

Contents

Characterization and properties

The second critical magnetic field of multilayered conductors with nano-layers of superconducting Nb–Ti alloys <i>V.P.Korzhov, A.V.Nikulov, V.N.Zverev</i>	5
Paramagnet-to-ferromagnet and insulator-to-metal phase transitions in $\text{La}_{0.88}\text{MnO}_{2.95}$ <i>A.V.Lazuta, V.A.Ryzhov, V.P.Khavronin, Yu.P.Chernenkov, O.P.Smirnov, P.L.Molkanov, I.O.Troyanchuk, V.A.Khomchenko</i>	11
Calorimetric and ^{23}Na MAS NMR study of the phase diagram of $\text{NaNb}_{1-x}\text{Ta}_x\text{O}_3$ solid solutions <i>I.P.Aleksandrova, Yu.N.Ivanov, V.S.Bondarev, A.A.Sukhovskii, V.N.Voronov</i>	18
Investigation of ^{127}NQR spectra of the mixed $(\text{BiI}_3)_{(1-n)}(\text{PbI}_2)_n$ semiconducting layered crystals <i>Yu.P.Gnatenko, A.I.Barabash, I.G.Vertegel, E.D.Chesnokov, A.I.Ovcharenko, S.V.Pogrebnyak</i>	24
Properties of amorphous and crystalline surfaces of nano-hydroxyapatites <i>Yu.Sakhno, L.Bertinetti, G.Martra, S.Coluccia, A.Tampieri, N.Roveri</i>	28
Magnetic oscillations of longitudinal sound in iron borate <i>V.I.Khizhnyi, V.V.Tarakanov, T.M.Khizhnaya</i>	33
Radioluminescence mechanism of magnesium aluminate spinel transparent ceramics <i>O.K.Tyutyunik, A.O.Moskvitin, Yu.G.Kazarinov, V.T.Gritsyna</i>	41
Decrease of exciton radiation intensity in compensated gallium arsenide single crystals under influence of low electric field <i>A.D.Shtan'ko, M.B.Litvinova, V.V.Kurak</i>	46
Control of polaron formation in J-aggregates <i>I.K.Katrunov, S.L.Yefimova, A.V.Sorokin, Yu.V.Malyukin</i>	52
Thermal influence on magnetoelectric characteristics of yttrium iron garnet epitaxial films <i>V.E.Koronovskyy, B.Y.Scherbak</i>	59
Porous Al and Cu structures as infrared signal enhancers <i>G.I.Dovbeshko, O.M.Fesenko, V.R.Romanyuk, V.I.Perekrestov, Yu.O.Kosminska, S.I.Kshnyakina</i>	62
The ionoluminescence characteristics of quartz <i>O.Vasylchenko, N.Zheltopiyatova, V.Zhurenko, O.Kalantaryan, S.Kononenko, V.Muratov, V.Filipenko</i>	67
Influence of ion implantation on the phase transitions in $\text{Cu}_6\text{PS}_5\text{I}$ superionic conductors <i>I.P.Studenyak, V.Yu.Izai, V.O.Stefanovich, V.V.Pan'ko, P.Kus, A.Plececnik</i>	70

Optical properties of ZnS:Ni crystals obtained by diffusion doping <i>Yu.F.Vaksman, Yu.A.Nitsuk, V.V.Yatsun, Yu.N.Purtov,</i> <i>A.S.Nasibov, P.V.Shapkin</i>	75
Peculiarities of optical absorption band-edge in irradiated GaP:Te <i>O.Konoreva, P.Litovchenko, V.Manzhara, V.Opilat, V.Tartachnyk</i>	80
Thin film Si:Eu and Si:Y composites <i>V.M.Koval, Yu.S.Chechuga</i>	85
Properties of functional DNA:PEDOT layers <i>V.Kazukauskas, A.Arlauskas, M.Pranaitis, O.Krupka, F.Kajzar,</i> <i>Z.Essaidi, B. Sahraoui</i>	90

Modeling and simulation

On the binary melt crystallization in temperature field advancing with acceleration <i>V.N.Kanishev</i>	95
Light collection simulation in the scintillation detectors of short-range radiation <i>V.A.Tarasov, I.V.Kilimchuk, Yu.T.Vyday</i>	100

Technology

Synthesis of Y_2O_3 and $Y_2O_3:Nd^{3+}$ monodisperse crystalline nanospheres by homogenous precipitation <i>Yu.I.Pazura, V.N.Baumer, T.G.Deyneka, O.M.Vovk, R.P.Yavetskiy</i>	107
Development of back contact for CdS/CdTe thin-film solar cells <i>G.Khrypunov, A.Meriuts, N.Klyui, T.Shelest, N.Deyneko, N.Kovtun</i>	114
Synthesis and properties of substituted ferrite-garnet films for one-dimensional magnetophotonic crystals <i>V.N.Berzhansky, A.V.Karavainikov, E.T.Milyukova, T.V.Mikhailova,</i> <i>A.R.Prokopov, A.N.Shaposhnikov</i>	120
X-Ray fluorescence determination of impurity traces using a secondary emitter and a solid-state detector <i>I.F.Mikhailov, A.A.Baturin, L.P.Fomina</i>	127
Preparation of nanoporous n -InP(100) layers by electrochemical etching in HCl solution <i>J.A.Suchikova, V.V.Kidalov, G.A.Sukach</i>	131
Novel highly emissive metal-template assembled tetracyanotetraphenylporphyrine yt- terbium complex for potential photonic and optoelectronic applications <i>L.G.Klapshina, W.E.Douglas, I.S.Grigoryev, V.V.Semenov, B.A.Bushuk, S.B.Bushuk</i> ...	135
<i>Профессору В.Д.Рыжикову – 70 лет</i>	143
<i>А.В.Гектину – 60 лет</i>	144