Contents

Characterization and properties

Engineering of mixed $Bi_4(Ge_xSi_{1-x})_3O_{12}$ scintillation crystals
E.Galenin, M.Biatov, I.Gerasymov, B.Grinyov, O.Sidletskiy, V.Baranov, J.Budagov, Yu.Davydov, V.Glagolev *423*

Obtaining and scintillation properties of crystals based on Eu^{2+} doped $Ba(Br_{0.9}Cl_{0.1})_2$ solid solution
V.L.Cherginets, Yu.N.Datsko, A.Yu.Grippa, T.V.Ponomarenko, N.V.Rebrova, T.P.Rebrova, T.E.Gorbacheva, A.V.Lopin, O.G.Trubaeva, V.Yu.Pedash *429*

Luminescent properties of LaI_3–Ce microcrystals embedded in NaI host
A.S.Pushak, V.V.Vistovskyy, T.M.Demkiv, Yu.R.Datsyuk, I.M.Kravchuk, L.T.Karplyuk, A.V.Gektin, A.S.Voloshinovskii *434*

Origin of intrinsic luminescence in oxide crystals containing Bi cations and XO_4 (X = P, Mo, W) molecular anionic groups
Yu.A.Hizhnyi *440*

Characteristics of lasers based on binary vanadate and orthoborate single crystals with disordered structure
M.B.Kosmyna, B.P.Nazarenko, I.O.Radchenko, A.N.Shekhovtsov *446*

Fluorescence properties of dyes for 570–800 nm lasing region in sol-gel silica
O.N.Bezkrovnaya, V.V.Maslov, I.M.Pritula, V.M.Puzikov, A.G.Plaksiy, Yu.A.Gurkalenko, A.V.Lopin, N.V.Pereverzev *450*

Spin-dependent transport in compacted powders of chromic dioxide CrO_2 with anisotropy of nanoparticle shapes
N.V.Dalakova *455*

Charge state of the activator in Ti:sapphire crystals grown by HDC method
N.S.Sidelnikova, S.V.Nizhankovskyi, V.V.Baranov *461*

Low-temperature anomalies of the hardened tin conductivity
V.N.Voyevodin, V.I.Sokolenko, V.A.Frolov *470*

Formation characteristics of Fe_3O_4 magnetic particles precipitated from aqueous solutions and their sorption properties
A.M.Odnovolova, D.S.Sofronov, A.N.Puzan, V.N.Baumer, P.V.Mateychenko, S.M.Desenko, O.M.Vovk, K.A.Mozul', E.Yu.Bryleva *475*

Activity of domain walls of epitaxial ferrite-garnet films caused by external electric fields
V.E.Koronovskyy, Y.A.Vakyla *482*

Effect of substrate temperature on structural and substructural properties of MgO thin films
O.V.Diachenko, A.S.Opanasuyk, D.I.Kurbatov, V.M.Kuznetsov, H.Cheong *487*

The mechanical strength advance of radiation-hard plastic scintillators with diffusion enhancers
E.S.Velmozhnaya, Yu.A.Gurkalenko, D.A.Eliseev, P.N.Zhmurin, V.N.Lebedev, V.N.Pereymak *494*

Influence of mechanical activation of polytetrafluoroethylene matrix of tribotechnical composites on its structural and phase transformations and properties
O.A.Budnik, A.F.Budnik, K.V.Berladir, P.V.Rudenko, V.A.Sviderskiy *499*

State of water and thermal properties of zinc and cobalt (II) phosphate solid solution
N.M.Antraptseva, N.V.Solod *507*

Modeling and simulation

Simplified computations of spin excitations in high-spin carbon nanoclusters and related systems
A.V.Luzanov *514*

Features of generalized dynamics of quasiparticles in the presence of an external potential field. Part 1. General analysis of the problem
L.V. Shmeleva, A.D. Suprun *524*

Technology

Effect of different particle size reduction techniques on the nefopam and aciclovir dispersity
N.A.Pinchukova, N.A.Lyapunov, E.P.Bezuglaya, A.Yu.Voloshko, A.N.Lyapunov, M.A.Merko, V.A.Chebanov *535*

Synthesis and investigation of information media based on halogen-containing oligomers
E.V.Mokrinskaya, S.L.Studzinsky, N.G.Chuprina *543*

Directed phase formation of functional glass-crystalline coatings for ceramics in TiO_2–Al_2O_3–SiO_2 system
G.V.Lisachuk, L.O.Bilostotska, Yu.D.Trusova, K.P.Vernygora, K.V.Podchasova, R.V.Krivobok *547*

Devices and instruments

Detectors and instruments for detection of X-ray radiation on the basis of zinc selenide crystals
V.D.Ryzhikov, V.G.Volkov, O.D.Opolonin, S.V.Makhota, V.V.Maksymchuk *552*

Author Index, Vol. 22, 1–4, 2015 ..... *559*