

Contents

Vol. 5, No. 2, 2011

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.

The Okorokov Effect: Features of Current Experimental and Theoretical Studies; Prospects of Application <i>V. V. Balashov</i>	209
Temperature Effects in Ion-Electron Emission of Graphite Quasicrystal <i>V. S. Avilkina, N. N. Andrianova, A. M. Borisov, Yu. S. Virgiliev, V. S. Kulikauskas, E. S. Mashkova, and E. A. Pitirimova</i>	221
Violation of the Additivity Rule for the Ion Energy Loss in Hydrocarbons <i>Yu. A. Belkova and Ya. A. Teplova</i>	225
Optical Properties of GaAs Films Deposited via Pulsed Ion Ablation <i>A. V. Kabyshev, F. V. Konusov, and G. E. Remnev</i>	228
Optical Properties of Ion-Modified Metal Surface in the Infrared Range <i>N. V. Volkov, I. V. Oleinikov, and E. A. Anan'eva</i>	236
Modification of Thin Oxide Films on Be, Si, Al, Ti, Zr, and W under Bombardment by He ⁺ and Ar ⁺ Ion Beams with a Broad Energy Spectrum <i>N. V. Volkov</i>	240
Modification of Carbon Films by High-Power Proton–Carbon Ion Beam of Nanosecond Duration <i>V. S. Kovivchak, T. V. Panova, O. V. Krivozubov, and N. A. Davletkil'deev</i>	246
Simulation of Doping and Primary Radiation Damage to the SiC(111) Surface under Bombardment by Si _N Atomic and Cluster Ions (<i>N</i> = 1, 5, and 60) Using Classical Molecular Dynamics <i>A. V. Bakaev and E. E. Zhurkin</i>	249
Peculiarities in the Cross Sections of Electron Capture by Phosphorus Ions <i>I. S. Dmitriev and Ya. A. Teplova</i>	256
Ion-Beam Reduction of the Surface of Tantalum Higher Oxide <i>N. V. Alov and D. M. Kutsko</i>	259
Erosion of Polyimide Modified by Amorphous Silica Sol in the Stream of Oxygen Plasma <i>K. B. Vernigorov, A. Yu. Alent'ev, A. M. Muzafarov, L. S. Novikov, and V. N. Chernik</i>	263
Surface Characteristics of V–Ga Alloys after Irradiation by Ar ⁺ and N ⁺ Ions <i>L. S. Danelyan, V. V. Zatekin, S. N. Korshunov, V. S. Kulikauskas, and A. N. Mansurova</i>	269
Accumulation of Deuterium in Radiation-Damaged Tungsten <i>B. I. Khripunov, L. S. Danelyan, V. G. Vostrikov, V. V. Zatekin, V. S. Koidan, V. S. Kulikauskas, S. T. Latushkin, V. B. Petrov, E. A. Romanovsky, A. I. Ryazanov, and V. N. Unezhev</i>	272
Oscillations of the Charge in Oxide at Silicon Surface As an Origin of the Process Leading to the Long-Range Effect <i>V. L. Levshunova, G. P. Pokhil, and D. I. Tetel'baum</i>	276
Effect of the Structure of the Singly Charged Ion on the Cross Section for Electron Capture <i>N. V. Novikov</i>	279
Numerical Computer Calculation of Distribution of Similar Point Charges at the Dielectric Surface <i>L. A. Zhilyakov and A. A. Pronkin</i>	284
Dependence of the Self-Sputtering Yield upon Ion Incidence Angle <i>A. I. Tolmachev</i>	288
Influence of the Electrode Dimensions on its Surface Temperature in the Cathode Spot of Normal Glow Discharge <i>V. I. Kristya and M. I. Supelnyak</i>	291
On the Role of Interaction of Implanted Atoms with Extended Defects <i>L. K. Izraileva and E. N. Rumanov</i>	296
Features of Structural Changes due to the Formation of the Boride Crystal Structure in Steels <i>A. S. Pomel'nikova, M. N. Shipko, and M. A. Stepovich</i>	298

Modification of Structure and Mechanical Properties of High-Speed Steel P18 at Combined Plasma and Thermal Treatment <i>N. N. Cherenda, V. V. Uglov, N. V. Bibik, S. V. Gusakova, V. M. Astashinskii, A. M. Kuzmitskii, and V. A. Ukhov</i>	305
Influence of Crystal Mosaicity on the X-Radiation Characteristics Observed at a Small Angle to the Particle Velocity Direction <i>D. A. Baklanov, I. E. Vnukov, Yu. V. Zhandarmov, G. T. Duong, S. A. Laktionova, and R. A. Shatokhin</i>	310
Calculation of the X-Ray Reflectivity of <i>b</i> -Class Mosaic Crystals via the Monte Carlo Method <i>D. A. Baklanov, I. E. Vnukov, Yu. V. Zhandarmov, G. T. Duong, S. A. Laktionova, and R. A. Shatokhin</i>	317
Kossel Lines in Angular Distribution of X-Rays Excited by Protons in Pyrolytic Graphite Quasi-Crystal <i>V. P. Petukhov, A. M. Borisov, V. S. Avilkina, Yu. S. Virgil'ev, and P. N. Chernykh</i>	322
Investigation of Coherent Vavilov–Cherenkov Radiation in the Millimeter Wavelength Range Generated in PTFE and Paraffin Target <i>M. V. Shevelev, G. A. Naumenko, A. P. Potylitsyn, L. G. Sukhikh, and Yu. A. Popov</i>	326
Anomalies in Orientation Interaction of Slow Neutrons with Nuclei and the Problem of Neutron Molecule Existence <i>V. I. Vysotskii and M. V. Vysotskii</i>	330
Analytical Calculation of Atom Ejection from the Ni (111), Ni (001), and Au (001) Surfaces in Frames of a Three-Dimensional Model <i>N. Yu. Tulyakov, F. L. Levkovich-Maslyuk, and V. N. Samoilo</i>	335
Formation of Disperse Particles under High-Power Ion Beam Irradiation of Metals with a Coating <i>T. V. Panova, V. S. Kovivchak, V. I. Blinov, and K. O. Sharifulin</i>	347
Structure-Phase Transformation in Surface Layers of Hard Alloy as a Result of Action of High-Current Electron Beams <i>V. V. Uglov, N. N. Koval', A. K. Kuleshov, Yu. F. Ivanov, A. D. Teresov, and E. A. Soldatenko</i>	350
Formation of a Donor Profile in Silicon upon Simultaneous Implantation of Phosphorus and Sodium Ions <i>V. M. Korol', V. P. Astakhov, S. A. Vedenyapin, and A. V. Zastavnoi</i>	358
The Influence of Low-Intensity Beta Radiation on Crack Susceptibility under Indentation of Silicon <i>A. A. Dmitrievskii, N. Yu. Efremova, and A. V. Shuklinov</i>	362
Ratio of the Parametric X-Radiation Yields in the Bragg Direction and along the Relativistic Electron Velocity in the Bragg Geometry <i>S. V. Blazhevich and A. V. Noskov</i>	364
Direct Numerical Reconstruction of Inelastic Cross Sections from REELS and ISS Spectra <i>V. P. Afanas'ev, D. S. Efremenko, and A. V. Lubenchenko</i>	375
Frequency-Angular Characteristics of Quasicharacteristic Radiation in the Case of Plane Channeling of Relativistic Electrons in Crystals <i>N. V. Maksyuta, V. I. Vysotskii, and G. P. Golovach</i>	383
Peak Structure of Polarized Bremsstrahlung upon Scattering by Coupled Atomic Electrons <i>V. K. Grishin and D. P. Nikitin</i>	388
Radiation on a Semi-Infinite Plate and the Smith–Purcell Effect in the X-Ray Range <i>V. V. Syshchenko and N. F. Shulga</i>	392
Surface Segregation and Radiation Hardening of 16Cr12MoWSiVNbB Steel after Irradiation with Ni ⁺⁺ and He ⁺ Ions <i>G. V. Lysova, G. A. Birzhevoi, and A. M. Dvoryashin</i>	396
Composition and Corrosion Resistance of Coatings on the Basis of Nitrides of Titanium and Chromium <i>M. M. Barkovskaya, V. V. Uglov, and V. V. Khodasevich</i>	402
