ISSN 1027-5495. Functional Materials, 23, No.1 (2016), p. 3-4.
doi:http://dx.doi.org/10.15407/fm23.01 © 2016 — STC "Institute for Single Crystals"

Contents

Characterization and properties

Perspectives of development of X-ray analysis for material composition
I.F.Mikhailov, A.A.Baturin, A.I.Mikhailov, L.P.Fomina *5*

Isomorphic modification of calcium hydroxyapatite by strontium
V.L.Karbivskyy, N.A.Kurgan *15*

Conductivity of YBCO ceramics in a wide range of temperatures and hafnium impurities concentrations
S.V.Savich, A.V.Samoilov, A.L.Samsonik, V.N.Sukhov, K.V.Tiutierieva, A.I.Rusalovich, R.V.Vovk, A.B.Boynik, A.Chroneos *21*

Microhardness, laser damage threshold and SHG efficiency studies of potassium dihydrogen phosphate crystals doped with L-arginine amino acid
E.I.Kostenyukova, O.N.Bezkrovnaya, M.I.Kolybaeva, E.F.Dolzhenkova, N.O.Kovalenko, A.Kanaev, I.M.Pritula *27*

Structural and microstructural properties of $Cd_{1-x}Zn_xTe$ films deposited by close spaced vacuum sublimation
Y.V.Znamenshchykov, V.V.Kosyak, A.S.Opanasyuk, M.M.Kolesnyk, V.V.Grinenko, P.M.Fochuk *32*

Radiation-hard plastic scintillators with 3-hydroxyflavone derivatives
Yu.A.Gurkalenko, P.N.Zhmurin, V.N.Lebedev, V.N.Pereymak, O.V.Svidlo *40*

Diflavonols as single emitters for polymer-based WOLEDs
V.V.Kosach, V.G.Pivovarenko, V.M.Yashchuk *45*

Fractal dimension of the breast cancer cells resistant and sensitive to doxorubicin activity
O.Medviediev, O.Yu.Gorobets, V.F.Chekhun, S.V.Gorobets, I.V.Demyanenko, K.O.Butenko *49*

Crystalline and thermal properties in miscible blends of PEEK, PPS and PEI obtained by melt compounding
Chen Jian-bing, Guo Wen-he, Li Zhun-zhun, Tian Li-ming *55*

Modeling and simulation

Excited state structural analysis (ESSA) for correlated states of spin-flip type: application to electronic excitations in nanodiamonds with defects
A.V.Luzanov, O.A.Zhikol *63*

Thermodynamic analysis of solid phase reactions in $SrO–Al_2O_3–SiO_2$ system
G.V.Lisachuk, R.V.Kryvobok, A.V.Zakharov, E.Y.Fedorenko, M.S.Prytkina *71*

One-dimensional stochastic model of radiative heat transfer in dielectric medium
Yu.P. Virchenko, Lam Tan Phat *75*

Thermodynamic functions of quantum electron gas in strongly anisotropic materials
C.C.Tovstyuk *83*

Technology

Manufacture of sapphire ribbons with low dislocation density
R.I.Safronov, L.A.Litvinov, A.V.Voloshin, V.F.Bochkov 88

Sol-gel synthesis of NZP phosphates
V.A.Shkuropatenko 92

Characteristics of cadmium ion sorption from aqueous solutions on copper(II) sulfide at different temperatures and pH
A.V.Bulgakova, D.S.Sofronov, E.Yu.Bryleva, V.A.Chebanov 98

Polishing substrates of single crystal silicon carbide and sapphire for optoelectronics
O.Yu.Filatov, V.I.Sidorko, S.V.Kovalev, Y.D.Filatov, A.G.Vetrov 104

Merrifield resin modified with thiacalixarene-tetraphosphonates: synthesis, characterization and europium sorption
M.S.Lukashova, K.N.Belikov, K.Yu.Bryleva, S.G.Kharchenko, S.G.Vishnevsky, V.I.Kalchenko 111

Accelerated wet aging study of flax-reinforced UPR composites
Wang Qiuhong, Ji Yingchao, Wang Ying, Li Hong 120

Devices and instruments

Photoinduced diffraction grating in AgCl–Ag film on surface of silicone gel composition SYLGARD-184
L.A.Ageev, N.Z.Galunov, V.M.Rieznikova, E.D.Makovetsky, N.L.Karavaeva, A.V.Krech 127

Experimental and theoretical analysis of fatigue properties of liner for the large pressure equipment
Feng Xianzhang, Cheng Junwei, Cui Yanmei, Jiang Zhiqiang 132

Inflection moment calculation and resilience analysis of roller straightening
Jin Herong, Lu Xiuchun 138

Influence of repair cost on different front energy absorbing structure to automobile low-speed impact
Liu Yanjie, Ding Lin, Hu Kun, Wang Dan 146

Personalia

Prof. B.V.Grinyov – 60 years 150