

JOURNAL OF SOLID STATE CHEMISTRY

Editor

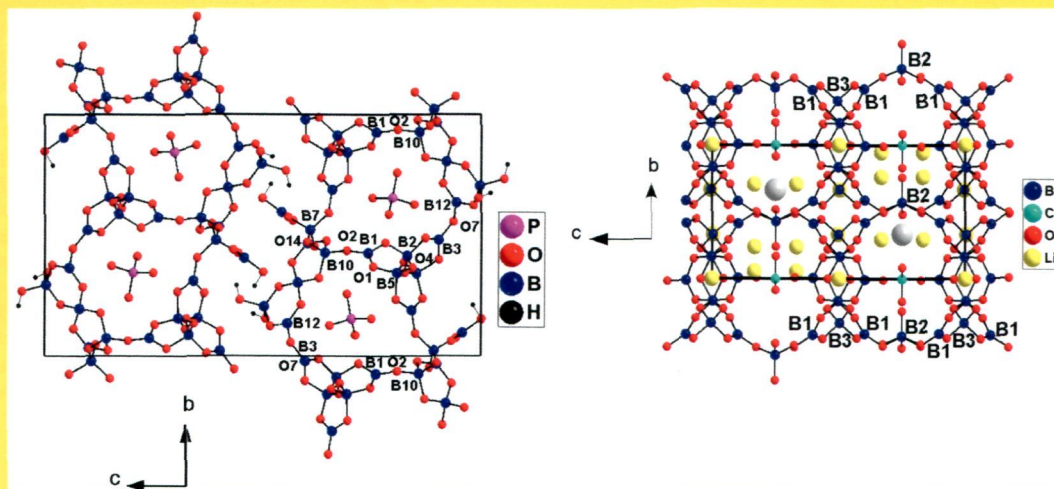
M.G. KANATZIDIS

Associate Editors

J. LI**W. TREMEL****S.J. CLARKE****H.-C. ZUR LOYE**

IN THIS ISSUE:

Hydrothermal synthesis and structural analysis of new mixed oxyanion borates: $\text{Ba}_{11}\text{B}_{26}\text{O}_{44}(\text{PO}_4)_2(\text{OH})_6$, $\text{Li}_9\text{BaB}_{15}\text{O}_{27}(\text{CO}_3)$ and $\text{Ba}_3\text{Si}_2\text{B}_6\text{O}_{16}$



Carla Heyward, Colin D. McMillen and Joseph Kolis

Abstracted/indexed in BioEngineering Abstracts, Chemical Abstracts, Coal Abstracts, Current Contents/Physics, Chemical, & Earth Sciences, Engineering Index, Research Alert, SCISEARCH, Science Abstracts, and Science Citation Index. Also covered in the abstract and citation database SciVerse SCOPUS®. Full text available on SciVerse ScienceDirect®.

Regular Articles

Synthesis, structures of four coordination compounds constructed from *o*-methacrylamidobenzoic acid and their relationship between structure and solid state luminescence

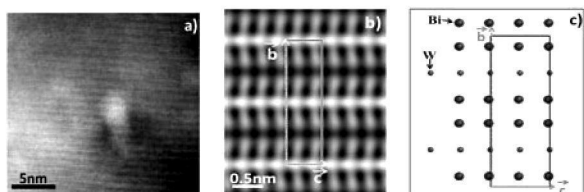
Hong-Xia Chen, Yong Ma, Feng Zhou, Bing Wu, Qing-Feng Xu, Jian-Mei Lu, Jian-Feng Ge
page 1



Four coordination compounds constructed by *o*-methacrylamidobenzoic, phenanthroline and metal ions are reported. The photoluminescent properties is studied, which is affected by the molecular stacking and LMCT.

Electron microscopy analyses and electrical properties of the layered Bi₂WO₆ phase

A. Taoufyq, H. Ait Ahsaine, L. Patout, A. Benlhachemi, M. Ezahri, F. Guinneton, A. Lyoussi, G. Nolibe, J.-R. Gavarrri
page 8

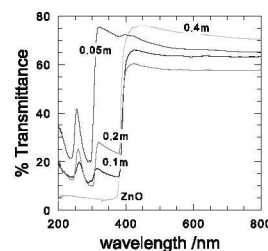


High resolution transmission electron microscopy: inverse fast Fourier transform giving the layered structure of the Bi₂WO₆ phase, with a representation of the cell dimensions (*b* and *c* vectors). The Bi₂O₂²⁺ and WO₄²⁻ sandwiches are visible in the IFFT image.

Regular Articles—Continued

Synthesis and controlled release properties of 2,4-dichlorophenoxy acetate–zinc layered hydroxide nano hybrid

Abbas M. Bashi, Mohd Zobir Hussein, Zulkarnain Zainal, Didier Tichit
page 19



The phenomenon indicates that the optical energy gap is enlarged with the increase of molar concentrations in 2,4-dichlorophenoxy acetate anion content into ZnO to create a ZLH–24D nano hybrid

Thermoelectric properties of composites made of Ni_{0.05}Mo₃Sb_{5.4}Te_{1.6} and fullerene

Nagaraj Nandihalli, Ali Lahwal, Daniel Thompson, Tim C. Holgate, Terry M. Tritt, Véronique Dassylva-Raymond, László I. Kiss, Elisabeth Sellier, Stéphane Gorsse, Holger Kleinke
page 25

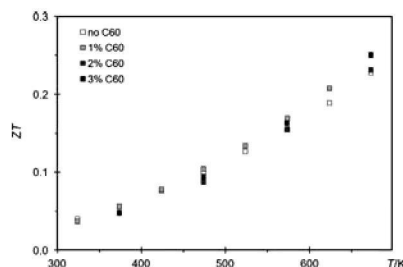
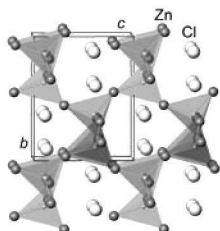


Figure-of-merit of various Ni_{0.05}Mo₃Sb_{5.4}Te_{1.6}/C composites.

Synthesis and single-crystal structure determination of the zinc nitride halides Zn_2NX ($X = Cl, Br, I$)

Xiaohui Liu, Claudia Wessel, Fangfang Pan, Richard Dronskowski

page 31

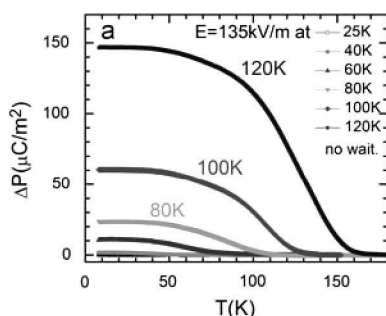


Zn_2NCl , Zn_2NBr , and Zn_2NI have been synthesized, and their crystal structures (Cl and Br phases: $Pna2_1$; I phase: $Pnma$) have been determined from XRD; the direct band gap of Zn_2NCl is theoretically (HSE06 hybrid functional) predicted as 3.7 eV.

From spin induced ferroelectricity to spin and dipolar glass in a triangular lattice: The $CuCr_{1-x}V_xO_2$ ($0 \leq x \leq 0.5$) delafossite

S. Kumar, K. Singh, M. Miclau, Ch. Simon, C. Martin, A. Maignan

page 37

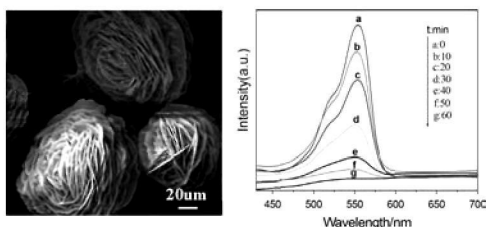


The $P(T)$ curves evidencing the aging effect on polarization in $CuCr_{0.5}V_{0.5}O_2$: $E = 135$ kV/m is applied during cooling at different temperatures. The P values and the inflection point of the transition depend on the poling temperature suggesting a relaxor behaviour. This effect related to the spin glass state is not observed for the lowest vanadium content.

Self-assembled cabbage-like $NaInS_2$ microstructures with efficient visible light photocatalytic performance

Yuanhao Gao, Xuezheng Zhai, Yange Zhang, Zhihong Xu, Pinjiang Li, Zhi Zheng

page 44

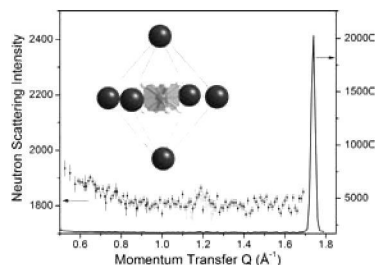


Cabbage-like $NaInS_2$ microstructures were facilely synthesized *via* simple hydrothermal reaction. The cabbage-like $NaInS_2$ architectures exhibit the superiority of photocatalytic performance for the photodegradation of RhB irradiation under visible light irradiation.

Investigation of an unusual low-temperature phase transformation in $RbBH_4$ by neutron diffraction

Brian B. Kitchen, Nina Verdal, Terrence J. Udovic, John J. Rush, Michael R. Hartman, Daniel J. DeVries

page 51

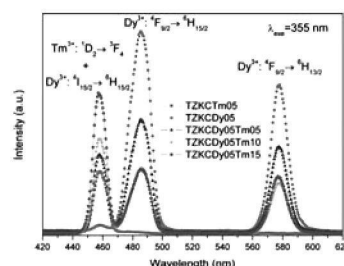


The neutron powder diffraction pattern of $RbBH_4$ below the phase transition temperature (shown here in black) is indistinguishable from that collected above the phase transition temperature. The inset depicts the cubic structure that fits the data at both temperatures.

Effect of co-doping Tm^{3+} ions on the emission properties of Dy^{3+} ions in tellurite glasses

T. Sasikala, L. Rama Moorthy, A. Mohan Babu, T. Srinivasa Rao

page 55

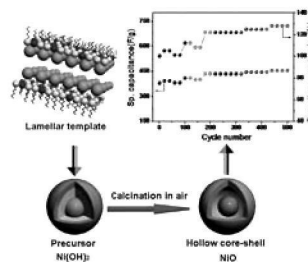


The graphical abstract shows the emission spectra of Dy^{3+} , Tm^{3+} and Dy^{3+}/Tm^{3+} co-doped TZKC glasses recorded by exciting at 355 nm wavelength.

Facile approach to prepare hollow coreshell NiO microspheres for supercapacitor electrodes

Dandan Han, Pengcheng Xu, Xiaoyan Jing, Jun Wang, Dalei Song, Jingyuan Liu, Milin Zhang

page 60

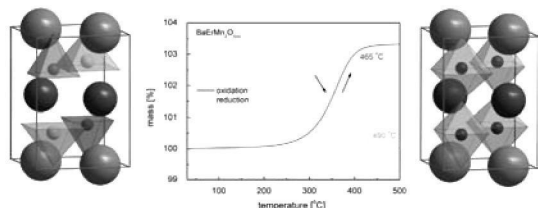


The hollow coreshell NiO was prepared with a facile lamellar template method. The prepared NiO show higher capacitance, lower ion diffusion resistance and better electroactive surface utilization for Faradaic reactions.

Synthesis, crystal structure and electrical properties of A-site cation ordered BaErMn₂O₅ and BaErMn₂O₆

Konrad Świerczek, Alicja Klimkowicz, Kun Zheng, Bogdan Dabrowski

page 68

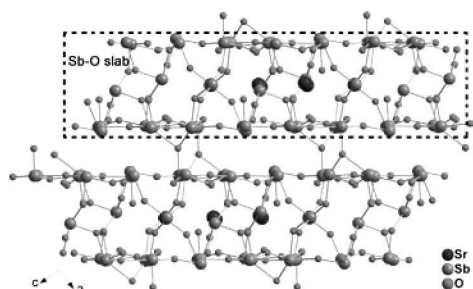


Structure and oxygen storage properties of BaErMn₂O_{5+δ}.

A new strontium antimonate^{III} Sr₅Sb₂₂O₃₈: Synthesis, crystal structure and characterizations

Lei Geng, Chang-Yu Meng, Chen-Sheng Lin, Wen-Dan Cheng

page 74

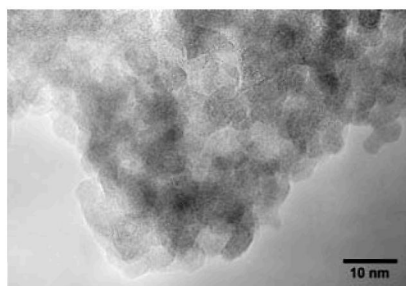


The 2D SbO slabs are stacked through sharing oxygen atoms to form the 3D network structure of the new strontium antimonate^{III} Sr₅Sb₂₂O₃₈.

Hydrothermal synthesis and characterization of zirconia based catalysts

T. Caillot, Z. Salama, N. Chanut, F.J. Cadete Santos Aires, S. Bennici, A. Auroux

page 79

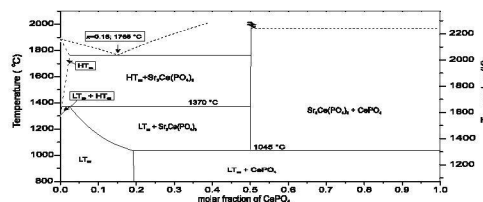


Mesoporous amorphous phase with a high surface area of titania zirconia mixed oxide obtained by hydrothermal preparation.

Study of phase relationships in the Sr₃(PO₄)₂CePO₄ system. Phase diagram and thermal characteristics of phases

Aleksandra Matraszek

page 86

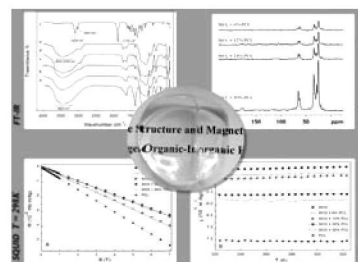


The phase diagram of Sr₃(PO₄)₂CePO₄ system showing the stability ranges of limited solid solution and Sr₃Ce(PO₄)₃ phases.

Structure and magnetic properties of SiO₂/PCL novel solgel organicinorganic hybrid materials

Michelina Catauro, Flavia Bollino, Maria Cristina Mozzati, Chiara Ferrara, Piercarlo Mustarelli

page 92

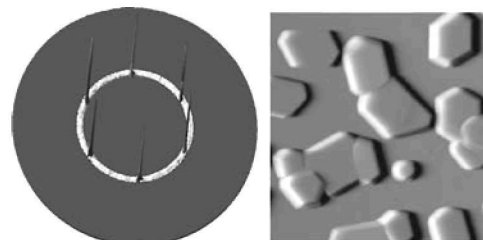


Characterization and magnetic properties of SiO₂/PCL organic-inorganic hybrid materials synthesized via solgel. FT-IR, Fourier transform infrared spectroscopy; solid-state NMR: solid-state nuclear magnetic resonance; SQUID: superconducting quantum interference device.

Oriented Y-type hexagonal ferrite thin films prepared by chemical solution deposition

J. Buršík, R. Kužel b, K. Knížek, I. Drbohlav

page 100



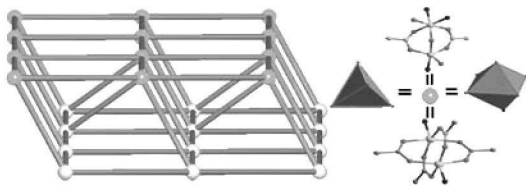
XRD pole figure and AFM patterns of Ba₂Zn₂Fe₁₂O₂₂ thin film epitaxially grown on SrTiO₃(1 1 1) single crystal using seeding layer templating.

Continued

Diverse assemblies of the (4,4) grid layers exemplified in Zn (II)/Co(II) coordination polymers with dual linear ligands

Guang-Zhen Liu, Xiao-Dong Li, Ling-Yun Xin, Xiao-Ling Li, Li-Ya Wang

page 106

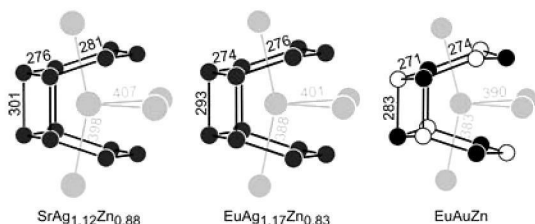


Diverse assemblies of the (4,4) grid layers with different network nodes forms five coordination polymers that are well characterized by IR, TGA, element analysis, fluorescent and magnetic measurement.

SrAgZn and EuAgZn with KHg₂-type structure—Structure, magnetic properties, and ¹⁵¹Eu Mössbauer spectroscopy

Birgit Gerke, Ute Ch. Rodewald, Oliver Niehaus, Rainer Pöttgen

page 114

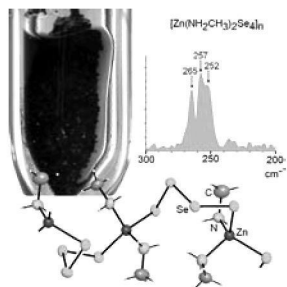


The near neighbor coordination of the strontium and europium atoms in SrAg_{1.12}Zn_{0.88}, EuAg_{1.17}Zn_{0.83}, and EuAuZn.

1D coordination polymers with polychalcogenides as linkers between metal atoms

Oleksandr Kysliak, Johannes Beck

page 120

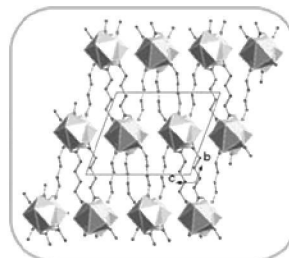


The reaction of Zn and Se in liquid methylamine yields dark red [Zn(NH₂CH₃)₂Se₄]_n, a 1D coordination polymer consisting of helical Zn–Se₄–Zn– chains.

Topological aspects of lanthanide–adipate–aqua compounds: Close packed and open framework structures

Durga Sankar Chowdhuri, Swapan Kumar Jana, Debdoot Hazari, Ennio Zangrando, Sudipta Dalai

page 128

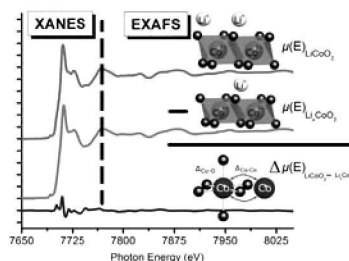


A survey of structures and topologies of lanthanide adipate compounds is presented. A newly synthesized lanthanum adipate complex {[La₂(adip)₃(H₂O)₂] (adipH₂ = adipic acid) is also reported.

In-situ X-ray absorption spectroscopy analysis of capacity fade in nanoscale-LiCoO₂

Christopher J. Patridge, Corey T. Love, Karen E. Swider-Lyons, Mark E. Twigg, David E. Ramaker

page 134

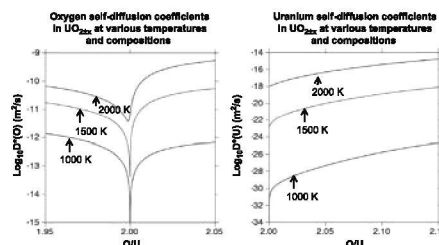


Electrochemical cycling of Li-ion batteries has strong impact on the structure and integrity of the cathode active material particularly near the surface/electrolyte interface. In developing a new method, we have used *in-situ* X-ray absorption spectroscopy during electrochemical cycling of nanoscale LiCoO₂ to track changes during charge and discharge and between subsequent cycles. Using difference spectra, several small changes in Co-O bond length, Co-O and Co-Co coordination, and site exchange between Co and Li sites can be tracked. These methods show promise as a new technique to better understand processes which lead to capacity fade and loss in Li-ion batteries.

Diffusion model of the non-stoichiometric uranium dioxide

Emily Moore, Christine Guéneau, Jean-Paul Crocombette

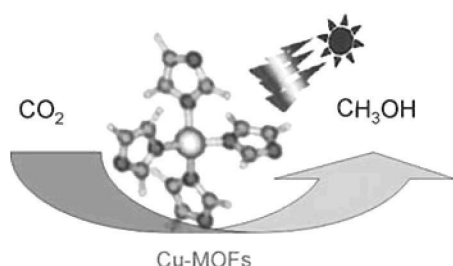
page 145



Complete description of Oxygen/Uranium diffusion as a function of composition at various temperatures according to the developed Diatra model.

Copper(II) imidazolate frameworks as highly efficient photocatalysts for reduction of CO₂ into methanol under visible light irradiation

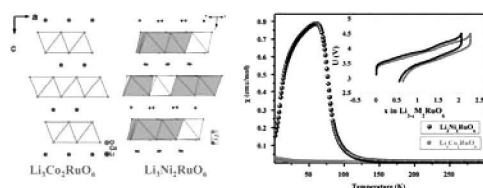
Jingtian Li, Deliang Luo, Chengju Yang, Shiman He, Shangchao Chen, Jiawei Lin, Li Zhu, Xin Li
page 154



Carbon dioxide was reduced into methanol with water over copper (II) imidazolate frameworks under visible light irradiation.

New rock salt-related oxides Li₃M₂RuO₆ (M = Co, Ni): Synthesis, structure, magnetism and electrochemistry

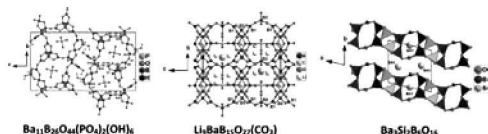
S. Laha, E. Morán, R. Sáez-Puche, M.Á. Alario-Franco, A.J. Dos santos-Garcia, E. Gonzalo, A. Kuhn, F. García-Alvarado, T. Sivakumar, S. Tamilarasan, S. Natarajan, J. Gopalakrishnan
page 160



Two new rock salt related oxides of formula, Li₃M₂RuO₆, (M = Co, Ni) have been prepared. The M = Co oxide adopts the LiCoO₂ (*R-3m*) structure and the M = Ni oxide adopts a similar layered structure related to Li₂TiO₃, monoclinic (*C2/c*), with partial mixing of Li and Ni/Ru atoms. For Li₃Co₂RuO₆, oxidation state for Ru is 4+ and antiferromagnetic (AFM) order is found below 10 K while for the analogous Li₃Ni₂RuO₆, Ru oxidation state is 5+ and a ferrimagnetic (FM) behavior with a Curie temperature of 100 K is found. Electrochemical studies correlate well with both magnetic properties and crystal structure.

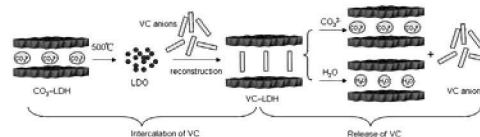
Hydrothermal synthesis and structural analysis of new mixed oxyanion borates: Ba₁₁B₂₆O₄₄(PO₄)₂(OH)₆, Li₉BaB₁₅O₂₇(CO₃) and Ba₃Si₂B₆O₁₆

Carla Heyward, Colin D. McMillen, Joseph Kolis
page 166



Intercalation and controlled release properties of vitamin C intercalated layered double hydroxide

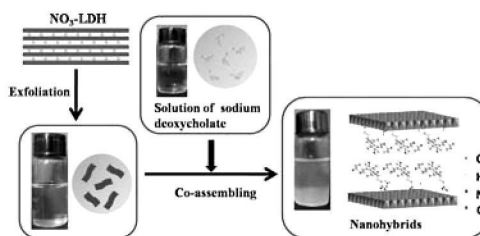
Xiaorui Gao, Lixu Lei, Dermot O'Hare, Juan Xie, Pengran Gao, Tao Chang
page 174



Vitamin C anions have been intercalated in the interlayer space of layered double hydroxide and released in CO₃²⁻ solution and deionised water.

Facile synthesis of deoxycholate intercalated layered double hydroxide nanohybrids via a coassembly process

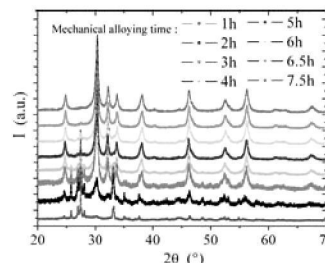
Xiaowen Wu, Shuang Wang, Na Du, Renjie Zhang, Wanguo Hou
page 181



Deoxycholate intercalated layered double hydroxide nanohybrids were successfully synthesized via a coassembly strategy. In this strategy, the interlayer spaces of LDHs can be efficiently used for the intercalation of guest species.

Direct synthesis of BiCuChO-type oxychalcogenides by mechanical alloying

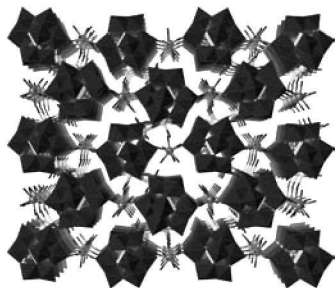
Vincent Pele, Celine Barreteau, David Berardan, Lidong Zhao, Nita Dragoe
page 187



BiCuSeO synthesis by mechanical alloying: phase pure after 7.5h.

Open frameworks based on mono-lanthanide-substituted polyoxometalaluminates building units: Syntheses, structures and properties

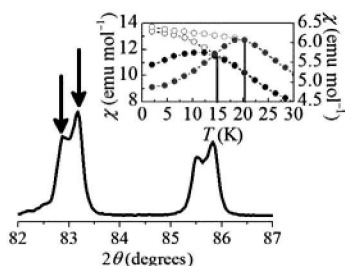
Xin-Xiong Li, Lin Cheng, Guo-Yu Yang
page 193



A series of lanthanide-substituted polyoxometalaluminates have been hydrothermally made and their photoluminescence, non-linear optical and ferroelectricity properties have also been investigated, respectively.

Oxygen miscibility gap and spin glass formation in the pyrochlore $\text{Lu}_2\text{Mo}_2\text{O}_7$

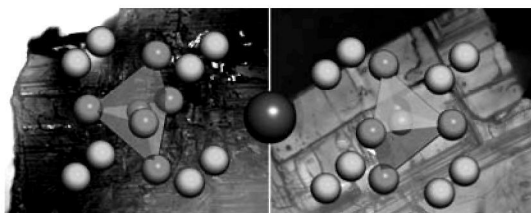
L. Clark, C. Ritter, A. Harrison, J.P. Attfield
page 199



The cubic $\text{Lu}_2\text{Mo}_2\text{O}_{7-x}$ system exhibits a miscibility gap between coexisting pyrochlore phases at 1600 °C. Neutron powder diffraction refinement and chemical analysis shows that the gap separates stoichiometric $x = 0$ and oxygen-deficient $x \approx 0.4$ phases. $\text{Lu}_2\text{Mo}_2\text{O}_{7-x}$ has a frustrated spin glass ground state that is sensitive to the oxygen content.

A new oxytelluride: Perovskite and CsCl intergrowth in $\text{Ba}_3\text{Yb}_2\text{O}_5\text{Te}$

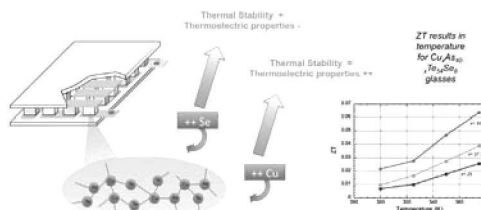
J.B. Whalen, T. Besara, R. Vasquez, F. Herrera, J. Sun, D. Ramirez, R.L. Stillwell, S.W. Tozer, T.D. Tokumoto, S.A. McGill, J. Allen, M. Davidson, T. Siegrist
page 204



Optical images of $\text{Ba}_3\text{Yb}_2\text{O}_5\text{Te}$ in transmission (left) and reflected (right) light, with atomic unit cell overlay.

Thermal stability and thermoelectric properties of $\text{Cu}_x\text{As}_{40-x}\text{Te}_{60-y}\text{Se}_y$ semiconducting glasses

J.B. Vaney, A. Piarristeguy, A. Pradel, E. Alleno, B. Lenoir, C. Candolfi, A. Dauscher, A.P. Gonçalves, E.B. Lopes, G. Delaizir, J. Monnier, M. Ribes, C. Godart
page 212



Effect of substitution of Te by Se and As by Cu on thermal stability and thermoelectric properties of $\text{Cu}_x\text{As}_{40-x}\text{Te}_{60-y}\text{Se}_y$ semiconducting glasses.

Synthesis, structural and magnetic characterisation of the fluorinated compound $15\text{R-BaFeO}_2\text{F}$

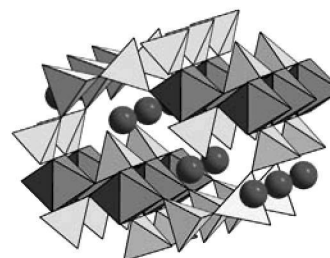
Oliver Clemens, Frank J. Berry, Jessica Bauer, Adrian J. Wright, Kevin S. Knight, Peter R. Slater
page 218



The crystal and magnetic structure of the perovskite phase $15\text{R-BaFeO}_2\text{F}$.

Phase formation in the $\text{Li}_2\text{MoO}_4\text{-Rb}_2\text{MoO}_4\text{-Fe}_2(\text{MoO}_4)_3$ system and crystal structure of a novel triple molybdate $\text{LiRb}_2\text{Fe}(\text{MoO}_4)_3$

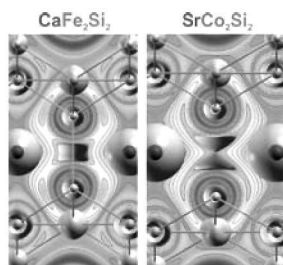
Klara M. Khal'baeva, Sergey F. Solodovnikov, Elena G. Khaikina, Yuliya M. Kadyrova, Zoya A. Solodovnikova, Olga M. Basovich
page 227



Exploring the $\text{Li}_2\text{MoO}_4\text{-Rb}_2\text{MoO}_4\text{-Fe}_2(\text{MoO}_4)_3$ system showed its partial non-quasiternarity and revealed a new compound $\text{LiRb}_2\text{Fe}(\text{MoO}_4)_3$ which was structurally studied.

Synthesis, structure and chemical bonding of $\text{CaFe}_{2-x}\text{Rh}_x\text{Si}_2$ ($x = 0, 1.32,$ and 2) and SrCo_2Si_2

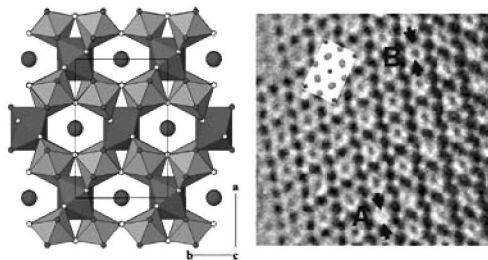
Viktor Hlukhyy, Andrea V. Hoffmann, Thomas F. Fässler
page 232



The SrCo_2Si_2 and $\text{CaFe}_{2-x}\text{Rh}_x\text{Si}_2$ ($x = 0, 1.32,$ and 2) crystallize in the ThCr_2Si_2 -type. The structure of SrCo_2Si_2 contains isolated $[\text{Co}_2\text{Si}_2]^{2-}$ layers in the ab -plane, whereas the $[\text{T}_2\text{Si}_2]$ layers in $\text{CaFe}_{2-x}\text{Rh}_x\text{Si}_2$ are interconnected along the c -axis via Si-Si bonds resulting in a $[\text{T}_2\text{Si}_2]^{2-}$ network.

New high pressure rare earth tantalates $\text{RE}_x\text{Ta}_2\text{O}_{5+1.5x}$ ($\text{RE} = \text{La}, \text{Eu}, \text{Yb}$)

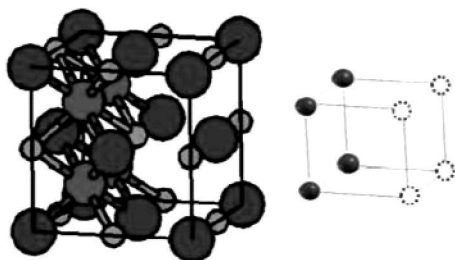
Igor P. Zibrov, Vladimir P. Filonenko, Nikolai D. Zakharov, Peter Werner, Dmitrii V. Drobot, Elena E. Nikishina, Elena N. Lebedeva
page 240



The structure of $\text{RE}_x\text{Ta}_2\text{O}_{5+1.5x}$ and its HRTEM image (“A” arrows show empty channel, “B” arrows show filled channel).

Phase separation and antisite defects in the thermoelectric TiNiSn half-Heusler alloys

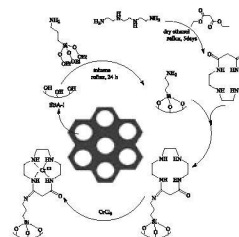
K. Kirievsky, Y. Gelbstein, D. Fuks
page 247



Phase separation and antisite defects in the thermoelectric TiNiSn alloy, are covered as methods for nanostructuring and thereby enhancement of the thermoelectric potential.

Grafted chromium 13-membered dioxo-macrocyclic complex into aminopropyl-based nanoporous SBA-15

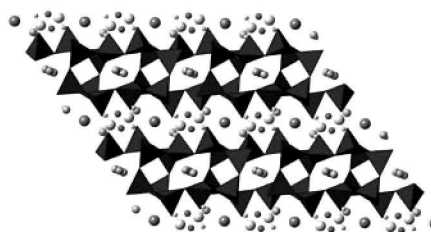
Aliakbar Tarlani, Monika Joharian, Khashayar Narimani, Jacques Muzart, Mahtab Fallah
page 255



Chromium (III) tetraaza dioxo ligand was grafted onto functionalized SBA-15 using coordinating ability of anchored amino functionalized SBA-15. Preparation of the catalyst is depicted in Scheme 1.

A new naturally-occurring nanoporous copper sheet-silicate with 6^48^2 cages related to synthetic “CuSH” phases

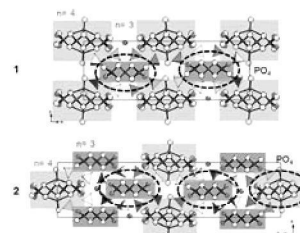
Mark D. Welch, Michael S. Rumsey
page 260



Projection onto (010) of the structure of the natural nanoporous sheet silicate $\text{Na}_2\text{CaCu}_2\text{Si}_8\text{O}_{20} \cdot \text{H}_2\text{O}$ showing the double sheet of corner-linked SiO_4 tetrahedra, intralayer Na and interlayer Na, Ca Cu and H_2O . Small green sphere Cu, large blue spheres Ca, orange purple and yellow small spheres Na, large grey sphere H_2O molecules. Bonds from inter/intralayer species to sheets have been omitted for clarity.

Bi_2O_3 - CuO - P_2O_5 system: Two novel compounds built from the intergrowths oxocentered polycationic 1D-ribbons

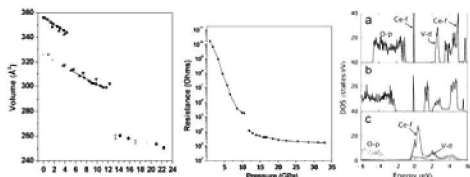
Marie Colmont, Diana Endara, Almaz Aliev, Christine Terryn, Marielle Huvé, Olivier Mentré
page 266



This paper reports the crystal structure of two new bismuth oxophosphate compounds. Both are built on the association of $n = 3$ and 4 building unit ribbons surrounded by isolated PO_4 tetrahedra and tunnels hosting Cu^{2+} cations. They come in addition to the numerous Bi-based compounds already pointed out. Once more, this is the proof of the richness of this crystal system.

Phase transition and possible metallization in CeVO₄ under pressure

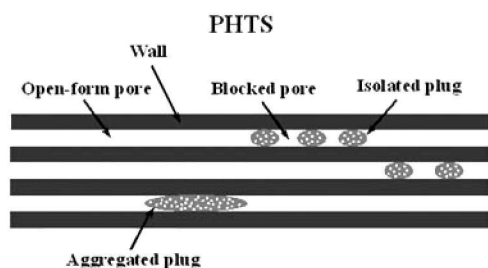
Alka B. Garg, K.V. Shanavas, B.N. Wani, Surinder M. Sharma
 page 273



Pressure induced structural phase transition in CeVO₄ as observed by x-ray diffraction (pressure vs. volume) and possible metallization in CeVO₄ through electrical resistance and first principles electronic structure calculations.

Direct synthesis of Al-SBA-15 containing aluminosilicate species plugs in an acid-free medium and structural adjustment by hydrothermal post-treatment

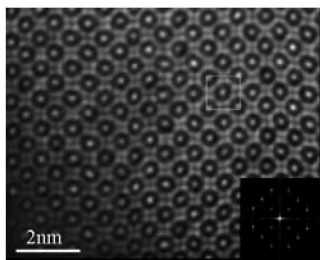
Lei Shi, Yan Xu, Na Zhang, Sen Lin, Xiangping Li, Peng Guo, Xuebing Li
 page 281



The plugs-containing structures can be interpreted as the distribution of individual isolated plugs along the mesoporous channel.

Observation of atomic scale compositional and displacive modulations in incommensurate melilite electrolytes

Fengxia Wei, Tim Williams, Tao An, Tom Baikie, Christian Kloc, Jun Wei, Tim White
 page 291

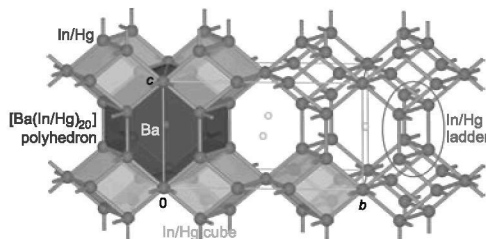


HAADF image for melilite composition [Nd_{1.5}Ca_{0.5}]₂[Ga]₂[Ga₂O_{7.25}]₂.

The new Hg-rich barium indium mercurides BaIn_xHg_{7-x} (x = 3.1) and BaIn_xHg_{11-x} (x = 0–2.8)

Synthesis, crystal and electronic structure

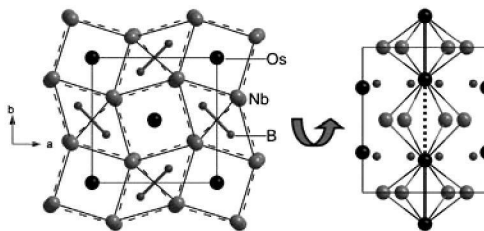
Marco Wendorff, Michael Schwarz, Caroline Röhr
 page 297



BaIn_{2.6}Hg_{4.4}: distorted cubes [(In/Hg)₈] (green, like in BaHg₁₁), folded ladders (violet, like in BaIn, BaHg₂ and BaIn₂) and Ba coordination polyhedra [Ba(In/Hg)₂₀] (blue, like in BaHg₁₁).

Nb₂OsB₂, with a new twofold superstructure of the U₃Si₂ type: Synthesis, crystal chemistry and chemical bonding

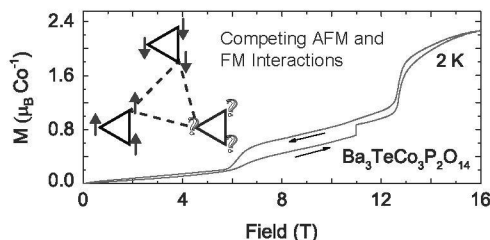
Mohammed Mbarki, Rachid St. Touzani, Boniface P.T. Fokwa
 page 304



Nb₂OsB₂ is, to the best of our knowledge, the first fully characterized phase in the ternary Nb–Os–B system. It crystallizes (space group *P4/mnc*, 128) with a new twofold superstructure of the U₃Si₂ structure type (space group *P4/mbm*, 127), and is therefore the first boride in this structure family crystallizing with a superstructure of the U₃Si₂ structure type. We show that the distortions leading to this superstructure occurs mainly in the Nb-layer, which tries to accommodate the large osmium atoms. The consequence of this puckering is the building osmium dumbbells instead of chains along [001].

Crystal structure and magnetic properties of the Ba₃TeCo₃P₂O₁₄, Pb₃TeCo₃P₂O₁₄, and Pb₃TeCo₃V₂O₁₄ langasites

J.W. Krizan, C. dela Cruz, N.H. Andersen, R.J. Cava
 page 310

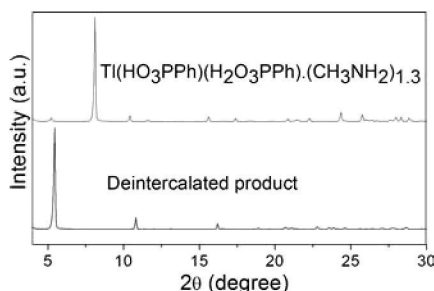


Ba₃TeCo₃P₂O₁₄, Pb₃TeCo₃P₂O₁₄ and Pb₃TeCo₃V₂O₁₄ exhibit a triangles-of-triangles arrangement of the magnetic cations. Despite the Pb-induced crystallographic distortion, all of these materials exhibit competing antiferromagnetic and ferromagnetic interactions that lead to complex high field magnetism.

Monovalent metal phenylphosphonates and phenylarsonates: Single crystal X-ray structures of $A(\text{HO}_3\text{PPh})(\text{H}_2\text{O}_3\text{PPh})$ ($A = \text{K}, \text{Rb}, \text{Cs}, \text{Tl}$) and $\text{Na}(\text{HO}_3\text{AsPh})(\text{H}_2\text{O}_3\text{AsPh})$ and methylamine intercalation of $A(\text{HO}_3\text{PPh})(\text{H}_2\text{O}_3\text{PPh})$ ($A = \text{Li}, \text{Na}, \text{K}, \text{Tl}$)

Nitin Balkrushna Padalwar, Chekka Pandu, Kanamaluru Vidyasagar

page 321

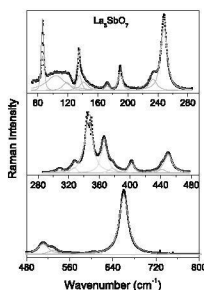


Amongst $A(\text{HO}_3\text{PPh})(\text{H}_2\text{O}_3\text{PPh})$ ($A = \text{alkali metal}, \text{Tl}$) phenylphosphonates of four structure types, lithium, sodium, potassium and thallium compounds undergo methylamine intercalation.

Crystal structure of fluorite-related Ln_3SbO_7 ($\text{Ln} = \text{LaDy}$) ceramics studied by synchrotron X-ray diffraction and Raman scattering

K.P.F. Siqueira, R.M. Borges, E. Granado, L.M. Malard, A.M. de Paula, R.L. Moreira, E.M. Bittar, A. Dias

page 326

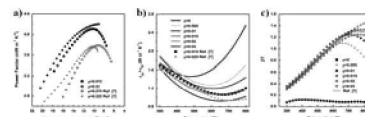


Raman spectrum for La_3SbO_7 ceramics showing their 22 phonon modes adjusted through Lorentzian lines. According to synchrotron X-ray diffraction and Raman scattering, this material belongs to the space group $Cmcm$.

High figure of merit and thermoelectric properties of Bi-doped $\text{Mg}_2\text{Si}_{0.4}\text{Sn}_{0.6}$ solid solutions

Wei Liu, Qiang Zhang, Kang Ying, Hang Chi, Xiaoyuan Zhou, Xinfeng Tang, Ctirad Uher

page 333

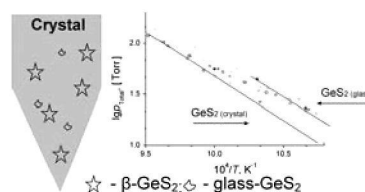


- (a) The relationship between electrical conductivity and power factor for Sb/Bi-doped $\text{Mg}_{2.16}(\text{Si}_{0.4}\text{Sn}_{0.6})_{1-y}(\text{Sb/Bi})_y$ ($0 < y = 0.03$) solid solutions.
- (b) The correlation between temperature and the combination of the lattice and the bipolar terms of thermal conductivity of $\text{Mg}_{2.16}(\text{Si}_{0.4}\text{Sn}_{0.6})_{1-y}\text{Bi}_y$ ($0 = y = 0.03$) solid solutions.
- (c) Temperature dependent dimensionless figure of merit ZT of $\text{Mg}_{2.16}(\text{Si}_{0.4}\text{Sn}_{0.6})_{1-y}\text{Bi}_y$ ($0 = y = 0.03$) solid solutions.

A new way of phase identification, of $\text{AgGaGeS}_4 \cdot n\text{GeS}_2$ crystals

R.E. Nikolaev, I.G. Vasilyeva

page 340

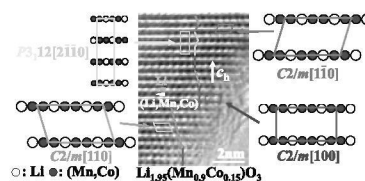


$\lg p-1/T$ dependences of as-grown $\text{AgGaGeS}_4 \cdot n\text{GeS}_2$ crystals.

Electron diffraction and high-resolution electron microscopy studies on layered $\text{Li}_{2-\delta}(\text{Mn}_{1-x}\text{Co}_x)_{1+\delta}\text{O}_3$

Hiroki Fujii, Kiyoshi Ozawa, Takashi Mochiku

page 345



An HREM image for $\text{Li}_{1.95}(\text{Mn}_{0.9}\text{Co}_{0.15})\text{O}_3$ and schematic drawings of $C2/m$ and $P3_12$ Li_2MnO_3 projected along the various zone axes. Each projected unit cell is indicated by rectangles and parallelograms

Corrigendum

Corrigendum to “Mixed oxides of sodium, antimony (5+) and divalent metals (Ni, Co, Zn or Mg)” [J. Solid State Chem. 183 (2010) 684691]

V.V. Politaev, V.B. Nalbandyan, A.A. Petrenko, I.L. Shukaev, V.A. Volotchayev, B.S. Medvedev

page 192

Language services. Authors who require information about language editing and copyediting services pre- and post-submission please visit <http://www.elsevier.com/locate/languagepolishing> or our customer support site at <http://epsupport.elsevier.com>. Please note Elsevier neither endorses nor takes responsibility for any products, goods or services offered by outside vendors through our services or in any advertising. For more information please refer to our Terms & Conditions <http://www.elsevier.com/termsandconditions>

For a full and complete Guide for Authors, please go to: <http://www.elsevier.com/locate/jssc>

Journal of Solid State Chemistry has no page charges.