

Contents

Journal of Surface Investigation: X-ray, Synchrotron and Neutron Techniques

Vol. 16, No. 4, 2022

EXAFS Study of Radiation-Induced Defects in Molybdenum and Tantalum Metals

V. A. Andrianov, K. A. Bedelbekova, A. L. Erzinkyan and A. L. Trigub **p. 441** [abstract](#)

Magnetoresistance of Co₂FeAl Films on the A-Plane of Sapphire

L. A. Fomin, I. V. Malikov and V. A. Berezin **p. 448** [abstract](#)

Effect of the Pulse Phase Shift of an External Magnetic Field Upon Coating Deposition by Electrical Explosion

G. P. Gololobov, A. N. Vlasov, M. V. Dubkov, D. V. Suvorov, E. V. Slivkin and M. S. Tishchenko **p. 453** [abstract](#)

Macrofilling of the Magnetoexciton Level in the Quantum-Hall-Effect Regime

B. D. Kaysin **p. 457** [abstract](#)

Particle Generation in the Corona-Discharge Zone

V. A. Zagaynov, V. V. Maksimenko, N. P. Kalashnikov, I. E. Agranovski, V. D. Chausov and D. K. Zagaynov **p. 462** [abstract](#)

Selective Sputtering of Eurofer Steel by Deuterium Plasma

A. V. Golubeva, B. I. Khripunov, V. Kh. Alimov, N. P. Bobyr, D. A. Terentyev and E. V. Kukueva **p. 469** [abstract](#)

Peculiarities of the Processing of Polycrystalline AlN Films on Glass-Ceramic and Si Substrates by Argon Cluster Ions

I. V. Nikolaev, N. G. Korobeishchikov, P. V. Geydt, N. A. Chirikov and V. I. Strunin **p. 480** [abstract](#)

Measurement of the Crystallinity Index of High-Purity Quartz at Various Stages of Separation and Study of Its Structure by X-Ray Diffraction and Electron Backscatter Diffraction

M. D. Zimin, A. P. Zhaboedov, S. S. Kolesnikov and A. I. Nepomnyashchikh **p. 484** [abstract](#)

Electron-Microscopy Study of the Grain Structure of a Low-Temperature GaAs Epitaxial Layer Grown on Si(100) Substrate

V. A. Sazonov, N. I. Borgardt, V. N. Kukin and I. P. Kazakov **p. 490** [abstract](#)

Spatial Distribution of Secondary Ions from Single-Crystal- and Amorphous Targets

K. A. Tolpin and V. E. Yurasova **p. 497** [abstract](#)

Ionization-Recombination Process as a Means of Indicating the Degree of Focusing of a Beam of Charged Particles or Ionizing Radiation

S. V. Blazhevich and A. V. Noskov **p. 503** [abstract](#)

$A^{II}B^{VI}$ Solid Solutions as New Semiconductor Adsorbents

I. A. Kirovskaya **p. 507** [abstract](#)

Method for the Certification of Track Membranes Using Computer Vision

N. V. Kuznetsov and S. A. Bedin **p. 514** [abstract](#)

Study of Sodium Adsorption in Melts of the Pb–Na Binary System by X-ray Photoelectron Spectroscopy and Scanning-Electron-Microscopy Methods

B. S. Karamurzov, Kh. Kh. Kalazhokov, Z. Kh. Kalazhokov, M. Kh. Ponegev, V. A. Sozaev, A. Kh. Shermetov and N. S. Reutskaya **p. 520** [abstract](#)

Increasing the Activity of the Low-Temperature Oxidation of Carbon-Oxide Molecules on the Surface of the Au/Al₂O₃/Mo(110) Metal-Oxide System via Charge Tunneling Through the Oxide Film

T. T. Magkoev **p. 526** [abstract](#)

Neutron Absorption in a Layered Structure

Yu. V. Nikitenko **p. 533** [abstract](#)

Supermirror for Antineutrons

Yu. V. Nikitenko and A. E. Sukhanov **p. 537** [abstract](#)

A Comparative Study of Surface Energy Characterization for Paragonite Mica

A. Cihan Ozdemir **p. 541** [abstract](#)

Surface Effect on Electronic, Magnetic and Optical Properties of PtMnBi Half-Heusler: A DFT Study

Hamed Rezazadeh, Mohamadreza Hantehzadeh and Arash Boochani **p. 548** [abstract](#)

Structure and Properties of Nanocomposites Based on Polyimides with Different Chemical Structures and Metalloalkoxysiloxanes

U. S. Andropova, O. A. Serenko, E. S. Afanasyev, D. A. Sapozhnikov, V. N. Chernik and L. S. Novikov **p. 562** [abstract](#)

Optimization of the Parameters of Tomographic Studies of Biodegradable Polymers

A. Y. Grigorev and A. V. Buzmakov **p. 569** [abstract](#)

Simulation of the Interaction Processes between Copper Nanoclusters and Metal Targets with Pore-Type Defects

Z. A. Sharipov, B. Batgerel, I. V. Puzynin, T. P. Puzynina, I. G. Hristov, R. D. Hristova and Z. K. Tukhliev **p. 576** [abstract](#)

Modeling of the Influence of Thermal-Field Electron Emission from the Cathode with a Thin Insulating Film on its Heating in Glow Discharge

G. G. Bondarenko, V. I. Kristya, Myo Thi Ha and M. R. Fisher **p. 581** [abstract](#)

Nucleation and Coalescence of Isotropic Droplets in a Liquid-Crystal Matrix. The Role of Surfaces

P. V. Dolganov, A. S. Zverev, N. A. Spiridenko, K. D. Baklanova and V. K. Dolganov **p. 586** [abstract](#)

Electrical Conductivity of a Thin Metal Layer Taking into Account Deviations from the Wiedemann–Franz Law

E. V. Zavitaev, O. V. Rusakov and E. P. Chukhleb **p. 592** [abstract](#)

X-Ray Phase Analysis of Tungsten-Carbide Nanoparticles Synthesized Using the Vacuum-Arc Technique

I. Kh. Khudaykulov, J. R. Ravshanov, Kh. B. Ashurov, V. N. Arustamov and D. T. Usmanov **p. 599** [abstract](#)

Energy and Transport Lengths for Describing Volume of Resist Modification in Ion-Beam Lithography

Ya. L. Shabelnikova and S. I. Zaitsev **p. 605** [abstract](#)

Statistical Model of the Discrete Multiple Scattering of Charged Particles in a Substance Layer

N. N. Mikheev **p. 611** [abstract](#)

On the Nanoroughness of Technical Surfaces: Statistical Analysis

V. V. Izmailov and M. V. Novoselova **p. 618** [abstract](#)

Measurement of the Parameters of a Segmentoid Electrostatic Analyzer of Low-Energy Charged Particles

V. P. Petukhov **p. 626** [abstract](#)

Analysis of the Wetting and Diffusion Processes Upon the Contact Alloying of Zn–Cu–Al and Mg–Al Brazing Alloys with AMg3 Alloy

I. V. Shutov, L. V. Kamaeva, E. A. Batalova, M. N. Korolev and M. D. Krivilev **p. 633** [abstract](#)

Study of Adsorbed Organic Layers in the Pore Space of Carbonate Rocks

V. A. Kuzmin and N. A. Skibitskaya **p. 640** [abstract](#)

Experimental Investigation of the Fine Structure of X-Ray Diffraction Patterns Obtained from Two-Block Crystalline Systems with a Nondiffraction Zone

H. R. Drmeyan **p. 647** [abstract](#)

Quantum-Size Effect for the Bloch Wave Functions of High-Energy Electrons in a Thin Single-Crystal Film

S. M. Shkorniyakov **p. 653** [abstract](#)

On the Channeling Phenomenon as 1D and 2D Atomic Models in the Comoving Reference Frame

N. P. Kalashnikov and A. S. Olchak **p. 659** [abstract](#)

Determination of Local Residual Stress on Post-Treated TiAlN-Coated Tungsten Carbide Tools

B. Breidenstein, N. Vogel, H. Behrens, M. Dietrich and J. M. Andersson **p. 663** [abstract](#)