Contents

Characterization and properties

Excited state structural analysis for correlated many-electron systems
A.V. Luzanov *125*

Low temperature characteristics of germanium whiskers
A.A.Druzhinin, I.P.Ostrovskii, Yu.N.Khoverko, N.S.Liakh-Kaguy, A.M.Vuytsyk *130*

Scattering of electrons in oxygen underdoped $YBa_2Cu_3O_{7-x}$ single crystals
G.Ya.Khadzhai, R.V.Vovk, N.R.Vovk *137*

The investigation of luminescence properties of nitride-based heterostructures, containing superlattice
E.A.Menkovich, A.V.Solomonov, S.A.Tarasov, P.A.Yurgin *142*

Printed luminescent coverings based on nanosized ZnO for active and intelligent packaging
O.O.Sarapulova, V.P.Sherstiuk *146*

Role of shallow electronic traps formed by oxygen vacancies in formation of luminescent properties of CeO_{2-x} nanocrystals
P.O.Maksimchuk, V.V.Seminko, I.I.Bespalova, A.A.Masalov *152*

Features of energy transport in $EuMgB_5O_{10}$ and EuP_3O_9 quasi-one-dimensional lattices
N.V.Kononets, V.V.Seminko, P.O.Maksimchuk, I.I.Bespalova, A.A.Masalov, Yu.V. Malyukin *158*

The structure, phase and chemical composition of CZTSe thin films
A.S.Opanasyuk, P.V.Koval, D.Nam, H.Cheong, A.R.Jeong, W.Jo, A.G.Ponomarev *164*

Investigation of damaged layer formed at mechanical treatment of sapphire using three-crystal X-ray diffraction method
V.F.Tkachenko, S.I.Kryvonogov, A.T.Budnikov, O.A.Lukienko, E.A.Vovk *171*

^{11}B and ^{7}Li MAS NMR of glassy and crystalline borate compounds
N.A.Sergeev, B.V.Padlyak, M.Olszewski, P.Stepien *176*

NMR study of gallosilicate natrolite
A.A.Sapiga, M.Olszewski, M.Paczwa, A.V.Sapiga, N.A.Sergeev *181*

The investigation of the luminescence properties of colloidal quantum dots based on cadmium chalcogenides
I.I.Mikhailov, S.A.Tarasov, A.V.Solomonov, L.B.Matyushkin, D.S.Mazing *186*

Multi-walled vs. single-walled carbon nanotube dispersions in nematic liquid crystals: comparative studies of optical transmission and dielectric properties
A.N.Samoilov, S.S.Minenko, A.P.Fedoryako, L.N.Lisetski, N.I.Lebovka, M.S.Soskin *190*

Influence of electron-donor additive on properties of plastic scintillator
P.N.Zhmurin, V.D.Titskaya, A.I.Bedrik, D.A.Elyseev, E.A.Soldysheva, V.N.Lebedev, V.N.Pereymak, A.F.Adadurov *195*

Sorption of surfactants on silica gel in conditions of ascending thin-layer chromatography with micellar mobile phases
L.P.Loginova, D.V.Yedamenko *200*

Modeling and simulation

Theory of magnetization dynamics in a dual-free-layer spin-torque nano-oscillator with isotropic free layers
O.V.Prokopenko, V.S.Tiberkevich, A.N. Slavin *206*

Polariton dispersion dependence on concentration of admixture in imperfect superlattice of coupled microresonators
A.P.Alodjants, V.V.Rumyantsev, S.A.Fedorov, M.V.Proskurenko *211*

On phase trajectory of dynamic system "directionally crystallized binary melt"
V.M.Kanishchev, V.P.Semynozhenko *217*

Technology

Synthesis of colloidal nanoparticles CdS:Mn in the polymer solution for biological applications
V.I.Fediv, G.Yu.Rudko, A.I.Savchuk, E.G.Gule, I.S.Davydenko *220*

Structural behaviour of continuous solid solution $SmCo_{1-x}Fe_xO_3$
O.V.Kharko, L.O.Vasylechko, S.B.Ubizskii, A.Pashuk, Yu.Prots *226*

Structure and magnetic properties of Ni–N nanofilms
R.V.Shalayev, A.M.Prudnikov, S.V.Kutrovskaya, V.N.Varyukhin, A.I.Linnik, S.M.Arakelian *233*