

Content

| | |
|--|-----|
| <i>E.V. Karaseva</i> Characteristics of creep of fine-grained zirconium | 6 |
| <i>M.M. Zholonko</i> Diffusive modes as a defect for explanation of isochoric high-temperature thermal conductivity deviations of rare gas solids from law of 1/T | 11 |
| <i>G.I. Rashba</i> The magnetic response of a degenerate electron gas in nanotubes with superlattice | 16 |
| <i>A. L. Solovjov, L. V. Omelchenko, R. V. Vovk</i> Evolution of the excess conductivity in slightly doped $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ under high pressure | 22 |
| <i>G.A. Petchenko, A.M. Petchenko</i> Thermal activation analysis of the dislocation unpinning from stoppers in KCl crystals | 28 |
| <i>Yu.S. Doronin, V.L. Vakula, G.V. Kamarchuk, A.A. Tkachenko, V.N. Samovarov</i> Neutral and charged excimer complexes in cathodoluminescence spectra from substrate-free icosahedral and crystalline clusters of argon | 32 |
| <i>V. I. Zhaba</i> Approximation of the deuteron wave functions and parameters for potential Argonne v18 | 36 |
| <i>T.R. Zetova, E.E. Badiyan</i> Extrusion and intrusion in plastically deformed copper foils | 39 |
| <i>P. P. Trokhimchuk, H. I. Berezyuk, M. S. Penkovskiy</i> Problems of modeling the surface interference relaxed optical processes and phenomena | 43 |
| <i>N. Yu. Filonenko</i> Phase transformations in Fe-B system alloys | 49 |
| <i>I.B. Berkutov, V.V. Andrievskii, Yu.F. Komnik, Yu.A. Kolesnichenko, A.I. Berkutova, O.A. Mironov</i> The characteristic parameters of charge carriers in the p-type $\text{Si}_{0.2}\text{Ge}_{0.8}$ quantum well with two subbands occupied | 52 |
| <i>L.S. Khorolets, Y.P. Machechin</i> Photonic crystals with defects, as a storage location for cooling atoms and ions | 57 |
| <i>S.V. Lebediev, T.V. Khvan, M.A. Maslivets</i> The influence of electric current pulses on jump-like deformation of industrial alloy AMg-6 | 62 |
| <i>G.D. Tolstolutskaya, S.A. Karpov, G.Y. Rostova, B.S. Sungurov, G.N. Tolmachova</i> The effect of irradiation with inert gas and hydrogen ions on nanohardness of SS316 stainless steel | 66 |
| <i>Y.G. Limarenko, Y.P. Machehin</i> The interaction of the gravitational field and laser radiation as a basis for precision measurements | 71 |
| <i>E. V. Ezerskaya, K. V. Sokorenko</i> The energy spectrum and thermodynamics of the finite spin-1/2 XX chain with Ising-type Impurities | 75 |
| <i>A.S. Klimkin, V.A. Gudimenko, A. O. Gerus, V.V. Fisun, A.P. Pospelov, G.V. Kamarchuk</i> Study of tungsten point contacts' electric conductivity in a complex gas medium | 80 |
| <i>O. Y. Tkachenko, A. R. Kazachkov, V. A. Lykah, K. A. Minakova, E. S. Syrkin</i> Dynamics of oscillation processes in siphon U-tubes | 84 |
| <i>V.V. Starikov, S.L. Starikova</i> Investigation of diamond biocompatible coatings for medical implants | 91 |
| <i>O.V. Dudka, E.V. Sadanov</i> Formation of vacancy-helium complexes at low-energy irradiation of tungsten | 98 |
| <i>L.S. Martseniuk</i> About of the possibility of quantum interferential transitions and entanglement in vacancy and divacancy of silicon | 102 |
| <i>N.M. Borisova, Z.I. Sizova, E.V. Shurinova, K.A. Mozul'</i> Properties of barium ferrite powder, prepared using a flux additive Na_2O | 107 |
| <i>I.B. Berkutov, V.V. Andrievskii, I.G. Mirzoev, Yu. F. Komnik, N.G. Galkin, D.L. Goroshko</i> The galvanomagnetic properties of two-dimensional conducting systems formed by nanocrystallites CrSi_2 in the plane (111) of Si single crystals with a different type of conductivity | 110 |
| <i>O.A. Bibikova, M.D. Volnianskii, M.P. Trubitsyn</i> Electric conductivity of $\text{LiNaGe}_4\text{O}_9:\text{Cu}$ crystals | 117 |
| <i>T.V. Kruzina, V.M. Sidak, M.P. Trubitsyn, S.A. Popov, J. Suchanicz</i> Mechanisms of electroconductivity in $\text{Na}_{0.5}\text{Bi}_{0.5}\text{TiO}_3$ single crystals | 120 |
| <i>V. A. Bakhvalova, V. K. Chagovets, Ju. I. Kurnosova</i> Features of the formation of the vortex system and cavitation in superfluid solutions $^3\text{He} - ^4\text{He}$ | 124 |