

Contents

Characterization and properties

Dispersions of carbon nanotubes in nematic liquid crystals: effects of nanotube geometry <i>L.N.Lisetski, A.M.Chepikov, S.S.Minenko, N.I.Lebovka, M.S.Soskin</i>	143
Contrast enhancement of X-ray fluorescence spectra using the secondary two-layer radiator <i>I.F.Mikhailov, A.A.Baturin, A.I.Mikhailov, S.S.Borisova</i>	150
Structure formation processes induced by the ion sputtering in anisotropic system with additive noise <i>V.O.Kharchenko</i>	156
Thermal prehistory and electrical properties of tungstate crystals <i>V.N.Shevchuk, I.V.Kayun</i>	165
XRD studies of surface layers in sapphire substrates of $\langle 10\bar{1}2 \rangle$ crystallographic orientation <i>V.F.Tkachenko, O.A.Lukienko, A.T.Budnikov, E.A.Vovk, S.I.Krivosogov, A.Ya.Dan'ko</i>	171
Plasma treatment of $\text{Cd}_{1-x}\text{Zn}_x\text{Te}$ ($x \sim 0.04$) single crystals <i>A.B.Smirnov</i>	176
The solubility region of Ga in PbTe films prepared on Si-substrates by modified "hot wall" technique <i>A.M.Samoylov, S.V.Belenko, E.A.Dolgoplova, A.M.Khoviv, Y.V.Synorov</i>	181
Analysis of influence of hydrogen pressure on kinetics of hydrogen-induced direct phase transformation in $\text{Nd}_2\text{Fe}_{14}\text{B}$ type magnetic alloy <i>S.B.Rybalka</i>	189
Investigation of vibration anharmonicity in the crystal lattice of the mixed composition apatites <i>V.L.Karbivskyy, A.P.Shpak, N.A.Kurgan, V.V.Vishnyak, O.P.Dimitriev, V.H.Kasiyanenko</i>	195
Size distribution of sapphire fragments in shock fragmentation <i>R.Ye.Brodskii, P.V.Konevskiy, R.I.Safronov</i>	200
Study on radiation sensitivity of $\text{SrCl}_2\text{-K}$ crystals <i>Z.P.Chorny, I.B.Pirko, V.M.Salapak</i>	206
Production methods of induced pyroactive structures with functionally significant properties <i>V.F.Kosorotov, L.V.Shchedrina</i>	211
Gamma-ray-induced decrease of L -defect concentration in KDP single crystals <i>A.N.Levchenko, I.M.Pritula, V.B.Tyutyunnik, A.P.Gavrik, O.T.Nikolov</i>	216

Effect of the reaction mixture composition on CdS/L-cys nanoparticles optical properties <i>O.V.Krupko, G.M.Okrepka, L.P.Shcherbak</i>	224
---	-----

Modeling and simulation

Characteristics of surface waves in LHM-ferrite-semiconductor waveguides <i>H.M.Mousa, M.M.Abadla, M.M.Shabat</i>	230
The influence of bulk absorption of substance on the threshold of destruction by the intensive pulse of electromagnetic radiation <i>A.D.Suprun, L.V.Shmeleva, M.A.Razumova</i>	237
Localization of polymer chains in the system of two penetrable interfaces <i>I. V. Gerasimchuk</i>	244

Technology

Effect of CO_3^{2-} and OH^- impurities on thermal growing conditions of large-size NaI:Tl crystals and their quality <i>K.A.Kudin, A.V.Kolesnikov, B.G.Zaslavsky, A.M.Kudin, A.I.Mitichkin, S.I.Vasetsky, A.Yu.Voloshko, D.S.Sofronov, O.V.Shishkin</i>	254
Interaction of hydrogen with lattice defects in ZnSe(X) crystals <i>L.P.Gal'chinetskii, A.I.Lalayants, G.M.Onishchenko, S.N.Galkin, M.V.Dobrotvorskaya, R.F.Kamalieddin</i>	259
Features of synthesis of Ti-Si-N coatings by condensation of vacuum arc plasma with a composite cathode <i>I.I.Aksenov, V.A.Belous, Yu.A.Zadneprovskiy, N.S.Lomino, O.V.Sobol</i>	266

It is interesting to know

On the words used as names for ruby and sapphire <i>L.A.Lytvynov</i>	274
---	-----

Personalia

<i>Л.Н.Луцецкому – 60 лет</i>	278
-------------------------------------	-----