thesis (Tohoku University), , (2003),
- [3] "5 V Class All-Solid-State Composite Lithium Battery with Li₃PO₄ Coated LiNi_{0.5}Mn_{1.5}O₄"
 Y. Kobayashi, H. Miyashiro, K. Kakei, H. Shigemura, M. Tabushi, H. Kageyama, T. Iwahori
Journal of the Electrochemical Society, **150**, (2003), A1577-A1582
- [4] "Estimation of Spalling Stress in Thermal Barrier Coatings Using High-Energy X-Rays from a Synchrotron Source"
 K. Suzuki, K. Tanaka, Y. Akiniwa
Proceedings of International Conference on Advanced Technology in Experimental Mechanics 2003, **1**, (2003), 1-6
- [5] "Applications on High-Energy X-Rays to Stress Measurements of Thermal Barrier Coatings"
 K. Suzuki, K. Tanaka
Textures and Microstructures, **35**, (2003), 207-217
- [6] "Magnetic Properties of the Rare-Earth-Doped Semiconductor GaEuN"
 H. Tanaka, M. Hashimoto, S. Emura, R. Asano, Y. Zhou, T. Honma, N. Umesaki, A. Yanase, K. Akimoto, H. Asahi
Physica Status Solidi C, **0**, (2003), 2864-2868

[2004]

- [7] "Local Structural Change in GaCrN Grown by Radio Frequency Plasma-Assisted Molecular-Beam Epitaxy"
 M. Hashimoto, S. Emura, H. Tanaka, M. Kim, Y. Zhou, T. Honma, N. Umesaki
Journal of Crystal Growth, **273**, (2004), 149-155
- [8] "Crystallization Behavior of Linear Low Density Polyethylene in Its Blend with a Rubber Polymer as Revealed by Synchrotron SAXS/WAXS/Hv-SALS Simultaneous Measurements"
 K. Hayashi, Y. Ejima, T. Shimizu, S. Kizaki, S. Hara, K. Yamamoto, S. Okamoto, S. Sakurai
日本レオロジー学会誌 (Journal of the Society of Rheology, Japan), **32**, (2004), 179-187
- [9] "Grazing Incidence X-ray Scattering to Characterize the Thin Amorphous SiOx Film on Silicon Substrate"
 I. Hirosawa, Y. Uehara, M. Sato, N. Umesaki
日本セラミックス協会学術論文誌 (Journal of the Ceramic Society of Japan), **112**, (2004), S1476-S1478
- [10] "Oxidation of Doped Europium in BaMgAl₁₀O₁₇ by Annealing Studied by X-ray Absorption Fine-Structure Measurements"
 I. Hirosawa, T. Honma, K. Kato, N. Kijima, Y. Shimomura
Journal of the Society for Information Display, **12**, (2004), 269-273
- [11] "X-ray Diffraction Study for Mg₄Pd Crystalline and Amorphous Alloys Using Synchrotron Radiation"
 S. Nakano, S. Yamaura, A. Kitano, M. Sato, S. Uchinashi, T. Hamada, N. Umesaki, H. Kimura, A. Inoue
Materials Transactions, **45**, (2004), 3232-3234
- [12] "Structural Analysis by Synchrotron XRD of a Ag₅₂Sn₄₈ Nanocomposite Electrode for Advanced Li-Ion Batteries"
 E. Rönnebro, T. Sakai, J. Yin, M. Wada, S. Tanase, A. Kitano
Journal of the Electrochemical Society, **151**, (2004), A1738-A1744
- [13] "Transparent Ferromagnetic Semiconductor Fe-Zn-O Heterogranular Films"
 T. Shinagawa, M. Izaki, Y. Matsumura, K. Murase, Y. Awakura
Electrochemical and Solid-State Letters, **7**, (2004), G235-G237