SSC2010, Book of Abstracts, Content

Fundamentals: Structure, Electronic and Magnetic Properties. Lectures

Magnetic properties of new nitrides and oxides, Battle, Peter D. 14

Powder diffraction for solid state chemistry: From high resolution data and complex structures to low quality data and local structures, Černý, Radovan 15

Controlling the structures and properties of layered chalcogenides and pnictides, Clarke, Simon J. 16

Studies of the double perovskites, A_2FeMoO_6 and $A_{2-x}A'_xMnRuO_6$: a closer look at the contrasting role of chemical order, Woodward, Patrick M. 16

Rare earth-based layered oxyfluorosulphides and oxypnictides: From pigments properties to superconductivity phenomena. Demourgues, Alain and Ogier, Tiphaine 17

Structure-property relations in new layered $Ba_{3-x}Sr_xLaNb_{3-y}TayO_{12}$ perovskites, Gillie, Lisa J.; Adams, Ruth M.; Mould, Andrew G.; Reeves-McLaren, Nik; Sinclair, Derek C. 18

Anisotropic antiferromagnetism and superconductivity in quasi-two-dimensional materials without geometrical magnetic frustration, Kitomi, Tsutsumi 19

Electronic structure of rare earth ions in the $Sr_2MgSi_2O_7$ persistent luminescence host material, Laamanen, Taneli; Hölsä, Jorma; Lastusaari, Mika; Novák, Pavel 20

Non-collinear spin structure of $BaCoTiFe_{10}O_{19}$ by resonant X-ray magnetic scattering, Okube, Maki and Sasaki, Satoshi 21

In situ low-temperature infrared spectroscopic study on Kohn anomaly of one-dimensional metallic exotic-nanocarbon, Onoe, Jun; Takashima, Akito; Toda, Yasunori 22

Homochiral, helical supramolecular coordination polymers organized by strong, noncovalent π-π stacking interactions: single crystal to single crystal transformations, Reger, Daniel L.; Horger, Jacob and Smith, Mark 23

Comparison of O-N substitution processes in TiO_2, ZnO and Nb_2O_5 with organic crystalline solids under mechanical stressing, Senna, Mamoru; Bauer, Benjamin; Shi, Jianmin; Sepelak, Vladimir; Becker, Klaus Dieter 24

Flexibility of structure and variability of properties of nanostructured spinels, Šepelák, Vladimír; Myndyk, M.; Šubrt, J.; Feldhoff, A.; Heitjans, P.; Becker, K.D. 25

Heterobimetallic barium-cobalt aminopolycarboxylate complexes, as single-source molecular precursors for $BaCoO_{3-\delta}$ oxide materials, Tancret, Nathalie; Bulimestru, Ion; Rolle, Aurélie; Cornei, Nicoleta; Mentré, Olivier 26

Fundamentals: Structure, Electronic and Magnetic Properties. Posters

Structural and magnetic characterization of $A_3Cr_2ReO_9$ (A= Sr, Ba) double perovskites, Pannunzio-Miner, E.V.; De Paoli, J.M.; Sánchez, R.D.; Alonso, J.A.; Fernández-Díaz, M.T.; and Carbonio, R.E. 27

Fe^{3+} to Fe^{2+} partial reduction in the monoclinic double perovskite $Ba_{2-x}La_xFeSbO_6$, Blanco, M. Cecilia; Guimpel, J.J.; Paesano, A. Jr. and Carbonio, R.E. 28

Magnetic surface effects in ferromagnetic $La_3Ni_2SbO_9$, Franco, D.; Carbonio, R.; Nieva, G. 29

Variations of electronic properties on composition and crystal structure for V-W-Mo-O system, Chung, Jaehoon; Kim, Hyun-Jun and Kim, Seung-Joo 30

Synthesis, characterization and physical properties of two new quaternary selenides: $Ba_3SnBi_2Se_8$ and $Ba_3SnSb_2Se_8$, Chung, Ming-Yen; Lee, Chi-Shen 31

Magnetic properties of $Gd_{1-x}Sc_xNi_2$ (x=0.1, 0.2) solid solutions, J. Ćwik; T. Palewski; K. Nenkov; J. Klamut 32

Aggregated structures and spin crossover properties of *fac*- and *mer*-(Tris(2-methylimidazole-4-yl)methylideneaminobenzyl)iron(II) chloride hexafluorophosphate, Furusho, Daisuke, Nishi Koshiro, Hashibe Tomotaka, and Matsumoto Naohide 33

Effect of chirality on assembly structure and spin crossover property of iron(II) complexes $[Fe(HL^{R\ or\ RS})_3]Cl{\cdot}PF_6$, Hashibe, Tomotaka; Nishi, Koshiro, Fujinami, Takeshi; Furusho, Daisuke; and Matsumoto, Naohide 34

Thermal study of the structures and phase transitions of new possibly functional materials: $A'A''_2CuTi_2O_9$ (A'=Ca,Ba) and (A''=Pr,Nd) triple perovskites, Iturbe-Zabalo, Edurne; Igartua, Josu M.; Cuello, Gabriel J.; Aatiq, Abderrahim 35
Microstructural and magnetic properties of $Li_{0.5}Fe_{2.5}O_4$ fine particles prepared by citrate gel decomposition, Jović, N; Antić, B; Božin, E; Cvjetičanin, N; Spasojević, V 36
The removal of oxide impurities on ZrB_2 surface using diluted HF solution, Jung, Jin-Young; Oh, Hyeon-Cheol; Jung, Se-Hyuk; Lee, Sea-Hoon; Kim, Hai-Doo; Choi, Sung-Churl 37
Correlation of Crystal Structure and Energy Band Gap of Complex Oxyfluorides, $AA'Nb_2O_6F$ (*A* = Li, Na, K, Rb, Cs, *A'* = Ca, Sr, Pb), Kim, Sung-Chul; Yoo, Chung-Yul; Lee, Mi-Sun and Kim, Seung-Joo 38
Complex temperature dependence of resistivity in $LaCo_{1-y}Cu_yO_3$ (y~0.33), Knížek, K.; Jirák, Z.; Hejtmánek, J.; Veverka, M.; Němec, H.; Buršík, J.; Kirakci, K. 39
Polynuclear lanthanide complexes with cavitand cucurbit[6]uril: From molecular compounds to coordination polymers, Kovalenko, Ekaterina A.; Fedin, Vladimir P. 40
Electrical and dielectric properties of ytterbia stabilized zirconia crystals, Kundracik, František; Hartmanová, Mária; Jergel, Matej; Holgado, Juan P.; Lomonova, Elena E. 41
Structural reinvestigation of alkali hexatitanate, Kunimitsu, Kataoka; Norihito, Kijima; Hiroshi, Hayakawa; Junji, Akimoto 42
GaP and WO_3 nanoflowers produced through Close-Spaced Vapour Transport, Lima, Enrique; Felipe, Carlos; Chávez, Fernando; Guzmán, Ariel 43
Effects of hydrogen doping on the electric properties of TiO_2 thin films, Wu, Hsuan-Chung; Lin, Huey-Jiuan; Wang, Moo-Chin and lin, Yuan-Yu 44
Structure and thermal properties of WO_3-doped calcium aluminosilicate glasses, Lin, Huey-Jiuan; Wu, Hsuan-Chung; Wang, Moo-Chin and Huang, Jiun-Hau 45
Quantum critical magnetism of Fe_3Mo_3N and related compounds, Nakamura, Hiroyuki; Waki, Takeshi; Terazawa, Shinsuke; Tabata, Yoshikazu 46
Influence of the dissimilar crystalline environments on the electronic features of two crystallographically independent molecules. The results of the charge density analysis, Novaković, Sladjana B.; Francuski, Bojana M.; Bogdanović, Goran A. 47
Structure and superconductivity of cuprates containing Gd^{3+} ion $Y_{1-x}Gd_xBa_2Cu_3O_7$, $Ce_{0.15}Nd_{1.85-x}Gd_xCuO_{4-y}$, and $Bi_2Sr_{1.5}Nd_{0.5-x}Gd_xCuO_{6+y}$, Oh-ishi, Katsuyoshi; Takeda, Atsushi; Hirakawa, Daijyu; Akiyama, Keijyu; Kubota, Daichi and Tanaka, Tetsurou 48
Crystallization kinetics of a two-dimensional system: A molecular dynamics study, Rino, José Pedro; Gonçalves, Luis Gustavo V. 49
Self-assembly of copper(II) complex of chiral imidazole containing ligand, Tomohiro, Oishi; Tomotaka, Hashibe; Matsumoto, Naohide 50
Effect of synthesis conditions on the crystal structure and the magnetic properties of $BiFeO_3$ nanopowders, Rashad, M. Mohamed 51
"Negative chemical" pressure as useful method for phase transition investigations in solids, Seyidov, MirHasan Yu. and Suleymanov, Rauf A. 52
Evidence for an extra-channel ionic conductivity in apatite-type lanthanum silicate: A first-principle study, Siberchicot, Bruno 53
Structural building principles of complex cubic intermetallics, Steurer, Walter; Dshemuchadse, Julia; Jung, Daniel Y. 54
Preparation, electrical and optical studies of Cu_6PS_5I-Cu_6AsS_5I superionic solid solutions, Studenyak I., Kayla M., Izai V., Minets Yu., Orliukas A. Kezionis A, Kazakevicius E., Salkus T. 55
May external perturbation substantially affect negative thermal expansion coefficient of crystals?, Seyidov, MirHasan Yu. and Suleymanov, Rauf A. 56

Inorganic Materials. Lectures

Tuning of the band-gap of $LaSi_3N_5$ ternary nitrides via Eu-doping: Experimental and DFT study, **Lenčéš, Z.**; Benco, Ľ.; Šajgalík, P.; Zhou, Y.; Hirao, K.; Velič, D. 57
Challenges facing inorganic materials for energy storage, Whittingham, M. Stanley 58
Single-crystal synthesis, structure and property of Li-ion conducting oxides having garnet-related type structure, Awaka, J.; Takashima A.; Hayakawa, H.; Kijima, N.; Idemoto, Y.; Akimoto, J. 59
Solid state properties and anticancer activity of arsenic sulphide As_4S_4 particles prepared by nanomilling, Baláž, Peter; Fabián, Martin, Bujňáková, Zdenka; Sedlák, Ján; Pastorek, Michal; Cholujová, Danka; Kartachova, Olga; Stalder, Bernhardt 60
Oriented $SrFe_{12}O_{19}$ thin films by chemical solution deposition, Buršík, Josef; Bezdička, Petr; Drbohlav, Ivo; Knížek, Karel; Kužel, Radomír 61
Phase equilibria and crystal structure of the complex oxides in the Ln – Ba – Co – O (Ln = Nd, Sm) systems, Cherepanov, Vladimir; Gavrilova, Ludmila; Aksenova, Tatyana 62

Plasma sprayed (APS) coatings of nanometric Al_2O_3-13%TiO_2 for photocatalytic application, Ctibor, P.; Štengl, V.; Ageorges, H. 63

Towards the design of new bismuth oxo-phosphates, Endara, Diana; Huvé, Marielle; Colmont, Marie; Mentré, Olivier 64

Surface functionalisation of ordered and non-ordered mesoporous silica with 1,4-diazoniabicycle[2.2.2]octane derivative: A comparative study of $CuCl_2$ adsorption on the matrix surface from ethanol solution, Gushikem, Yoshitaka; Maroneze, Camila M.; Magosso, Hérica A. 65

Mesoporous silica composite catalysts doped with different metal oxides by sol-gel process, Hojo, Junichi; Yamashita, Shougo; Inada, Miki; Enomoto, Naoya 66

Perovskites blocks assembly in the cobalt oxy-halides: effects of intra- or inter-blocks chemical substitutions, Iorgulescu, Mihaela; Roussel, Pascal; Tancret, Nathalie; Mentre, Olivier 67

Preparation and properties of LDH-related mixed oxides deposited on Al_2O_3/Al support, Kovanda, František; Jirátová, Květa 68

Synthesis of functional materials in molten salts, Kuznetsov, S.A. 69

Development of a new biopolymer based on a cellulose acetate/Al_2O_3 hybrid support modified with DABCO: synthesis, characterization and application as metal adsorbent, Magosso, Hérica A.; Gushikem, Yoshitaka 70

Up-conversion properties through site selective doping of hexagonal $KLaF_4$, Nagarajan, Rajamani; Neetu Tyagi; Shahzad Ahmad 71

Search for new multicopmponent sulphide phosphors exploiting solution based synthesis methods, Petrykin, Valery; Ohara, Keishiro; Tezuka, Satoko; Kakihana, Masato 72

Magnetic and catalytic properties of copper ferrite nanopowders synthesized from secondary resources, Rashad, M.M.; Mohamed, R.M.; Ibrahim, M.A.; Kamal, F.H.; Ismail, L.F.M.; Abdel-Aal, E.A. 73

Crystal-Chemistry: a basic research tool to define and prepare new classes of active materials for Li-batteries, Rozier, Patrick and Dollé, Mickael 74

Thermodynamic behaviour of misfit layer cobaltites, Sedmidubský, David; Jankovský, Ondřej; Jakeš, Vít; Leitner, Jindřich; Sofer, Zdeněk 75

Ordered mesoporous carbons: Novel solid state materials for electrocatalytic applications, Selvam, Parasuraman; Kuppan, Ballaiah; Viswanathan, Balasubramanian 76

Production and application of advanced W-based nanopowders, Tolochko, Oleg; Blinov, Lev N.; Vasilyeva, Ekaterina; Klimova, Olga; Kim B.-K. 77

Wet method synthesis of nanocomposites and mesoporous structures, Trusova, E.A. 78

Inorganic Materials. Posters

Influence of doping on oxygen permeability in $La_xBa_{1-x}Co_{1-y}M_yO_{3\pm\delta}$, (M=Fe,Mn) perovskites, Pandis, P.; Sakkas, P.; Sourkouni, G.; Argirusis, Ch.; Ftikos, Ch. 79

Structural and morphological study of mechanochemically synthesized tin diselenide, Achimovičová, Marcela; da Silva, Klebson Lucenildo; Myndyk, Maksym 80

Synthesis of Er^{3+} doped Sb_2Se_3 nanorods by hydrothermal method and their optical properties, Alemi, Abdolali and Firouzsalari, Younes Hanifehpour 81

Synthesis and characterization of Indium– borate glass-ceramics containing $Ho_{0.01}Ce_{0.74}Zr_{0.25}O_{1.995}$ nanorods via incorporation method, Alemi, Abdolali; Khandar, Ali Akbar; Salem, Amin; Kafi – Ahmadi, Leila 82

Synthesis and characterization of Lu^{3+} doped Sb_2S_3 micro crystals via hydrothermal route and their optical properties, Alemi, Abdolali and Firouzsalari, Younes Hanifehpour 83

Preparation and characterization of Sb_6O_{13} nanocrystals by hydrothermal method, Alemi, Abdolali and Aghdam, Elham Ghavidel 84

Influence of monovalent modifier in the composition of glass on ion exchange process and "burying" of planar optical waveguide layer, Altšmíd, J., Nekvindova, P., Míka, M. and Spirkova, J. 85

Preparation of perovskite oxide based proton conducting materials and membranes, Argirusis, Christos; Stathopoulos, Vassilis; Sourkouni, Georgia 86

Synthesis of titano-silicate-type zeolite and Ni deposition into pore, Muramatsu, Atsushi; Yoji, Sunagawa; Katsutoshi, Yamamoto; Kayo, Tokairin 87
Nanoparticles as pinning centres for bismuth superconductors, Bartůněk, Vilém; Smrčková, Olga 88
Synthesis and characterization of iron(III)phosphate, Baykan, Demet; Öztaş Altuntaş, Nurşen 89
$In_{5.5+x}Sb_{1.5-3x}W_{2x}O_{12}$ solid solution: structural characterization and physical properties, Bizo, Liliana; Choisnet, Jacques 90
New silica containing hydroxyapatite coatings by flame spraying deposition, Barabás, Réka; Bogya, Erzsébet; Bizo, Liliana; Dejeu, Valentina; 91
Phases forming in the solid state in the system $FeVO_4$ – $Cu_3V_2O_8$, Blonska-Tabero, Anna and Ptaszkiewicz, Marta 92
The temperature of precipitation of the MCM-41 silicas, Borówka, Anna 93
Obtaining of indium(III) phosphates(V) in the solid state and their thermal stability, Bosacka, Monika 94
Preparation of thin optical active layers by localised Er^{3+} doping into lithium niobate single crystal, Cajzl, J.; Nekvindova, P.; Svecova, B.; Mackova, A.; Malinsky, P.; Oswald, J.; Kolitsch, A. and Spirkova, J. 95
Effect of stacking fault on the thermoelectrical properties of $Mo_{1-x}Ta_xSe_2$, Choi, Sun-Eui; Chung, Jaehoon; Kim, Jong-Young; Park, Cheol-Hee; Kim, Tae-Hoon; Kim, Seung-Joo 96
Structure and phase composition of V-Al-N alloy, Chumarev, V.M.; Selmenskikh, N.I., Larionov, A.V. 97
Phase diagram and electrical conductivity of $DyCl_3$-AgCl binary system, Chojnacka, Ida and Gaune-Escard, Marcelle 98
Study of the mechanism of Cu-Zn mechanical alloying. A new "mechanochemical equilibrium" phase diagram, Criado, J.M.; Diánez, M.J. and Donoso, E. 99
Synthesis and basic properties of new solid solutions in the $FeVSbO_6$ –$CrVSbO_6$ system, Dąbrowska, Grazyna; Filipek, Elzbieta; Gorska, Anna 100
Stabilization of a distorted tetragonal $ANbO_4$ and preparation of pyrochlore-type A_3NbO_7 compounds (A = Y, Ln) from molecular precursors, Deligne, Nicolas; Devillers, Michel 101
Soft synthesis and crystallographic characterization of magnesium based double alkaline earth carbonates, Diánez M.J., Criado, J.M., Pérez-Maqueda L.A and Perejón A. 102
Synthesis and photoelectronic properties of layered titanate nanostructures, Diwald, Oliver; Riss, Alexander; Elser, Michael and Bernardi, Johannes 103
Hydrothermal synthesis of iron oxide particles with controllable shape and size, Dong, Q., Kumada, N.; Takei, T.; Yonesaki, Y. and Kinomura, N. 104
Kinetics of mechanochemical synthesis of Sb_2S_3 and Bi_2S_3 nanoparticles, Dutková, Erika; Takacs, Laszlo; Baláž, Peter; Kováč, Jaroslav, Šatka, Alexander 105
Mechanochemical synthesis of $BaTiO_3$, Fabián, M.; K.L. da Silva, F.; Briančin J. 106
Growth and characterization of coiled carbon nanotubes, Fejes, Dora; Hernadi, Klara 107
Hydrogen production from steam reforming of bio-alcohols on the molybdenum-antimony oxides catalysts, Filipek, Elzbieta; Rakoczy, Jan; Wieczorek-Ciurowa, Krystyna; Niziol, Joanna 108
Phase relations in the solid state in the V_2O_5-Nb_2O_5-Sb_2O_4 ternary system, Filipek, Elzbieta; Piz, Mateusz; Dziubek, Karolina 109
Nanosized iron-containing oxide ceramics prepared by sol-gel method, Gatelyte, Aurelija; Jasaitis, Darius; Beganskiene, Aldona; Kareiva, Aivaras 110
Metallic cements obtained by interaction of mechanocomposite Cu/Bi with liquid gallium, Grigoreva T. F.; Kovaliova, S.A.; Becker, K.D.; Šepelák, V.; Barinova, A.P.; Lyakhov, N.Z. 111
Solid-phase oxidation of sulphide-metal alloys of copper and nickel, Gulyaeva, R.I.; Selivanov, E.N.; Udoeva, L.Y., Verchinin, A.D. 112
Magnetic properties of quadruple perovskites $Ba_4LnM_3O_{12}$ (Ln=rare earths; M=Ru, Ir), Hinatsu, Yukio; Shimoda, Yuki; Doi, Yoshihiro; Wakeshima, Makoto 113
Combustion synthesis of titanium carbide-nickel-molybdenum cermet: Role of mechanical activation, Hobosyan M.A., Hovhannisyan L.H., Manaseryan L.G., Khachatryan H.L., Kharatyan S.L. 114
Role of increasing As/Sb molar ratio on thermal properties of As-Sb-S glasses, Holubová, Jana; Černošek, Zdeněk and Černošková, Eva 115
Trends observed in phase diagrams of binary systems lanthanide bromide – alkali metal bromide, Ingier-Stocka, Ewa; Rycerz, Leszek and Gaune-Escard, Marcelle 116
The thermodynamic properties of solid compounds in ABr-$LnBr_3$ (A = K, Rb, Cs, Ln = Ce, Pr) systems, Kapała, Jan 117
Crystal structure of lithium inserted α-MnO_2, Kijima, Norihito; Kataoka, Kunimitsu; Sakao, Mitsumasa; Awaka, Junji; Akimoto, Junji 118
Structure transformation of $CuRh_2O_4$, Kijima, Norihito; Kataoka, Kunimitsu; Awaka, Junji; Hayakawa, Hiroshi; Akimoto, Junji; Nagata, Shoichi 119
Study of the thermoelectric properties of a titanium doped sodium cobaltite $Na_x(Co_{1-y}Ti_y)O_2$ (x~1 and y<0.15), Kirakci, Kaplan; Buršík, Josef; Knížek, Karel 120
Phase formation upon reduction of vanadium, niobium, and tantalum pentoxides with aluminium nitride, Larionov, A.V.; Chumarev, V.M., Marievich, V.P. 121

Sonochemical synthesis of diluted magnetic semiconducting oxides, Lisboa-Filho, Paulo; Morilla-Santos, Cassio; Catto, Ariadne; Arruda, Larisa 122
Copper containing waveguiding layers in novel silicate glass, Malichova, Hana; Mika, Martin; Tresnakova, Pavlina and Spirkova, Jarmila 123
Separation of strontium from liquid radioactive wastes: A comparison of three different inorganic sorbent, Merceille, Aurélie; Barré, Yves; Grandjean, Agnès 124
Synthesis and characterization of $Ce_{1-x}Pr_xPO_4$ phosphates obtained by different synthesis routes, Matraszek, Aleksandra and Szczygieł Irena 125
Epitaxy of elastically strained layers of Zn-Cd-Te solid solutions, Moskvin P.P., Kuznetsov V.V., Rashkovetskyi L.V. 126
Mechanochemical synthesis of stoichiometric nickel and nickel-zinc ferrite powders with Nicolson-Ross analysis of absorption coefficients, Nikolić A.S., Jovalekić Č., Gruden-Pavlović M. and Pavlović M. B. 127
New phases in the $BaMn_{0.85}Ti_{0.15}O_{3-\delta}$ system: Structure-properties relationships of 4H and 9R-polytypes., Parras, M.; Miranda L; Ramírez-Castellanos, J.; Hernando, M.; Boulahya, K.; Varela, A.; González-Calbet, J.M. and Sinclair, D. 128
Preparation of nickel-containing porous zirconia, Peters, Andreas; Lutecki, Michal; Gläser, Roger 129
Influence of decomposition atmosphere in sol-gel process on precursor grain size and on microstructure of thermoelectric $Ca_3Co_{4-x}O_{9+\delta}$ ceramics, Rubešová, Kateřina; Hlásek, Tomáš; Sedmidubský, David; Hejtmánek, Jiří 130
Synthesis, structure and functional properties of microporous metal-organic frameworks, Sapchenko Sergey; Samsonenko, Denis G. and Fedin, Vladimir P. 131
Creation of a homogeneous micro relief on a surface of silicate glasses, Semencha, A.V.; Blinov, L.N. 132
Ferroelectric property of $(Ba_{1-2x}Bi_{2x})(Ti_{1-x}Cu_x)O_3$ ($x \leq 0.05$) ceramics, Shiroki, K.; Kumada, N.; Ogiso, H.; Yonesaki, Y.; Takei, T.; Kinomura, N.; Wada, S. 133
Materials for medical applications based on alkali dihydrophosphates and calcium hydroxyapatite, Shiryaev, Mikhail; Reshotka, Daria; Safronova, Tatiana; Putlyaev, Valery 134
Transition metal doped zinc oxide, Sofer, Zdeněk; Sedmidubský, David; Leitner, Jindřich; Huber, Štěpán; Soferová, Lýdie; Maryško, Miroslav; Hejtmánek, Jiří 135
Rapid synthesis of Ga nitrides through ammonolysis, Sofer, Zdeněk; Sedmidubský, David; Leitner, Jindřich; Huber, Štěpán; Maryško, Miroslav and Hejtmánek, Jiří 136
Ion exchange in a new Zn-Er silicate glass - the way of diffusion coefficient calculation, Staněk, S., Nekvindova, P., Oswald, J., Svecova, B., Míka, M. and Spirkova, J. 137
Novel silicate glasses for NIR applications, Stará, Stanislava; Špirková, Jarmila; Míka, Martin; Oswald, Jiří and Potůček, Zdeněk 138
Silicate glasses doped with Ag^+ ions: The comparison between the ion-exchange and ion implantation, Svecova, Blanka; Nekvindova, Pavla; Kormunda, Martin; Mackova, Anna; Malinsky, Petr; Pesicka, Josef; Spirkova, Jarmila 139
Studies on Ni_2FeVO_6 and $FeNb_{49}O_{124}$ by the help of IR and Mössbauer spectroscopy, Tabero, Piotr; Blonska-Tabero, Anna; Szilagyi, Petra and Homonnay, Zoltan 140
Synthesis of $FeNb_{11}O_{29}$ by the solution method, Tabero, Piotr and Homonnay, Zoltan 141
Preparation and characterization of new lead-free ceramics related to $CaTiO_3$, Taïbi-Benziada, Laldja; Talantikite, Djahida; Khereddine, Yazid; Kerdja, Tahar 142
Synthesis and characterization of new $CuMo_xW_{1-x}O_4$ solid solution, Tomaszewicz, E.; Filipek, E.; Moszyński, D.;.Kaczmarek, S.M.; Leniec, G. 143
Physical and structural properties of $TeO_2 \cdot PbCl_2 \cdot PbF_2$ glasses, prepared in Au or Pt crucibles, doped with Pr^{3+} or Er^{3+}, in various chemical forms, Trnovcová, Viera; Kubliha, Marian; Furár, Ivan; Kadlečíková, Magda; Pedlíková, Jitka 144
Electrical properties of isostatically pressed alumina ceramics, Trnovcová, Viera; Hanic, František; Štubňa, Igor; Furár, Ivan 145
Nanostructured composites on basis of CeO_2: Synthesis and catalytic activity in low-temperature oxidation of CO, Zagainov, I.V.; Trusova, E. and Pisarev, S.A. 146
Sorption of Cd^{2+} and As^{3+} ions by mechanochemical activated olivine $(Mg,Fe)_2SiO_4$, Turianicová, Erika; Bujňáková, Zdenka; Baláž, Peter 147
Synthesis of high surface area mesoporous silica powder and shape control the morphology by sol-gel method, Ui, Sang-Wook; Choi, Jae-Seok; Choi, Sung-Churl 148
Sol-gel technique, texture and morphology of superdispersed ZnO powders for use in electronics and optoelectronics, Vokhmintsev, K.V.; Trusova, E.A. 149
Phase transformation and crystallite growth of 2 mol% yttria-partial stabilized zirconia (2Y-PSZ) nanocrystallite powders by co-precipitation process for dental application, Lee, Huey-Er; Sie, Yu-You; Wang, Chau-Hsiung; Huang, Hong-Hsin; Wang, Moo-Chin 150
Formation of micronanocomposite powders in CuO-FeSi system by soft mechanochemical processing, Wieczorek-Ciurowa, Krystyna; Habdank-Wojewódzki, Tadeusz and Oleszak, Dariusz 151
Mechanochemical synthesis of copper-doped calcium titanate, Wieczorek-Ciurowa, Krystyna and Dulian, Piotr 152

Synthesis of Mn-Zn ferrite using modified sol-gel auto-combustion method, Szczygieł, Irena; Winiarska, Katarzyna 153
Synthesis and characterization of TiO_2 nanotubes at low-middle temperatures by a hydrothermal route, Yang, Wein-Duo; Hsieh, Ching-Shieh; Chung, Zen-Ja; Chueng, Hui-Ju 154
Oxygen nonstoichiometry, defect structure and defect-induced expansion of advanced oxide materials, Zuev, Andrey; Sereda, Vladimir; Tsvetkov, Dmitry 155

Hybrid Materials. Lectures

Fluorescence resonance energy transfer between rhodamine cations in colloids and thin films of layered silicates, Bujdák, Juraj; Iyi, Nobuo 156

An overview of Metal-Organic Frameworks: from giant cell to the breathing effect, Millange, Franck; Guillou, Nathalie; Serre, Christian; Férey, Gérard; Walton, Richard I. 157

Supercritical route for super hybrid materials, Tadafumi, Adschiri 158

Drug-carrying layered double hydroxides supported on magnetic core: Novel bioinorganic nanocomposites for magnetic drug delivery, Ay, Ahmet Nedim; Zümreoglu-Karan, Birgül; Rives, Vicente; Temel, Abidin; Konuk, Deniz 159

Oriented films of zinc hydroxides, Demel, Jan; Bezdička, Petr; Janda, Pavel; Klementová, Mariana; Pleštil, Josef; Lang, Kamil 160

Studies of particle dispersion in elastomeric polyurethane/organically modified montmorillonite nanocomposites, Dimitry, O.I.H.; Abdeen, Z.; Ismail, E.A.; Saad, A.L.G. 161

Design of homochiral porous metal-organic coordination polymers for enantioselective separation, Fedin, Vladimir P. 162

Synthesis of new layered and framework anion exchangeable hydroxides, Fogg, Andrew M.; McIntyre, Laura J.; Goulding, Helen V.; Hulse, Sarah E.; Prior, Timothy J.; Clegg, William 163

Porphyrin-LDH hybrids as novel photofunctional materials, Káfuňková, Eva; Lang, Kamil; Kubát, Pavel; Leroux, Fabrice; Taviot-Guého, Christine 164

Inclusion compounds based on mesoporous metall-organic framework MIL-101 and Mo and Re clusters and Keggin-type polyoxometallates, Kovalenko, K.A.; Berdonosova, E.A.; Klyamkin, S.N.; Maksimchuk, N.V.; Kholdeeva, O.A.; Fedin, V.P. 165

Thermally metastable transition metal nitrides for metamaterials, Ryoji, Saito; Yuji, Masubuchi; Teruki, Motohashi; Shinichi, Kikkawa 166

Metal-organic frameworks based on metal-organic supramolecules, Lah, Myoung Soo; Oh, Minhak 167

Designed synthesis of monodisperse metal/platinum core/shell nanoparticles and their catalytic properties for the PROX reaction, Sato, Ryota; Ito, Shin-ichi; Kanehara, Masayuki; Tomishige, Keiichi; Teranishi, Toshiharu 168

Drastic structural transformation of Cd chalcogenide nanoparticles using chloride ions and surfactants, Saruyama, Masaki; Kanehara, Masayuki; Teranishi, Toshiharu 169

Advanced characterizations for nanostructured LDH-hybrid materials, Taviot-Gueho, Christine; Leroux, Fabrice 170

Hybrid materials containing gallium-sulphide supertetrahedral clusters, Vaqueiro, Paz; Romero, M. Lucia 171

Facile synthesis and film formation of magnetic FeCo nanoparticles with graphitic carbon shells, Yamada, Mami; Shinji, Okumura; Kohta, Takahashi 172

Design of homochiral porous metal-organic coordination polymers based on chiral malates and aspartates, Yutkin, M.P.; Dybtsev, D.N.; Fedin, V.P. 173

Intercalation chemistry of several new host materials based on metal organophosphonates, Zima, Vítězslav; Svoboda, Jan; Melánová, Klára; Beneš, Ludvík; Růžička, Aleš 174

Hybrid Materials. Posters

Laponite-clay functionalized for Nafion nanocomposite membranes in the PEM fuel cells applications: water mobility and mechanical properties, Isabella, Nicotera; Enotiadis, Apostolos; Angjeli, Kristina; Rossi, Cesare Oliviero; Coppola, Luigi; Ranieri, Giuseppe A.; Gournis, Dimitrios 175

Synthesis and characterization of hybrid mesoporous silicas containing geminal methyl groups, Borówka, Anna; Buda, Waldemar 176

Synthesis and structural characterization of hybrid materials containing pravastatin drug intercalated into layered double hydroxide, Constantino, Vera R.L.; Cunha, Vanessa R. R.; Leroux, Fabrice; Taviot-Guého, Christine 177

A novel hybrid nanomaterial derived from a polyhedral oligomeric silsesquioxane cage for application in adsorption of metal ions and oxidation catalysis, Dias Filho, Newton Luiz; Perujo, Sérgio D.; Pipi, Reginaldo R.; Bastos, Andréa C.; Silva, Niléia C. 178

Glassy state lanthanide complexes for highly effective luminescent composites, Dzhabarov, Vagif; Molostova, Elena; Knyazev, Andrey 179

Novel polymer/titanium composite of core-shell morphology as photocatalyst, Kierys, Agnieszka; Waldemar, Buda; Jacek, Goworek 180

Polymer templating for preparation of inorganic nanoparticles, Kierys, Agnieszka; Buda, Waldemar; Zaleski, Radek; Goworek, Jacek; Marek, Dziadosz; Grochowicz, Marta 181

A new nanocomposite architecture: Prolate spheroidal hematite particles with equatorial layered double hydroxide disks, Konuk, Deniz; Ay, Ahmet Nedim; Zümreoglu-Karan, Birgül 182

Intercalation of salicylate into layered double hydroxide hosts, Kovanda, František; Maryšková, Zuzana; Ctiborová, Kamila 183

Preparation of homogeneous TiO_2/MWNT composites with impregnation method, Németh, Zoltán; Dieker, Christel; Alexander, Duncan; Forró, László; Seo, Jin Won; Hernádi, Klára 184

New inorganic-organic hybrid materials with framework layers, Nicholls, Jennifer L.; Hulse, Sarah E.; Callear, Samantha K.; Stephenson, Richard A.; Fogg, Andrew M. 185

Poly(dimethylsiloxane) elastomeric networks modified with 3-picoline, preparation, characterization and metal adsorption studies, Santos dos, Mirian Paula; Gushikem, Yoshitaka; Yoshida, Inez V. P. 186

New low-dimensional anorganic-organic hybrids based on copper phosphonates: The synthesis and structure, Svoboda, Jan; Zima, Vítězslav; Melánová, Klára; Beneš, Ludvík; Yang, Ya-Ching; Wang, Sue-Lein 187

A novel method to evenly dispersed carbon nanotubes and nanofibers in a metal matrix, Koltsova, Tatiana S., Ryabchinskaya, Luydmila V.; Nasibulina, Larisa I.; Nasibulin, Albert G.; Tolochko, Oleg; Blinov, Lev; Kauppinen, Esko I. 188

Panoscopic assembling of ceria nanoparticles with plate-like semiconductors by co-precipitation and sol-gel methods for UV-shielding application, Sato, Tsugio; Liu, Xiangwen; Yin, Shu 189

Electrochemistry of Solids. Lectures

Electrochemical and photochemical synthesis of transition metal complexes with controlled morphologies and other technologically important characteristics, Bond, Alan 190

Fundamentals of oxygen reduction in aqueous and non aqueous environments: Electrocatalytic pathways and challenges, Mukerjee, S.; Abraham, K. M.; Olaoire, C.; Trahan, M. and Allen, C 191

Understanding local structure of doped RuO_2 –based electrocatalytic materials, Petrykin, Valery; Macounová, Kateřina; Franc, Jiří; Okube, Maki; Krtil, Petr 192

Self-organized TiO_2 nanotubes as materials for a new generation of Li-ion micro-batteries, Lavela, Pedro; Ortiz, G.F.; Tirado, J.L.; Hanzu, I.; Djenizian, T.; Knauth, P. 193

Mechanistic aspects of electrocatalysis on doped RuO_2, Macounová, K.; Petrykin, V.; Franc, J.; Krtil, P. 194

Disorder and vacancies in Fe-hexagonal perovskite promoted by F^-/O^{2-} substitution: a way to enhance low-temperature oxygen mobility, Sturza, Mihai-Ionut; Daviero-Minaud, Sylvie; Kabbour, Houria; Mentré, Olivier 195

The effect of saccharin on the Ni-W alloy deposition, Wang, L. M.; Ke, S.T.; Lin, H.C.; and Chen, C.C. 196

Electrochemistry of Solids. Posters

Nb_2O_5 film on SiO_2/C carbon ceramic: simultaneous determination of ascorbic acid dopamine and uric acid, Arenas, Leliz T.; Arguello, Jacqueline; Landers, Richar; Gushikem, Yoshitaka 197

Electrochemical behaviour of combined silicon carbide and boron carbide, solid state electrodes in ionic melts, Gab, Angelina; Shakhnin, Dmitrii; Malyshev, Victor 198

TiO_2 thin film coating on metal electrode by sol-gel process for dye-sensitized solar cell, Han, Chi-Hwan and Cho, Tae-Yeon 199

Preparation and photoelectrochemical characterization of antimony oxide nanocrystalline thin film for application to dye-sensitized solar cell, Kim, Ji-Hye; Kim, Sung-Chul; Jang, Ji-yeon; and Kim, Seung-Joo 200

Thin film microbatteries - fabrication and electrochemical performance, Feng, J.K. Xia, H., Lai, M.O., and Lu, L. 201

The model of electrochemical oxidation of dispersion sulphide copper-nickel alloys, Selivanov, E.N.; Nechvoglod, O.V.; Mamyachenkov, S. V 202

BIMEVOX solid solutions as possible materials for membranes of electrochemical devices, Morozova, Maria V.; Buyanova, E.S.; Emelyanova, Ju.V.; Mihailovskaya, Z.A.; Shatohina, A.N.; Petrova S.A.; Zhukovskiy, V.M. 203

Chemical synthesis of the nanostructured polyaniline using liquid-solid interface polymerization and its distinct properties, Mu, Shaolin 204

Molybdenum carbide electrodeposition onto semiconducting materials surface in ionic melts, Shakhnin, Dmitrii; Gab, Angelina; Malyshev, Victor 205

Study of the oxide film on surface of aluminium alloy, Ting, Yung Chiang; Hsu, Pe Ming; Chen, Hui Li; Peng, Hsin Shu; Shy, Shyi Long 206

Oxygen nonstoichiometry and charge transfer in double perovskites $GdBaCo_{2-x}M_xO_{6-d}$ (M=Mn, Fe, x=0, 0.2), Tsvetkov, Dmitry; Sereda, Vladimir; Urusov, Igor; Ivanov, Ivan; Zuev, Andrey 207

Concentration evolution of conductivity nature and magnitude of $\{Me^{n+}_{2/n}WO_4 - WO_3\}$ (Me= Ca, Sr, Ba, Sc) eutectic composites, Karapetyan, Anastasia; Pestereva, Natalya; Neiman, Arkady 208

Analysis and Characterisation of Solids. Lectures

High resolution NMR of inorganic solids. From simple characterization to NMR crystallography, Dědeček, Jiří 209

The characterization of iron zeolites, Pirngruber, Gerhard D. 210

Zinc oxide scaffolds on MgO nanocubes, Diwald, Oliver; Stankic, Slavica; Sternig, Andreas; Finocchi, Fabio; Bernardi, Johannes 211

Highlights on Fe^{3+} complexes on CeO_2 structure coupling Electron Paramagnetic Resonance, Mössbauer spectroscopy and Transmission Electron Microscopy techniques. Correlation between CeO_2:Fe^{3+} microstructure and reactivity properties, Feral-Martin, Cédric; Duttine, M., Wattiaux, A.; Demourgues, A.; Jolly, J.; Pavageau, B. and Majimel, J. 212

New chalcogenide glasses in the CdTe-AgI-As_2Te_3 system: Conductivity and silver tracer diffusion measurements, Kassem, M.; Alekseev, I.; Le Coq, D.; Bychkov, E. 213

The size controlled growth and the field emission properties of Sn-doped AlN nanostructures by HVPE method, Park, Young-Jong; Choi, Jae-Seok; Park, Min-Hye; Choi, Sung-Churl 214

Pressure-induced multiphase state generation and phase transitions in semiconductors analyzed by Raman scattering, Pizani, Paulo Sergio and Jasinevicius, Renato Goulart 215

First order phase transition and optical properties of $Co_{1-x}Mg_xMoO_4$ and $Co_{1-x}Zn_xMoO_4$, Robertson, Lionel; Gaudon, M.; Penin, N.; Gorsse, S. and Demourgues, A. 216

Analysis and Characterisation of Solids. Posters

Solubility and mobility of C_3H_6 and C_3H_8 in 13X zeolites by isothermal adsorption characterization in kinetic and equilibrium conditions, Agostino, Raffaele Giuseppe, Maccallini, Enrico, Policicchio, Alfonso, Golemme, Giovanni, Buonomenna, Maria Giovanna, Jansen, Johannes Carolus 217

Advantages of precession electron diffraction (PED) in ab initio structural fingerprinting of nanocrystalline TiO_2 mixtures: automated crystallite orientation and phase maps, Bakardjieva, Snejana; Štengl, Václav; Šubrt, Jan; Portillo, Joaquim; Veron, Muriel; Rauch, Edgar; Nicolopoulos, Stavros; Sarakinou, Eleni 218

Synthesis and characterization of rare earth oxyapatite, $Ca_8Ln_2(PO_4)_6O_2$ (Ln= Gd, Dy), Demirozu-Senol, Sevim; Ozen-Kahveci, Gulden and Uztetik-Morkan, Ayse 219

Microcalorimetric study of CO_2 adsorption on M^+-FER, Frýdova, Eva; Frolich, Karel; Čičmanec, Pavel; Bulánek, Roman 220

Raman scattering analysis of highly doped semiconductor superlattices, Galzerani, José Cláudio; Rodrigues, Ariano de Giovanni; Pusep, Yuri Alexander 221

Successive ionic layer deposition of Ag nanoclusters, Korotcenkov, Ghenadii; Cho, Beongki; Gulina, Larisa and Tolstoy, Valery 222

Modelling of vibrational spectra of non-crystalline solids by molecular simulations, Macháček, Jan; Gedeon, Ondřej; Liška,Marek; Kostka, Petr 223

Solid-state synthesis and characterization of novel xenotime type rare-earth borophosphate, $LnBP_2O_8$, Özen Kahveci, Gülden; Demirözü Şenol, Sevim; Morkan, İzzet; Uztetik Morkan, Ayşe 224

The solvent vapour pressure effect on phase transition rates of α- and β- forms of tegafur, Petkune, Sanita; Bobrovs, Raitis; Actiņš, Andris 225

Structural analysis of the Ni, Mo and NiMo alumina supported hydrotreating catalysts, Priecel, Peter; Čapek, Libor; Kubička, David; Brychtová, Marie 226

Aspects of relative rate of reaction/process, Mianowski, Andrzej and Siudyga, Tomasz 227

Fe(III) and V(V) species in supported catalysts: Analysis and performance in oxidative dehydrogenation of ethane, Smoláková Lucie; Adam Jiří; Grygar Tomáš; Čapek Libor 228

Phase transitions and optical absorption edge in sulphur implanted Cu_6PS_5Br superionic conductors, Studenyak, I.; Izai, V.; Stephanovich, V.; Panko, V.; Kúš, P.; Plecenik, A. 229

Study of the reversible $CaMnO_3 \leftrightarrow CaMnO_2$ reduction-oxidation process, Varela, A.; de Dios, S.; Hernando, M.; Parras, M.; Landa-Canovas, A.; González-Cálbet, J.M. 230

Thermal stability of 3-(2,2,2-trimethylhydrazine)propionate, Veldre, Kaspars, Actiņš, Andris, Kalniņa, Anete 231

Author Index

232