

CONTENTS

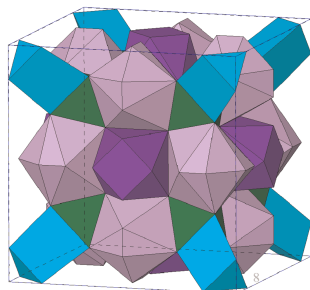
Abstracted/indexed in BioEngineering Abstracts, Chemical Abstracts, Coal Abstracts, Current Contents/Physics, Chemical, & Earth Sciences, Engineering Index, Research Alert, SCISEARCH, Science Abstracts, and Science Citation Index. Also covered in the abstract and citation database SCOPUS[®]. Full text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

Editorial Announcement

Professor Wolfgang Tremel
Mercouri G. Kanatzidis
Page 1

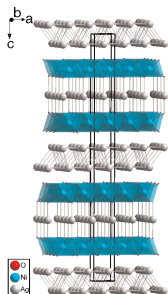
Regular Articles

Crystal-structure and Mössbauer studies of $\text{Li}_{1.746}\text{Nd}_{4.494}\text{FeO}_{9.493}$
Miha Drofenik, Irena Ban, Darko Makovec, Darko Hanžel, Amalija Golobič and Ljubo Golič
Page 2



Representation of the $\text{Li}_{1.746}\text{Nd}_{4.494}\text{FeO}_{9.493}$ structure.

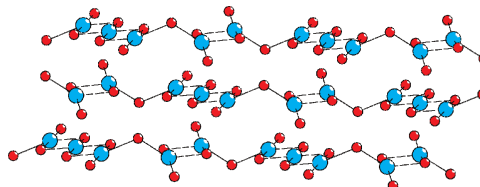
$\text{Ag}_3\text{Ni}_2\text{O}_4$ —A new stage-2 intercalation compound of 2H-AgNiO_2 and physical properties of 2H-AgNiO_2 above ambient temperature
Timo Sörgel and Martin Jansen
Page 8



$\text{Ag}_3\text{Ni}_2\text{O}_4$ —the first stage-2 intercalation compound of a delafossite.

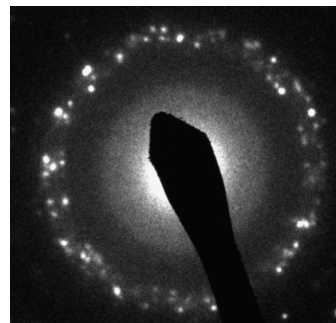
Regular Articles—Continued

Synthesis, crystal structure and magnetic characterization of $\text{Na}_2\text{Cu}_5(\text{Si}_2\text{O}_7)_2$: An inorganic ferrimagnetic chain
Antônio Moreira dos Santos, Paula Brandão, Andrew Fitch, Mário S. Reis, Vítor S. Amaral and João Rocha
Page 16



A novel copper silicate was synthesized through hydrothermal methods. Its crystal structure was determined from powder diffraction data. It comprises zig-zag chains of copper dimers and trimers. Its magnetic behavior is characteristic of one dimensional ferrimagnetism. A magnetic exchange sequence is proposed based on structural arguments.

Stabilization of hexagonal close-packed metallic nickel for alumina-supported systems prepared from Ni(II) glycinate
Vicente Rodríguez-González, Eric Marceau, Patricia Beaunier, Michel Che and Cyrille Train
Page 22

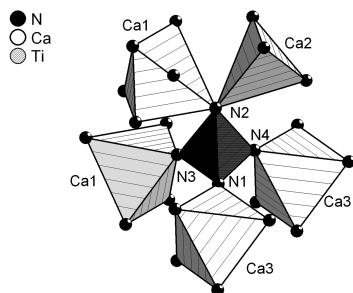


The decomposition of alumina-supported nickel glycinate in flowing argon mostly leads to an unusual phase of metallic Ni, hexagonal close-packed nanoparticles protected by graphite.

The synthesis and structural characterization of the new ternary nitrides: Ca_4TiN_4 and Ca_5NbN_5

Janet L. Hunting, Marta M. Szymanski, Philip E. Johnson, C. Brenhin Kellar and Francis J. DiSalvo

Page 31

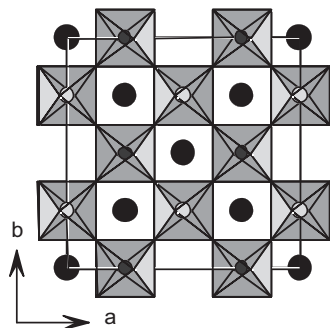


Ca_4TiN_4 : titanium tetrahedron (center) corner-sharing with calcium polyhedra.

Structure and dielectric characterization of a new *A*-site deficient $\text{La}_{5/3}\text{MgTaO}_6$ perovskite

D.D. Khalyavin, A.M.R. Senos, P.Q. Mantas, D.N. Argyriou, I. Tarroso Gomes, L.G. Vieira and J.L. Ribeiro

Page 41

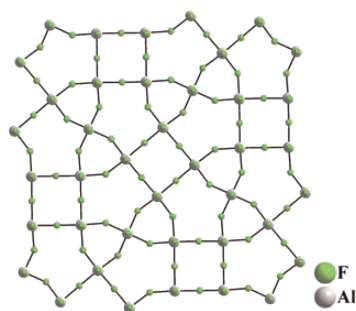


Short-range vacancy ordering and octahedral tilting in $\text{La}_{5/3}\text{MgTaO}_6$.

Ionothermal synthesis of $\beta\text{-NH}_4\text{AlF}_4$ and the determination by single crystal X-ray diffraction of its room temperature and low temperature phases

Emily R. Parnham, Alex M.Z. Slawin and Russell E. Morris

Page 49

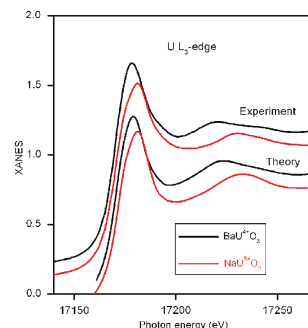


Ionothermal synthesis, the use of an ionic liquid as the solvent in materials preparation, has been used to prepare $\beta\text{-NH}_4\text{AlF}_4$, and structural characterisation indicates that there are two versions of the structure, a low temperature primitive phase at 93 K and a high temperature body-centered phase at 298 K.

Local structure and oxidation state of uranium in some ternary oxides: X-ray absorption analysis

A.V. Soldatov, D. Lamoen, M.J. Konstantinović, S. Van den Berghe, A.C. Scheinost and M. Verwerft

Page 54

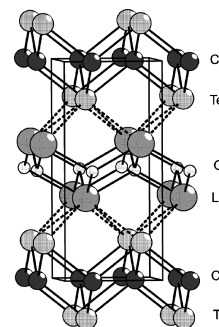


Comparison of the experimental U L_3 edge XANES in BaUO_3 and NaUO_3 with the theoretical spectra.

Syntheses, crystal and electronic structure, and some optical and transport properties of LnCuOTe ($\text{Ln} = \text{La}, \text{Ce}, \text{Nd}$)

Min Ling Liu, Li Bin Wu, Fu Qiang Huang, Li Dong Chen and James A. Ibers

Page 62

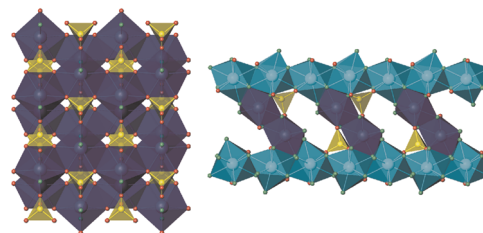


Crystal structure of LnCuOTe viewed approximately along $[100]$.

Product evolution in the Np(IV) fluorophosphate system

Travis H. Bray, Tyler A. Sullens, Tatiana Y. Shvareva, Richard E. Sykora, Richard G. Haire and Thomas E. Albrecht-Schmitt

Page 70



Two Np(IV) fluorophosphates, NpFPO_4 and $\text{Cs}_2\text{Np}_2\text{F}_7\text{PO}_4$, have been prepared as single crystals under hydrothermal conditions. NpFPO_4 crystallizes first, then reacts to yield $\text{Cs}_2\text{Np}_2\text{F}_7\text{PO}_4$ and finally yields NpF_4 . Single crystal X-ray structures of NpFPO_4 and $\text{Cs}_2\text{Np}_2\text{F}_7\text{PO}_4$ show three-dimensional frameworks containing Np(IV) in both eight- and nine-coordinate environments.

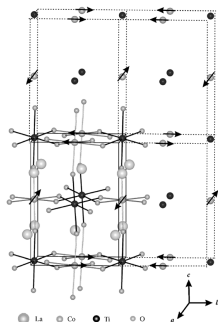
Continued

Synthesis and properties of the double perovskites

La_2NiVO_6 , La_2CoVO_6 , and $\text{La}_2\text{CoTiO}_6$

K.L. Holman, Q. Huang, T. Klimczuk, K. Trzebiatowski,
J.W.G. Bos, E. Morosan, J.W. Lynn and R.J. Cava

Page 75

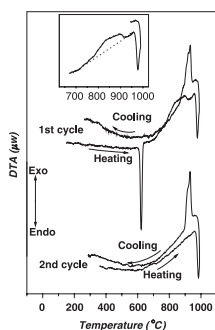


The antiferromagnetic structure of $\text{La}_2\text{CoTiO}_6$ as prepared by high-temperature routes with spins showing the $P2/m'$ magnetic symmetry.

On α - β phase transition in cristobalite-type $\text{Al}_{1-x}\text{Ga}_x\text{PO}_4$ ($0.00 \leq x \leq 1.00$)

S.N. Achary, R. Mishra, O.D. Jayakumar,
S.K. Kulshreshtha and A.K. Tyagi

Page 84

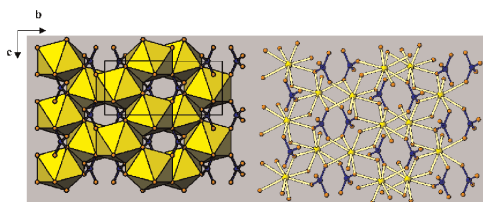


The cristobalite-type GaPO_4 relaxed slowly to quartz type modification above 700 °C (as indicated by a broad exotherm in inset).

Synthesis, structure and magnetic properties of R - W - O - N ($R = \text{Nd}$ and Eu) oxynitrides

R. Pastrana-Fábregas, J. Isasi-Marín, C. Cascales and
R. Sáez-Puche

Page 92

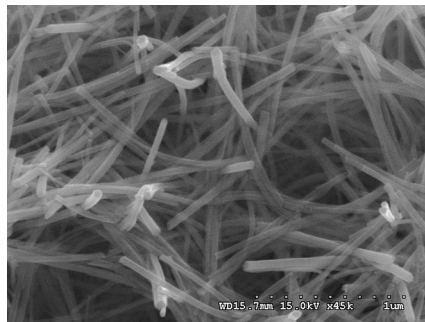


The scheelite-type structure of the new $\text{NdWO}_{3.05}\text{N}_{0.95}$ oxynitride prepared by the nitridation of corresponding $\text{Nd}_2\text{W}_2\text{O}_9$ precursor. The magnetic susceptibility for this oxynitride has been successfully simulated using the semi-empirical structure derived CF parameters.

Large-scale synthesis of single-crystal hexagonal tungsten trioxide nanowires and electrochemical lithium intercalation into the nanocrystals

Zhanjun Gu, Huiqiao Li, Tianyou Zhai, Wensheng Yang,
Yongyao Xia, Ying Ma and Jiannian Yao

Page 98

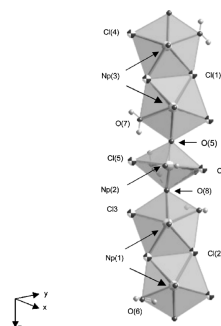


The large-scale synthesis of single-crystal hexagonal tungsten oxides nanowires has been successfully realized by a simple hydrothermal method without any templates and catalysts. Uniform h-WO_3 nanowires with diameters of 25–50 nm and length of up to several micrometers are obtained. The electrochemical performances of the nanowires as anode materials of Li-ion batteries have also been investigated. These 1D nanostructures exhibit better cycle ability than that of bulk materials, which indicates the morphology and particle size have the influences on the electrochemical performances.

The role of cation-cation interactions in a neptunyl chloride hydrate and topological aspects of neptunyl structural units

T.Z. Forbes and P.C. Burns

Page 106

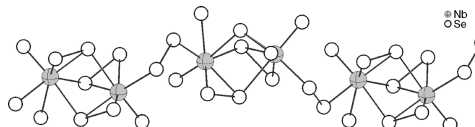


The structure of $\text{K}_4(\text{NpO}_2)_3\text{Cl}_7(\text{H}_2\text{O})_4$ contains neptunyl pentagonal bipyramids that are linked into chains through cation-cation interactions.

$\text{Rb}_2\text{BaNb}_2\text{Se}_{11}$: A new quaternary niobium polyselenide with infinite anionic chains composed of $\text{Nb}_2\text{Se}_{11}$ building block

Yuangong Wu, Christian Näther and Wolfgang Bensch

Page 113

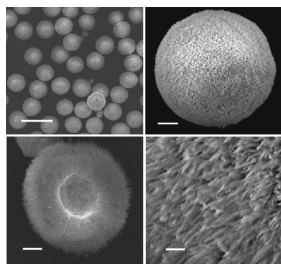


The ${}^{\infty}[\text{Nb}_2\text{Se}_{11}]^{4-}$ chain in the new mixed group1/group2 polyselenide compound $\text{Rb}_2\text{Banb}_2\text{Se}_{11}$ is formed by interconnection of $[\text{Nb}_2\text{Se}_{11}]$ units via Se_2^{2-} dianions. The $[\text{Nb}_2\text{Se}_{11}]$ building blocks are formed by face sharing of two distorted pentagonal bipyramidal NbSe_7 groups.

Hydrothermal synthesis of lindgrenite with a hollow and prickly sphere-like architecture

Jiasheng Xu and Dongfeng Xue

Page 119

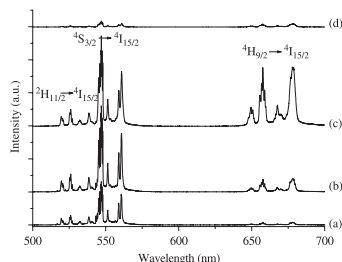


Lindgrenite $[\text{Cu}_3(\text{OH})_2(\text{MoO}_4)_2]$ with a hollow and prickly sphere-like architecture has been synthesized via a hydrothermal route. The hierarchical lindgrenite particles are hollow and prickly spheres, which are comprised of numerous crystal strips that are aligned perpendicularly to the spherical surface. $\text{Cu}_3\text{Mo}_2\text{O}_9$ with the similar size and morphology can be easily obtained by a thermal treatment of the as-prepared lindgrenite.

Green and red upconversion luminescence in $\text{CeO}_2\text{:Er}^{3+}$ powders produced by 785 nm laser

Hai Guo

Page 127

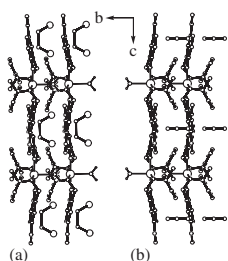


Upconversion spectra of Er^{3+} -doped CeO_2 powders with different Er^{3+} concentration: (a) 0.5% (b) 1% (c) 3% (d) 6%, ($\lambda_{\text{ex}} = 785 \text{ nm}$).

Metal-organic frameworks from chiral square-pyramidal copper(II) complexes: Enantiospecific inclusion and perfectly polar alignment of guest and host molecules

Vamsee Krishna Muppidi, Panthapally S. Zacharias and Samudranil Pal

Page 132

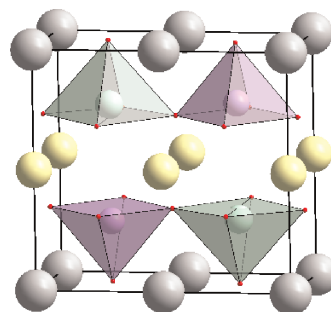


The square-pyramidal $\text{Cu}(\text{II})$ complexes $[\text{CuL}_2(\text{H}_2\text{O})]$ with the bidentate HL^n ($\text{HL}^1 = N$ -(2-hydroxy-5-nitrobenzyl)-(*R*)- α -methylbenzylamine and $\text{HL}^2 = N$ -(2-hydroxy-5-nitrobenzyl)-(*S*)- α -methylbenzylamine) form 1:1 host-guest compounds with $\text{Br}(\text{CH}_2)_2\text{Br}$ and CH_3CN . The X-ray structures of these species reveal the enantiospecific confinement of the chiral rotamers of $\text{Br}(\text{CH}_2)_2\text{Br}$ and perfectly polar ordering of both host and guest molecules in the crystal lattice. The figure shows the polar alignments of (a) $[\text{CuL}_2(\text{H}_2\text{O})] \cdot (P)\text{-C}_2\text{H}_4\text{Br}_2$ and (b) $[\text{CuL}_2(\text{H}_2\text{O})] \cdot \text{CH}_3\text{CN}$.

$\text{EuBaFe}_2\text{O}_5$: Extent of charge ordering by Mössbauer spectroscopy and high-intensity high-resolution powder diffraction

P. Karen, K. Gustafsson and J. Lindén

Page 138

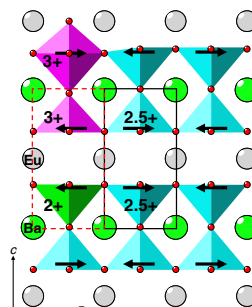


Environments of the two crystallographically different Fe atoms in charge-ordered $\text{EuBaFe}_2\text{O}_5$ at 100 K as refined from SXP data; distances in Å.

$\text{EuBaFe}_2\text{O}_{5+w}$: Valence mixing and charge ordering are two separate cooperative phenomena

P. Karen, K. Gustafsson and J. Lindén

Page 148

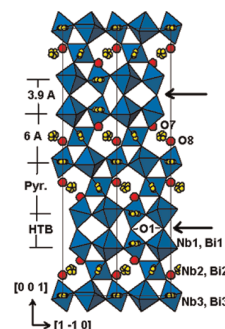


Effect of oxygen nonstoichiometry on valence mixing of di- and trivalent iron via electron sharing in ferromagnetically coupled pairs across the Eu layer in $\text{EuBaFe}_2\text{O}_{5+w}$.

Chemical twinning of the pyrochlore structure in the system $\text{Bi}_2\text{O}_3\text{-Fe}_2\text{O}_3\text{-Nb}_2\text{O}_5$

I.E. Grey, W.G. Mumme, T.A. Vanderah, R.S. Roth and C. Bougerol

Page 158



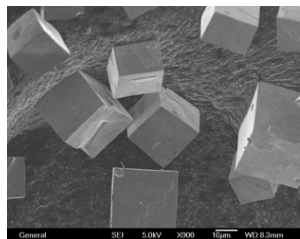
Polyhedral representation of the hexagonal $\text{Bi}_{5.67}\text{Nb}_{10}\text{FeO}_{35}$ structure, viewed along $[1\ 1\ 0]$. Arrows show location of chemical twin planes. Bi atoms are shown as clusters of small circles. O' atoms (O(7), O(8)) are shown as larger circles.

Continued

Mild hydrothermal synthesis and magnetic properties of the manganates $\text{Pr}_{1-x}\text{Ca}_x\text{MnO}_3$

Yan Chen, Hongming Yuan, Ge Tian, Ganghua Zhang and Shouhua Feng

Page 167



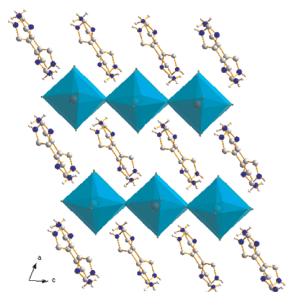
The calcium-doped manganates, $\text{Pr}_{1-x}\text{Ca}_x\text{MnO}_3$ ($x = 0.39, 0.46, 0.70, 0.76$), were synthesized as cube-shaped crystalline phases under mild hydrothermal conditions for the first time. The crystals could be grown in one step from solutions of metal salts and potassium hydroxide solution at temperatures $\sim 240^\circ\text{C}$. The studies indicate that formation of the materials is dependent on the alkalinity and composition of the initial reaction mixtures. The magnetic properties show spin-glass-like behavior due to competing ferromagnetic and antiferromagnetic exchange interactions in $\text{Pr}_{1-x}\text{Ca}_x\text{MnO}_3$ with $x = 0.39, 0.46$.

Synthesis, structure and optical properties of new organic-inorganic haloplumbates complexes

$(\text{C}_5\text{H}_{10}\text{N}_3)\text{PbX}_4$ ($X = \text{Br}, \text{Cl}$), $(\text{C}_2\text{H}_2\text{N}_4)\text{PbBr}_3$

Yinyan Li, Cuikun Lin, Guoli Zheng and Jun Lin

Page 173

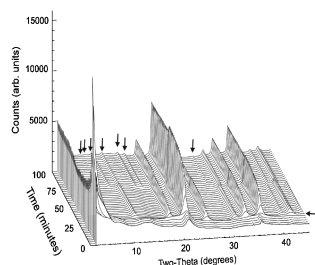


Structure and optical properties of new layered organic-inorganic haloplumbate complexes, which combine haloplumbate and organic ammonium of histaminium and 3-amino-1,2,4-triazol were systematically studied.

Formation of $\gamma\text{-Fe}_2\text{O}_3$ nanoparticles and vacancy ordering: An *in situ* X-ray powder diffraction study

Jens-Erik Jørgensen, Lene Mosegaard, Line E. Thomsen, Torben R. Jensen and Jonathan C. Hanson

Page 180

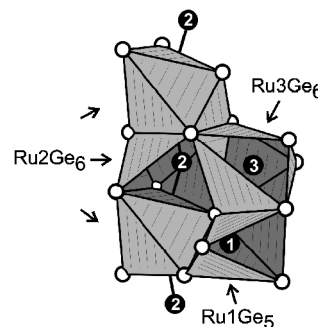


Stack of powder diagrams showing the formation of $\gamma\text{-Fe}_2\text{O}_3$ nanoparticles and subsequent vacancy ordering at 305°C .

Bridgman crystal growth of $\text{Yb}_2\text{Ru}_3\text{Ge}_4$ —A ternary germanide with a three-dimensional network of condensed distorted RuGe_5 and RuGe_6 units

Falko M. Schappacher, Kenichi Katoh and Rainer Pöttgen

Page 186

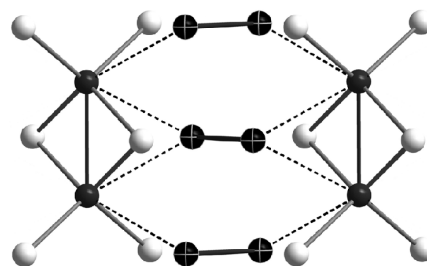


Condensation of the Ru_1Ge_5 , Ru_2Ge_6 , and Ru_3Ge_6 units in the structure of $\text{Yb}_2\text{Ru}_3\text{Ge}_4$.

The metal-rich palladium chalcogenides Pd_2MCh_2 ($M = \text{Fe}, \text{Co}, \text{Ni}$; $\text{Ch} = \text{Se}, \text{Te}$): Crystal structure and topology of the electron density

Regina Pocha, Catrin Löhnert and Dirk Johrendt

Page 191

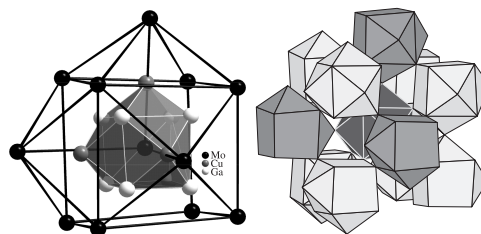


The metallic selenide Pd_2CoSe_2 and homologue Pd_2MCh_2 compounds ($M = \text{Fe}, \text{Co}, \text{Ni}$; $\text{Ch} = \text{Se}, \text{Te}$) are the first ternary palladium chalcogenides with iron group metals. The crystal structure shows one-dimensional $[\text{CoSe}_4/2]_\infty$ tetrahedra with short Co-Co bonds, which are connected by Pd_2 dumbbells. Electronic structure calculations reveal strong metal-metal bonding.

$\text{V}_2\text{Cu}_3\text{Ga}_8$, $\text{Mo}_2\text{Cu}_3\text{Ga}_8$ and $\text{W}_2\text{Cu}_3\text{Ga}_8$ —New compounds with a novel order variant of a bcc packing and motifs of self-similarity

Verena Kuntze, Rainer Lux and Harald Hillebrecht

Page 198

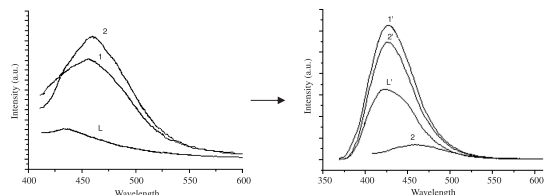


Threefold capped cubes TMCu_3Ga_8 are the coordination polyhedra in the new compounds $\text{TM}_2\text{Cu}_3\text{Ga}_8$ ($\text{TM} = \text{V}, \text{Mo}, \text{W}$) which were synthesised from the elements. The new crystal structure can be described as an ordered defect variant of the bcc packing: $[(\text{TM})_2(\text{Cu})_3(\square)_3][\text{Ga}_8]$. As a motif of self-similarity the polyhedra itself are packed in the same way.

Synthesis, characterization, and fluorescent properties of two Pb(II) complexes: $\{[\text{Pb}(\text{hca})_2 \cdot \text{DMF}] \cdot \text{DMF}\}_\infty$ and $[\text{Pb}(\text{hca})_2(\text{phen}) \cdot \text{DMF}]_2$

Xu Qing-Feng, Zhou Qiu-Xuan, Lu Jian-Mei, Xia Xue-Wei and Zhang Yong

Page 207

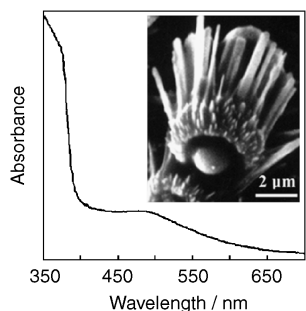


Two novel Pb(II) complexes: $\{[\text{Pb}(\text{hca})_2 \cdot \text{DMF}] \cdot \text{DMF}\}_\infty$ and $[\text{Pb}(\text{hca})_2(\text{phen}) \cdot \text{DMF}]_2$, (hca = trans-4-hydroxycinnamic anion) were obtained and characterized. Their structures are also determined by X-ray crystal analysis. Both of complexes in DMF solution show visible fluorescence and the intensity is stronger than that of ligand. Their emission intensities are increased greatly in an alkaline solution of pH 8, which is due to the enhancement of the planar conjugation of ligand hca with the deprotonate of the phenolic group.

Direct growth of comet-like superstructures of Au–ZnO submicron rod arrays by solvothermal soft chemistry process

Liming Shen, Ningzhong Bao, Kazumichi Yanagisawa, Yanqing Zheng, Kazunari Domen, Arunava Gupta and Craig A. Grimes

Page 213

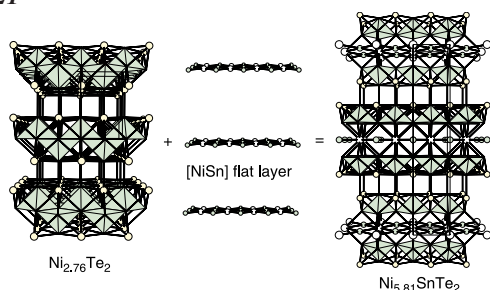


One-step solvothermal synthesis of novel comet-like superstructures of radially standing ZnO submicron rod arrays.

$\text{Ni}_{7-\delta}\text{SnTe}_2$: Modulated crystal structure refinement, electronic structure and anisotropy of electroconductivity

A.A. Isaeva, A.I. Baranov, Th. Doert, B.A. Popovkin, V.A. Kulbachinskii, P.V. Gurin, V.G. Kytin and V.I. Shtanov

Page 221

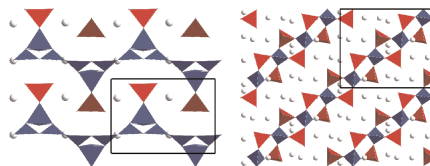


Modulated crystal structure of $\text{Ni}_{5.81}\text{SnTe}_2$ can be virtually generated from that of $\text{Ni}_{2.76}\text{Te}_2$.

Low-temperature flux syntheses and characterizations of two 1-D anhydrous borophosphates: $\text{Na}_3\text{B}_6\text{PO}_{13}$ and $\text{Na}_3\text{BP}_2\text{O}_8$

Ding-Bang Xiong, Hao-Hong Chen, Xin-Xin Yang and Jing-Tai Zhao

Page 233

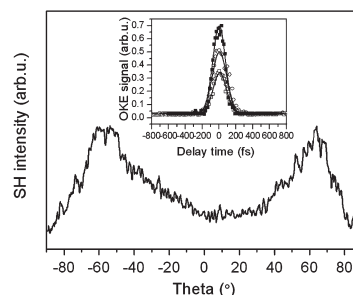


Two new anhydrous sodium borophosphates $\text{Na}_3\text{B}_6\text{PO}_{13}$ and $\text{Na}_3\text{BP}_2\text{O}_8$ were synthesized by low-temperature molten salts techniques using boric acid and sodium dihydrogen phosphate as flux, respectively. $\text{Na}_3\text{B}_6\text{PO}_{13}$ crystallize in *Pnma* and comprise infinite chain of $[\text{B}_6\text{PO}_{13}]^{3-}$, and $\text{Na}_3\text{BP}_2\text{O}_8$ crystallize in *C2/c* and comprise infinite chain of $[\text{BP}_2\text{O}_8]^{3-}$.

Third- and second-order optical nonlinearity of Ge–Ga–S–PbI₂ chalcogenide glasses

Haitao Guo, Haizheng Tao, Shaoxuan Gu, Xiaolin Zheng, Yanbo Zhai, Saisai Chu, Xiujian Zhao, Shufeng Wang and Qihuang Gong

Page 240

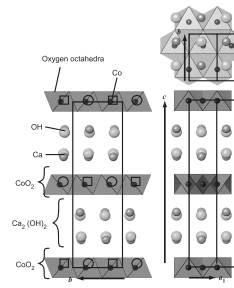


Second-harmonic generation (SHG) has been observed from thermally poled Ge–Ga–S–PbI₂ glasses by utilizing Maker fringe method. Ultrafast third-order nonlinear optical responses of these glasses have been measured by using femtosecond time-resolved optical Kerr effect (OKE) technique at the wavelength of 820 nm.

New misfit-layered cobalt oxide $(\text{CaOH})_{1.14}\text{CoO}_2$

Mitsuyuki Shizuya, Masaaki Isobe, Yuji Baba, Takuro Nagai, Minoru Osada, Kosuke Kosuda, Satoshi Take-nouchi, Yoshio Matsui and Eiji Takayama-Muromachi

Page 249

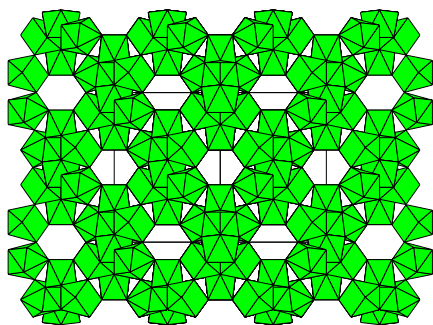


Crystal-structure model of the misfit-layered cobalt oxide $(\text{CaOH})_{1.14}\text{CoO}_2$. The rectangles indicate unit cells of the two subsystems. The open circles and squares represent the cobalt atoms situated at different positions along the projected coordinate.

Continued

An organically templated yttrium fluoride with a ‘Super-Diamond’ structure

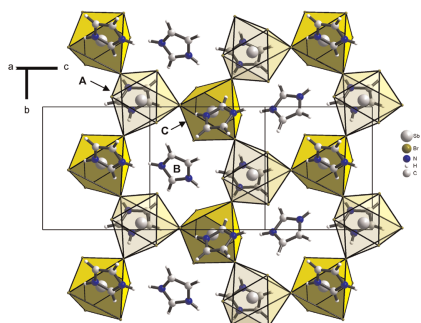
Nicholas F. Stephens and Philip Lightfoot
Page 260



The organically templated yttrium fluoride $[C_3N_2H_{12}]_{0.5}[Y_3F_{10}]$ adopts a ‘Super-Diamond’ framework structure. Its hydrothermal synthesis and structure determination from powder X-ray diffraction (PXRD) are described.

Structural characterization, thermal and electric properties of imidazolium bromoantimonate(III): $[C_3H_5N_2]_3[Sb_2Br_9]$

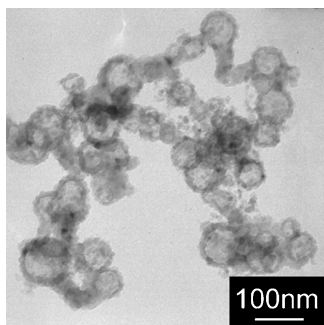
A. Piecha, V. Kinzhyalo, K. Ślepokura and R. Jakubas
Page 265



Projection of the crystal structure of $[C_3H_5N_2]_3[Sb_2Br_9]$ at 100 K (form I) on the cb plane as a polyhedral representation.

Nanosized aluminum nitride hollow spheres formed through a self-templating solid-gas interface reaction

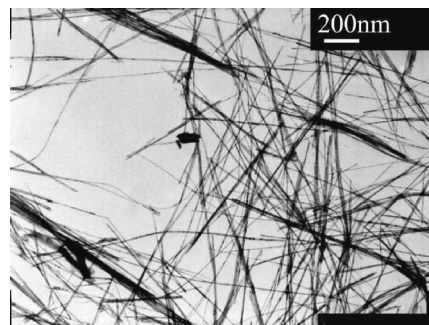
Jie Zheng, Xubo Song, Yaohua Zhang, Yan Li, Xingguo Li and Yikang Pu
Page 276



Nanosized aluminum nitride hollow spheres were synthesized by nitridation of aluminum nanoparticles at 1000°C using ammonia.

Microemulsion-mediated hydrothermal synthesis and characterization of zircon-type $LaVO_4$ nanowires

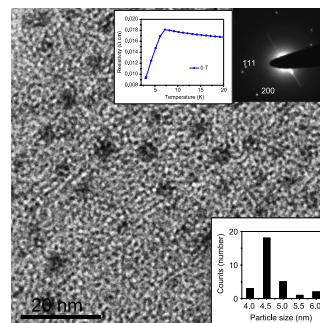
Weiliu Fan, Xinyu Song, Sixiu Sun and Xian Zhao
Page 284



The zircon-type tetragonal (t -) $LaVO_4$ nanowires were controlled synthesized by a microemulsion-mediated hydrothermal method, in which the aqueous cores of SDS/cyclohexane/ n -hexanol/water microemulsion were used as constrained microreactors for a controlled growth of t - $LaVO_4$ nanocrystals under hydrothermal conditions.

Nanoparticles of superconducting γ - Mo_2N and δ - MoN

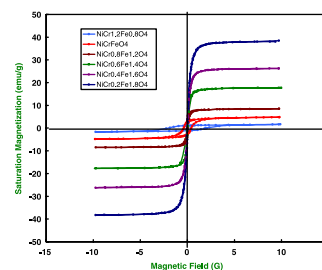
A. Gomathi, A. Sundaresan and C.N.R. Rao
Page 291



TEM image of the γ - Mo_2N particles with the inset showing the resistivity of the sample as a function of temperature.

Cation distribution and magnetic properties in chromium-substituted nickel ferrites prepared using aerosol route

Sonal Singhal and Kailash Chandra
Page 296

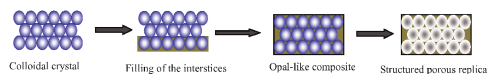


Hysteresis loop of chromium-substituted nickel ferrites after annealing at 1200°C .

Fabrication and characterization of cerium-doped barium titanate inverse opal by sol-gel method

Yi Jin, Yihua Zhu, Xiaoling Yang, Chunzhong Li and Jinghong Zhou

Page 301

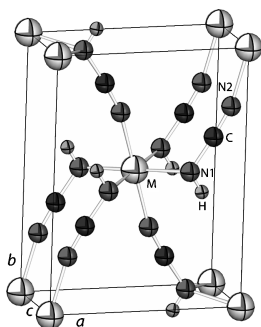


Cerium-doped barium titanate inverted opal was synthesized from barium acetate acid contained cerous acetate and tetrabutyl titanate in the interstitial spaces of a PS opal, which involves infiltration of precursors into the interstices of the PS opal template and removal of the PS opal by calcination.

Synthesis and structure determination of $\text{Co}(\text{HNCN})_2$ and $\text{Ni}(\text{HNCN})_2$

Manuel Krott, Xiaohui Liu, Paul Müller and Richard Dronskowski

Page 307

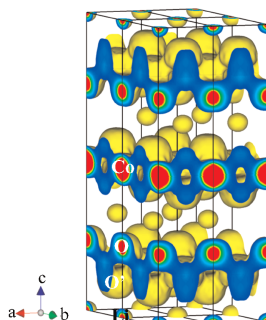


Crystal structure of $\text{Co}(\text{HNCN})_2$ and $\text{Ni}(\text{HNCN})_2$ with Co/Ni atoms as white, N as grey, C as dark-grey, and H as light-grey balls.

Structure and electron density analysis of electrochemically and chemically delithiated LiCoO_2 single crystals

Yasuhiko Takahashi, Norihito Kijima, Kaoru Dokko, Matsuhiko Nishizawa, Isamu Uchida and Junji Akimoto

Page 313

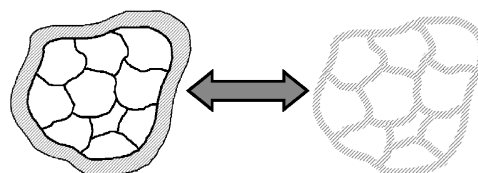


Three-dimensional electron density distribution of the electrochemically delithiated $\text{Li}_{0.68}\text{CoO}_2$ obtained by the maximum entropy method (MEM) using single-crystal X-ray diffraction data.

Structural characterization of the hollandite host lattice for the confinement of radioactive cesium: Quantification of the amorphous phase taking into account the incommensurate modulated character of the crystallized part

A.Y. Leinekugel-le-Cocq-Errien, P. Deniard, S. Jobic, E. Gautier, M. Evain, V. Aubin and F. Bart

Page 322

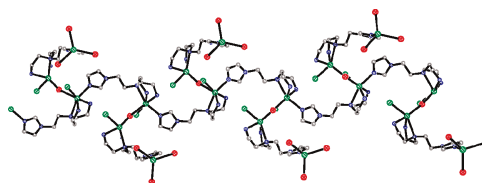


Amorphous phase localization.

Unusual one-dimensional branched-chain structures assembled by a novel imidazole-containing tripodal ligand with cadmium(II) salts and their fluorescent property

Ling-Yan Kong, Xi-Hong Lu, Yong-Qing Huang, Hiroyuki Kawaguchi, Qian Chu, Hui-Fang Zhu and Wei-Yin Sun

Page 331

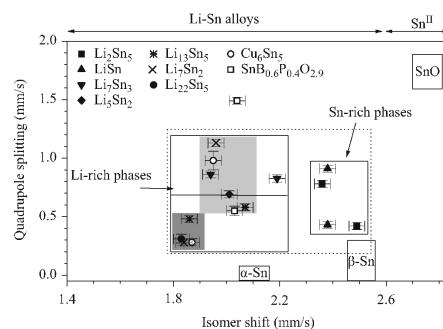


Three novel coordination polymers $[\text{Cd}_3(\text{L})_2(\mu\text{-Br})(\mu\text{-Cl})\text{Br}_3\text{Cl}]$ (1), $[\text{Cd}_3(\text{L})_2(\mu\text{-Cl})_2\text{Cl}_4]$ (2) and $[\text{Cd}(\text{L})\text{Cl}]_2[\text{CdCl}_4] \cdot \text{H}_2\text{O}$ (3) with one-dimensional branched chain and zigzag chain structures were obtained by reactions of an imidazole-containing tripodal ligand N^1 -(2-aminoethyl)- N^1 -(2-imidazoleethyl)-ethane-1,2-diamine (L) with Cd(II) salts.

Mössbauer spectra as a “fingerprint” in tin–lithium compounds: Applications to Li-ion batteries

F. Robert, P.E. Lippens, J. Olivier-Fourcade, J.-C. Jumas, F. Gillot, M. Morcrette and J.-M. Tarascon

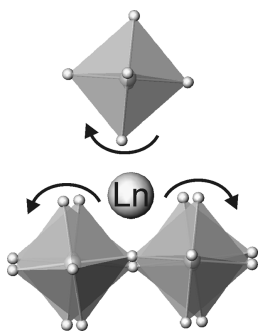
Page 339



Δ - δ correlation diagram for the different tin sites of the Li-Sn compounds. The symbols denote the different Li-Sn phases and the products obtained at the end of the discharge of $\eta\text{-Cu}_6\text{Sn}_5$ and $\text{SnB}_{0.6}\text{P}_{0.4}\text{O}_{2.9}$. The grey and the light-grey areas show Sn-centred polyhedra without and with one Sn first-nearest neighbours, respectively.

Continued

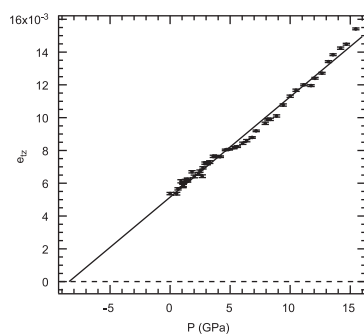
***Ln*SrScO₄ (*Ln* = La, Ce, Pr, Nd and Sm) systems and structure correlations for *A*₂BO₄ (K₂NiF₄) structure types**
 Rina Patel, Charles Simon and Mark T. Weller
 Page 349



Tilting of the octahedra in K₂NiF₄ structure type oxides (*A*₂BO₄) may be controlled by the *A*-type cation size and by temperature.

Structural evolution of (Ca_{0.35}Sr_{0.65})TiO₃ perovskite at high pressures

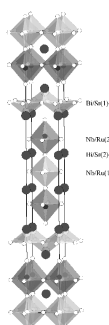
Michael A. Carpenter, Susana Rios, Peter Sondergeld, Wilson Crichton and Pierre Bouvier
 Page 360



Variation of the tetragonal strain, e_{Tz} , as a function of pressure for Ca_{0.35}Sr_{0.65}TiO₃, showing a break in slope in the vicinity of 3–4 GPa.

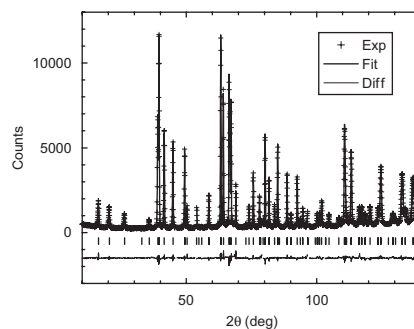
Three-layer Aurivillius phases containing magnetic transition metal cations: Bi_{2-x}Sr_{2+x}(Nb,Ta)_{2+x}M_{1-x}O₁₂, M = Ru⁴⁺, Ir⁴⁺, Mn⁴⁺, x ≈ 0.5

Neeraj Sharma, Chris D. Ling, Grant E. Wrighter, Parry Y. Chen, Brendan J. Kennedy and Peter L. Lee
 Page 370



Structure of Bi_{1.5}Sr_{2.5}Nb_{2.5}Ru_{0.5}O₁₂.

Neutron diffraction and X-ray absorption study of Ag₅Pb₂O₆
 K. Yoshii, M. Mizumaki, K. Kato, T. Uruga, H. Abe, A. Nakamura, Y. Shimojo, Y. Ishii and Y. Morii
 Page 377

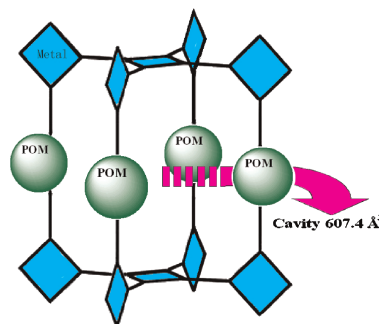


Powder neutron diffraction patterns of Ag₅Pb₂O₆ at room temperature.

Rapid Communication

Two unprecedented inorganic–organic boxlike and chainlike hybrids based on arsenic–vanadium clusters linked by nickel complexes

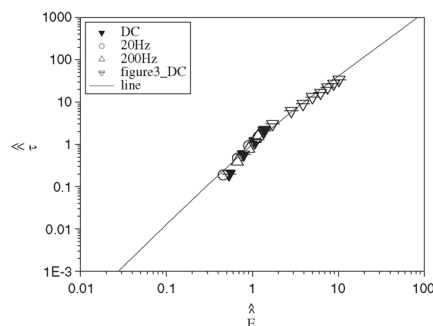
Yanfei Qi, Yangguang Li, Enbo Wang, Hua Jin, Zhiming Zhang, Xinglong Wang and Song Chang
 Page 382



The boxlike structure of compound **1** with cavity is designed from [Ni(en)₂]₄(4,4'-bipy)₄{Ni(H₂O)₂} sheets pillared by [α-As₈V₁₄O₄₂] clusters, which represents the first mixed-organic ligand-decorated tetrameric As–V–O cluster.

Comment on “Preparation and electrorheological properties of triethanolamine-modified TiO₂”

F.F. Fang and H.J. Choi
 Page 390

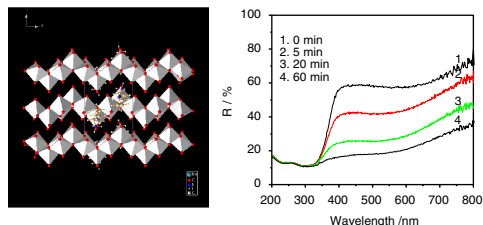


Universal yield stress plot of $\hat{\tau}$ versus \hat{E} for triethanolamine-modified TiO₂ based on ER fluid various electric fields.

Synthesis, structure and photochromic properties of a novel 1,6-hexanediamine trimolybdate supramolecular compound

Dehui Sun, Hongjie Zhang, Jilin Zhang, Guoli Zheng, Jiangbo Yu and Shuyan Gao

Page 393



Crystal structure of 1,6-hexanediamine trimolybdate ($C_6H_{18}N_2[Mo_3O_{10}]$) along c -axis. It consists of protonated 1,6-hexanediamine (HDA) and novel infinite chains $[Mo_3O_{10}]^{2-}$. Infinite chains $[Mo_3O_{10}]^{2-}$ are made up of distorted MoO_6 octahedron connected by edges and corners and are linked through protonated HDA cations into a one-dimensional network. What is more, the compound displays photochromic properties and may be applied to the field of photosensitive materials.

Author inquiries

Submissions

For detailed instructions on the preparation of electronic artwork, consult Elsevier's Author Gateway at <http://authors.elsevier.com>.

Other inquiries

Visit Elsevier's Author Gateway (<http://authors.elsevier.com>) for the facility to track accepted articles and set up e-mail alerts to inform you of when an article's status has changed. The Author Gateway also provides detailed artwork guidelines, copyright information, frequently asked questions and more.

Contact details for questions arising after acceptance of an article, especially those relating to proofs, are provided after registration of an article for publication.

Language Polishing

Authors who require information about language editing and copyediting services pre- and post-submission should visit <http://www.elsevier.com/wps/find/authorshome.authors/languagepolishing> or contact authorsupport@elsevier.com for more information. 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 at http://www.elsevier.com/wps/find/termsconditions.cws_home/termsconditions.

For a full and complete Guide for Authors, please refer to *J. Solid State Chem.*, Vol. 179, Issue 8, pp. *bmi-bmv*. The instructions can also be found at http://www.elsevier.com/wps/find/journaldescription.cws_home/622898/authorinstructions.

Journal of Solid State Chemistry has no page charges.