

Contents

Vol. 10, No. 4, 2016

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.

On the Use of a Composite Moderator at the IBR-2 Reactor: Advantages for the Neutron-Diffraction Texture Analysis of Rocks <i>M. V. Bulavin, R. N. Vasin, S. A. Kulikov, T. Lokaichek, and D. M. Levin</i>	677
Multilayer Neutron Monochromator-Polarizer Based on Iron <i>Kyaw Zaw Lin and V. G. Syromyatnikov</i>	687
Effect of Recoil Atoms on Radiation-Defect Formation in Semiconductors Under Mev-Proton Bombardment <i>V. V. Kozlovski, A. E. Vasil'ev, and A. A. Lebedev</i>	693
Theory of an X-Ray Interferometer in the Form of an Array of Planar Compound Refractive Lenses <i>V. G. Kohn</i>	698
Specific Features of Residual Stress Measurements in Thermal Barrier Coatings <i>S. Ya. Betsofen, A. A. Ashmarin, A. A. Lozovan, B. V. Ryabenko, A. N. Lutsenko, and D. E. Molostov</i>	705
Aspects of the Formation of a Nitrogen-Modified Layer upon the Ion-Beam Treatment of Hypersonic Thermal Spray Coating of Austenitic Steel <i>A. N. Grigorchik, V. A. Kukareko, A. V. Byeli, and M. A. Belotserkovskii</i>	712
Wear Resistance of the Surface Layers of Hard Alloys with a Multilevel Structural Phase State <i>V. E. Ovcharenko, Yu. F. Ivanov, A. A. Mohovikov, K. V. Ivanov, O. P. Solonenko, V. Yu. Ulianitsky, A. V. Byeli, Bao Hai Yu, and Zhang Honwei</i>	718
Modification of the Titanium Film-Aluminum Substrate System by a High-Intensity Pulsed Electron Beam with a Submillisecond Duration <i>Yu. F. Ivanov, N. N. Koval, E. A. Petrikova, O. V. Krynsina, O. V. Ivanova, I. A. Ikonnikova, A. D. Teresov, and V. V. Shugurov</i>	723
Technology of the Deposition of Composite Coatings Based on Ti-Al Intermetallic Compounds by Vacuum-Arc Plasma Discharge <i>E. L. Vardanyan and V. V. Budilov</i>	728
Optical properties of antimicrobial barrier layers based on polyethylene Terephthalate with a nanostructured surface <i>A. N. Lyamin, P. A. Shur, and V. M. Elinson</i>	732
Formation of Intrinsic Oxide Nanocrystals on the Surface of GaSe under Laser Irradiation <i>V. A. Novikov and S. Yu. Sarkisov</i>	738
The Effect of Silicon-Substrate Orientation on the Local Piezoelectric Characteristics of LiNbO ₃ Films <i>D. A. Kiselev, R. N. Zhukov, S. V. Ksenich, I. V. Kubasov, A. A. Temirov, N. G. Timushkin, A. S. Bykov, M. D. Malinkovich, V. V. Shvartsman, D. C. Lupascu, and Yu. N. Parkhomenko</i>	742
Observation of the Fine Structure of X-Ray Interference Patterns from Double- and Triple-Crystal Systems <i>H. R. Drmeyen</i>	748
Evolution of Properties in Composite Carbon Films under Thermal Conditions and in the Presence of a Catalyst <i>S. N. Belyaev, G. G. Kirpilenko, E. P. Kirilenko, A. V. Goryachev, E. A. Il'ichev, G. S. Rychkov, G. N. Petrukhin, E. S. Migunova, E. Yu. Shelyukhin, and D. A. Dronova</i>	753
Structural and Electrical Properties of Tracks of Heavy Ions in Polyethylene Terephthalate and Mica <i>A. I. Vilensky and K. G. Sabbatovsky</i>	758
On the Effect of Lead Concentration on the Kinetics of Contact Melting in the Sn-Pb-Bi System in the Presence of Electromigration <i>V. Z. Afashokov, A. A. Akhkubekov, S. N. Akhkubekova, M.-A. V. Zubkhadjiev, and B. M. Khubolov</i>	763

Experimental Determination of the Energy Dependence of the Electron Mean Free Path in Silicon Oxide and Silicon Nitride <i>V. I. Garmash, N. A. Djuzhev, E. P. Kirilenko, M. A. Makhboroda, and D. M. Migunov</i>	767
Ice Films and Coatings on Metal Surfaces: Existing Concepts and Unsolved Problems <i>E. P. Smirnov and P. A. Konovalov</i>	771
Doping-Induced Temperature Evolution of a Helicoidal Spin Structure in the MnGe Compound <i>E. V. Altynbaev, A. S. Sukhanov, S.-A. Siegfried, V. A. Dyadkin, E. V. Moskvin, D. Menzel, A. Heinemann, A. Schrayer, L. N. Fomicheva, A. V. Tsvyashchenko, and S. V. Grigoriev</i>	777
Correlation Effects in Multiple Small-Angle Neutron Scattering at the Surface Layers of Inhomogeneities <i>E. V. Grubova, F. S. Dzheparov, and D. V. Lvov</i>	783
Optimization of Measurements at Neutron Reflectometers <i>N. K. Pleshakov</i>	790
Kinetics of the Formation of Pores and a Change in the Properties of Materials in Numerical Models <i>G. I. Zmievskaya and A. L. Bondareva</i>	802
Analysis of the Structural and Thermodynamic Parameters of the Hydrogen Bond in Complementary Pairs of DNA and RNA Bases <i>K. V. Berezin, V. V. Nechaev, A. M. Likhter, D. D. Kochergina, M. L. Chernavina, and A. A. Bondyakova</i>	809
Lifetime of Positronium in Carcinogenic and Noncarcinogenic Chemicals <i>A. A. Pivtsaev and V. I. Razov</i>	816
Projectile Fragment Emission in the Fragmentation of Silicon on Carbon and Polyethylene Targets at 775 Å·MeV <i>Dong-Hai Zhang, Jun-Sheng Li, S. Kodaira, and N. Yasuda</i>	820
Fragmentation Cross Section of 800 Å·MeV Silicon Ions on Polyethylene Target <i>Jun-Sheng Li, D. H. Zhang, H. H. Ao, M. M. Tian, Z. Feng, Ya. Q. Sun, S. Kodaira, and N. Yasuda</i>	826
Change in the Properties of Polyimide Films Under Combined Proton and Oxygen Plasma Irradiation <i>L. S. Novikov, E. N. Voronina, V. N. Chernik, and L. A. Zhilyakov</i>	829
Orientational Dependence of the Creation and Annihilation of Electron—Positron Pairs in a Single-Crystal at High Energies <i>N. P. Kalashnikov and A. S. Olchak</i>	834
Influence of the Divergence of an Electron Beam Crossing a Single-Crystal Plate on the Spectral-Angular Characteristics of Coherent X-Ray Radiation <i>S. V. Blazhevich, T. V. Kos'kova, and A. V. Noskov</i>	838
Investigation of the Yield of X-Ray Radiation from Pyroelectric Sources with Cone-Shaped Targets <i>O. O. Ivashchuk, A. S. Kubankin, A. N. Oleinik, and A. V. Shchagin</i>	845
Effect of the Substrate Material on the Structure of Carbon Nanomaterials upon Synthesis in a Plasma Jet Reactor <i>M. B. Shavelkina, R. Kh. Amirov, N. A. Vorobyeva, and V. A. Katarzhis</i>	849
Low Energy Selective Etching of Metal Films in Oxygen-Containing High-Density Argon Plasma <i>I. I. Amirov, M. O. Izumov, and V. V. Naumov</i>	855
On the Interaction of Li—D Films with Nitrogen and Oxygen at Room Temperature <i>A. S. Popkov, S. A. Krat, Yu. M. Gasparyan, Ya. A. Vasina, and A. A. Pisarev</i>	860
Effect of Ultrathin C ₆₀ Fullerene Films on the Surface Conductivity of a Si(111) Substrate with Ordered Adsorbate Reconstructions <i>D. A. Tsukanov, M. V. Ryzhkova, E. A. Borisenko, and M. V. Ivanchenko</i>	864
Features of the Electrical Conductivity of Fe, Ni, Ti, and Pt Nanoisland Films: Hysteresis and Ion-Field Processes <i>S. V. Tomilin, V. N. Berghansky, A. S. Yanovsky, and O. A. Tomilina</i>	868
Effect of Internal Stresses on the Static Strain Characteristics of p-(Bi _{0.3} Sb _{0.7}) ₂ Te ₃ Composite Films <i>H. M. Sulaymonov and N. Kh. Yuldashev</i>	878
On the Metastable Nature of Amorphous Ice near Melting Point <i>V. M. Silonov and V. V. Chubarov</i>	883