

Contents

Vol. 7, No. 3, 2013

A simultaneous English language translation of this journal is available from Pleiades Publishing, Ltd.

Distributed worldwide by Springer. *Journal of Surface Investigation. X-ray, Synchrotron and Neutron Techniques* ISSN 1027-4510.

- Spin-Echo Small-Angle Neutron Scattering Device: Test Experiment Using SiO₂ Colloidal Particles
*E. V. Velichko, Yu. O. Chetverikov, L. A. Aksel'rod, V. N. Zabenkin, V. V. Piyadov,
A. A. Sumbatyan, W. H. Kraan, and S. V. Grigor'ev* 401
- Role of the Perovskite-Like Lattice in the High-Temperature Superconductor Mechanism:
EXAFS Data Analysis
*A. P. Menushenkov, A. V. Kuznetsov, R. V. Chernikov, A. A. Ivanov,
V. V. Sidorov, and K. V. Klementiev* 407
- Investigation of PdZn Nanoparticle Formation upon the Thermal Decomposition
of Acetate Precursors by In Situ XRD and XAFS
*A. A. Veligzhanin, Ya. V. Zubavichus, N. Yu. Kozitsyna, V. Yu. Murzin,
E. V. Khramov, and A. A. Chernyshov* 422
- Synthesis, X-Ray Analysis, and Mössbauer Investigation of Al–Cu–Fe Quasicrystals
D. A. Shulyatev, M. A. Chernikov, V. V. Korovushkin, N. A. Kozlovskaya, and M. V. Klyueva 434
- The Study of Zirconium Alloy Coatings Produced by Microarc Oxidation Using Rutherford
and Nuclear Backscattering Spectrometry
*A. M. Borisov, V. G. Vostrikov, S. V. Ivanova, V. S. Kulikauskas, L. N. Lesnevsky,
M. A. Lyakhovetsky, E. A. Romanovsky, N. V. Tkachenko, and V. N. Tyurin* 437
- Effect of a Laser Beam Reflected from a Target on the Formation of Coatings
by Pulsed Laser Deposition
A. A. Lozovan, M. A. Mishnev, S. V. Prishchepov, and S. V. Frangulov 442
- Inhomogeneous Depth Distribution of Fluorine Atoms in PVDF upon Radiative Carbonization
*L. A. Pesin, V. P. Andreichuk, V. M. Morilova, I. V. Gribov, N. A. Moskvina, V. L. Kuznetsov,
S. E. Evsyukov, O. V. Koryakova, A. D. Mokrushin, and E. V. Egorov* 446
- Anomalous X-Ray Transmission through Sapphire Crystals
V. F. Tkachenko, O. A. Lukienko, A. Ya. Dan'ko, and V. M. Puzikov 452
- Structure and Properties of Nanocrystalline ZnS and ZnSe Films
P. N. Krylov, E. A. Romanov, and I. V. Fedotova 458
- Beta-Induced Reduction in Cu/Si-Structure Adhesion
A. A. Dmitrievsky, A. V. Shuklinov, A. R. Lovtsov, and E. Yu. Isaeva 463
- Numerical Study of the Phase Transitions Occurring In Metals under the Action
of Pulsed Ion Beams within the Framework of the Thermal Spike Model
*I. V. Amirkhanov, A. Yu. Didyk, I. V. Puzynin, T. P. Puzynina, N. P. Sarkar, I. Sarkhadov,
Z. K. Tukhliev, and Z. A. Sharipov* 466
- Investigation of a Fine Structure of Deuterium Thermal Desorption Spectra from Tungsten
V. S. Efimov, Yu. M. Gasparyan, and A. A. Pisarev 472
- Ab Initio Study of the Formation of Structural Kinks in Carbon Chains
Yu. G. Korobova and D. I. Bazhanov 479
- Energy Estimates of Twinning Processes in Cubic Single Crystals
M. Sh. Akchurin, R. M. Zakalyukin, and I. I. Kuppenko 485
- Influence of the Surface Microroughness of a Si(001) Substrate on the Morphology
of CaF₂ Epitaxial Layers under High-Temperature Growth Conditions
A. A. Velichko, V. A. Ilyushin, N. I. Filimonova, and A. V. Katsyuba 488
- Investigation of the Peculiarities of Ge Island Growth on Si (100) under MBE Conditions
V. A. Lapin, B. M. Sinel'nikov, M. D. Bavizhev, I. A. Sysoev, D. S. Kuleshov, and F. F. Malyavin 493
- Resolution of a Scanning Electron Microscope: 1. Current State of the Problem
Yu. A. Novikov 497

Reflection Electron Energy Loss Spectroscopy in Mn_xSi_{1-x} Composite Structures <i>A. S. Parshin, O. P. Pchelyakov, A. E. Dolbak, and B. Z. Ol'shanetskii</i>	505
Diagnostics of Gold-Containing Surgical-Dressing Materials with X-Ray and Synchrotron Radiation <i>O. A. Belyakova, A. V. Shulenina, Ya. V. Zubavichus, A. A. Veligzhanin, A. V. Naumkin, and A. Yu. Vasil'kov</i>	509
Formation and Study of Electrospray Coatings Based on Titanium Aluminides <i>S. A. Pyachin, A. A. Burkov, and V. S. Komarova</i>	515
Combined Multiparametric X-Ray Diffraction Diagnostics of Microdefects in Silicon Crystals after Irradiation by High-Energy Electrons <i>E. N. Kislovskii, V. B. Molodkin, S. I. Olikhovskii, E. G. Len, B. V. Sheludchenko, S. V. Lizunova, T. P. Vladimirova, E. V. Kochelab, O. V. Reshetnyk, V. V. Dovganyuk, I. M. Fodchuk, T. V. Lytvynchuk, and V. P. Klad'ko</i>	523
Features of the Surface Morphology of Brass and Bronze upon Irradiation with a High Power Ion Beam <i>V. S. Kovivchak, T. V. Panova, K. A. Mikhailov, and E. V. Knyazev</i>	531
Effect of Annealing on the Phase Composition and Morphology of Al_2O_3 Formed in a Complex Electrolyte <i>I. V. Gasenkova and E. V. Ostapenko</i>	536
SEM Analysis of the Surface Morphology of a Profiled Sulfocation-Exchange Membrane after Contact with Phenylalanine <i>V. I. Vasil'eva and E. A. Goleva</i>	542
Micropore Formation by the Electrochemical Etching of a Semiconductor Surface under Local Electrical-Breakdown Conditions <i>L. G. Linets and D. I. Cherednichenko</i>	547
Investigation of Thermal Processes in Single Crystals Irradiated with High-Energy Heavy Ions <i>I. V. Amirkhanov, A. Yu. Didyk, I. V. Puzynin, T. P. Puzynina, N. R. Sarkar, I. Sarkhadov, Z. K. Tukhliev, and Z. A. Sharipov</i>	551
Multiple Processes during the Sputtering of Materials by Ion Bombardment <i>B. L. Oksengendler, S. E. Maksimov, N. N. Turaeva, and N. Yu. Turaev</i>	557
Effect of Heat Treatment on the Surface Parameters of Cadmium-Telluride Single-Crystal Substrates <i>V. P. Makhniy, I. I. German, and E. I. Tchernykh</i>	562
Study of the Influence of the Substrate Temperature and the Deposition Rate and Time on Surface Morphology <i>V. A. Vasil'ev and P. S. Chernov</i>	565
Positron Diagnostics of Nitrogen-Containing Steels <i>V. I. Grafutin, E. P. Prokofiev, Yu. V. Funtikov, N. O. Khmelevsky, L. Yu. Dubov, M. Z. Khtut, and Yu. V. Shtotskii</i>	572
Features of the Pattern Formed on a Ferrite-Garnet Surface under Swift-Energy Ar^+ -Ion Irradiation <i>I. N. Starshinov, I. A. Melnichuk, A. G. Bogomolov, V. V. Burkhovetsky, and D. A. Derecha</i>	575
Cluster Projectile Ions Used for the SIMS Analysis of Silicon <i>Sh. Akhunov and S. N. Morozov</i>	580
Study of Multiple Small-Angle Neutron Scattering by the Warren Method <i>N. O. Elyutin, D. V. L'vov, E. V. Rakshun, and A. N. Tyulyusov</i>	585
Pulsed Neutron Source Intended for the Investigation of Condensed Media at the Institute for Nuclear Research, Russian Academy of Sciences <i>S. F. Sidorkin and E. A. Koptelov</i>	591
