

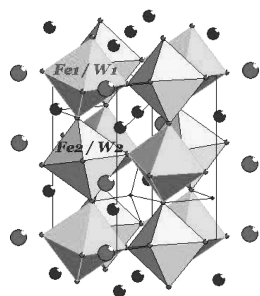
CONTENTS

Regular Articles

Structural and magnetic properties of perovskite $\text{Ca}_3\text{Fe}_2\text{WO}_9$

Sergey A. Ivanov, Sten Gunnar Eriksson, Roland Tellgren and Håkan Rundlöf

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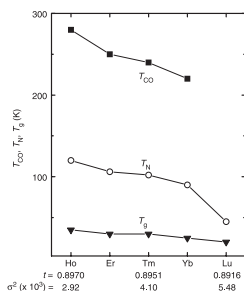


The monoclinic perovskite structure of $\text{Ca}_3\text{Fe}_2\text{WO}_9$.

Structure, magnetism and transport of the perovskite manganites $\text{Ln}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$ ($\text{Ln} = \text{Ho, Er, Tm, Yb}$ and Lu)

Kenji Yoshii, Hideki Abe and Naoshi Ikeda

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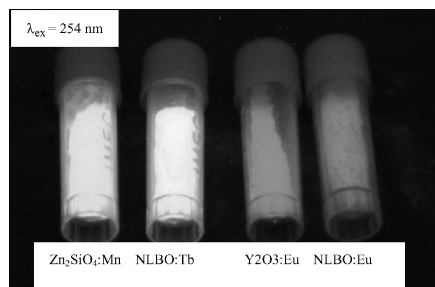


The values of T_{CO} , T_N , and T_g against the Ln ion for all the $\text{Ln}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$ studied (Ln : Ho–Lu).

A new promising phosphor, $\text{Na}_3\text{La}_2(\text{BO}_3)_3:\text{Ln}$ ($\text{Ln} = \text{Eu, Tb}$)

Zhihua Li, Jinghui Zeng, Guochun Zhang and Yadong Li

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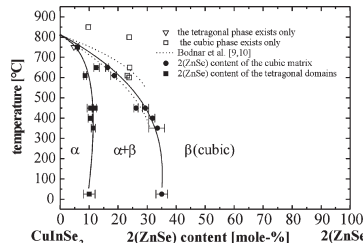
The picture of $\text{Na}_3\text{La}_2(\text{BO}_3)_3:\text{Ln}$ ($\text{Ln} = \text{Tb}^{3+}, \text{Eu}^{3+}$) phosphors under Mercury-free fluorescence lamp.

Regular Articles—Continued

The two-phase region in $2(\text{ZnSe})_x(\text{CuInSe}_2)_{1-x}$ alloys and structural relation between the tetragonal and cubic phases

G. Wagner, S. Lehmann, S. Schorr, D. Spemann and Th. Doering

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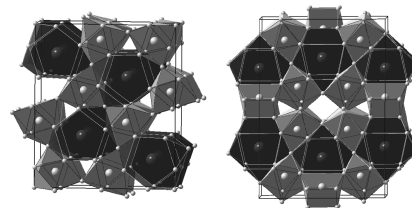


Two-phase region in the system $2(\text{ZnSe})_x(\text{CuInSe}_2)_{1-x}$ for different temperatures (terminated by full lines). The bold squares represent the composition of the tetragonal phase and the bold circles that of the cubic one. According to Bodnar et al. (Inst. Phys. Conf. Ser. 152 (1997) 119) the two-phase coexistence area was found between both dotted lines.

PrCo_2Al_8 and $\text{Pr}_2\text{Co}_6\text{Al}_{19}$: Crystal structure and electronic properties

O. Tougaard, D. Kaczorowski and H. Noël

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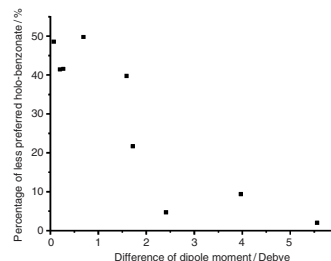


Crystal structure of PrCo_2Al_8 and $\text{Pr}_2\text{Co}_6\text{Al}_{19}$.

Selective anion-exchange intercalation of isomeric benzoate anions into the layered double hydroxide $[\text{LiAl}_2(\text{OH})_6]\text{Cl} \cdot \text{H}_2\text{O}$

Lixu Lei, Aamir Khan and Dermot O'Hare

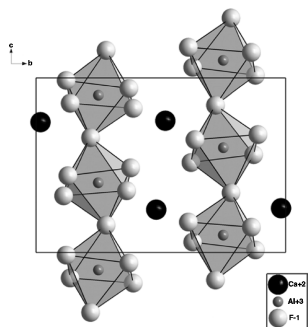
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All the geometric isomers of the nine benzoate derivatives have been intercalated into $[\text{LiAl}_2(\text{OH})_6]\text{Cl} \cdot \text{H}_2\text{O}$ in 50% (v/v) water/ethanol solution. Competitive intercalation studies using binary mixtures of the isomeric benzoates suggest that dipole moment may be a good general index for the preference.

Structural investigations of β -CaAlF₅ by coupling powder XRD, NMR, EPR and spectroscopic parameter calculations

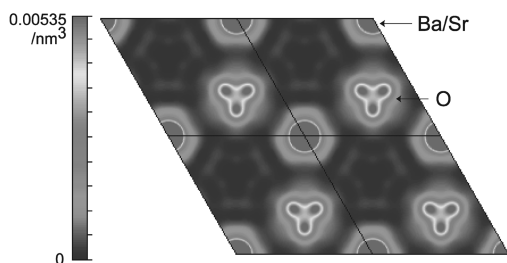
M. Body, G. Silly, C. Legein, J.-Y. Buzaré, F. Calvayrac and P. Blaha
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View of β -CaAlF₅, exhibiting isolated chains of AlF₆³⁻ octahedra sharing opposite corners.

Structural disorder in Ba_{0.6}Sr_{0.4}Al₂O₄

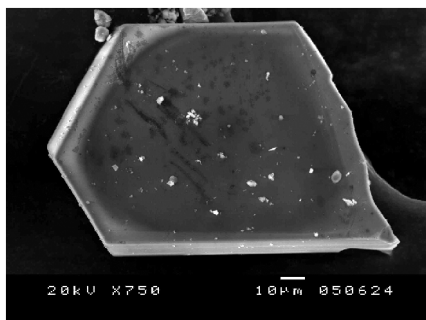
Koichiro Fukuda, Tomoyuki Iwata and Takashi Orito
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Two-dimensional electron density distribution map showing positional disorder of oxygen atoms in Ba_{0.6}Sr_{0.4}Al₂O₄.

Single-crystal synthesis and structure refinement of the LiCoO₂-LiAlO₂ solid-solution compounds:

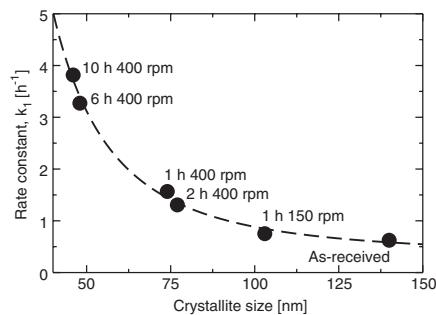
LiAl_{0.32}Co_{0.68}O₂ and LiAl_{0.71}Co_{0.29}O₂
Yasuhiko Takahashi, Norihito Kijima and Junji Akimoto
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SEM photograph of a transparent LiAl_{0.71}Co_{0.29}O₂ single crystal.

Dehydrogenation kinetics of as-received and ball-milled LiAlH₄

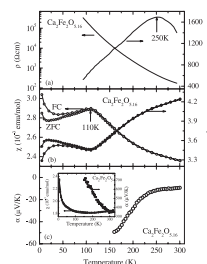
A. Andreasen, T. Vegge and A.S. Pedersen
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Effect of ball milling on kinetics. Rate constants for the dehydrogenation of lithium tetrahydroaluminate into trillithium hexahydroaluminate as a function of crystallite size obtained from XRPD line broadening.

Electronic behavior of three oxygen non-stoichiometric Fe⁴⁺/Fe³⁺ oxoperovskites

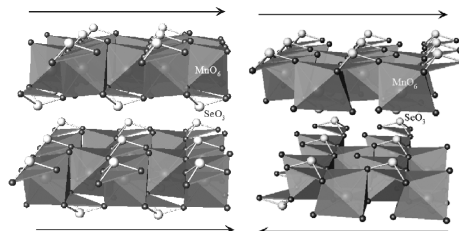
H.D. Zhou and J.B. Goodenough
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Temperature dependences of (a) resistivity $\rho(T)$ and $d(\ln \rho)/d(1/T)$; (b) molar magnetic susceptibility $\chi(T)$ and its $1/\chi(T)$; and (c) thermoelectric power $\alpha(T)$ for Ca₂Fe₂O_{5.16}. Inset of (c): Temperature dependences of magnetic susceptibility $\chi(T)$ and thermoelectric power $\alpha(T)$ for Ca₂Fe₂O₅.

Synthesis and structural, spectroscopic and magnetic studies of two new polymorphs of Mn(SeO₃)·H₂O

Aitor Larrañaga, José L. Mesa, José L. Pizarro, A. Peña, Roger Olazcuaga, María I. Arriortua and Teófilo Rojo
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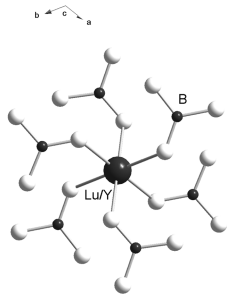


Crystal structures of two polymorphs of Mn(SeO₃)·H₂O.

Continued

Luminescence properties of efficient X-ray phosphors of $\text{YBa}_3\text{B}_9\text{O}_{18}$, $\text{LuBa}_3(\text{BO}_3)_3$, $\alpha\text{-YBa}_3(\text{BO}_3)_3$ and LuBO_3

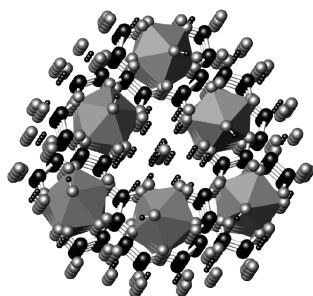
Chengjun Duan, Junlin Yuan and Jingtai Zhao
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Even though these compounds, $\text{YBa}_3\text{B}_9\text{O}_{18}$, $\text{LuBa}_3(\text{BO}_3)_3$, $\alpha\text{-YBa}_3(\text{BO}_3)_3$ and LuBO_3 , have different atomic structures, they have the common structural feature of each yttrium or lutetium ion bonded to six separate BO_3 groups, i.e., octahedral $\text{RE}(\text{BO}_3)_6$ ($\text{RE} = \text{Lu}$ or Y) moiety. This octahedral $\text{RE}(\text{BO}_3)_6$ ($\text{RE} = \text{Lu}$ or Y) moiety seems to be an important structural element for efficient X-ray excited luminescence of those compounds, as are the edge-sharing octahedral TaO_6 chains for tantalate emission.

An open-framework three-dimensional indium oxalate: $[\text{In}(\text{OH})(\text{C}_2\text{O}_4)(\text{H}_2\text{O})]_3 \cdot \text{H}_2\text{O}$

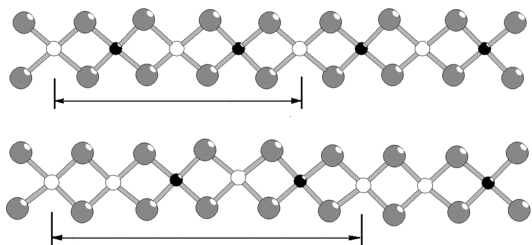
Sihai Yang, Guobao Li, Shujian Tian, Fuhui Liao and Jianhua Lin
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An open-framework three-dimensional indium oxalate $[\text{In}(\text{OH})(\text{C}_2\text{O}_4)(\text{H}_2\text{O})]_3 \cdot \text{H}_2\text{O}$ (1) was synthesized by hydrothermal reaction. Disordered water molecules are filled into the channels. It crystallizes in the trigonal system with space group $R\bar{3}c$, $a = 18.668(3) \text{ \AA}$, $c = 7.953(2) \text{ \AA}$ at 298 K.

Synthesis, structure and properties of new chain cuprates, $\text{Na}_3\text{Cu}_2\text{O}_4$ and $\text{Na}_8\text{Cu}_5\text{O}_{10}$

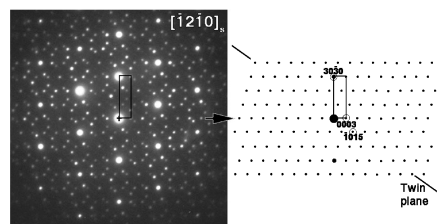
Mikhail Sofin, Eva-Maria Peters and Martin Jansen
Page 3708



CuO_2 chains in $\text{Na}_3\text{Cu}_2\text{O}_4$ (above) and $\text{Na}_8\text{Cu}_5\text{O}_{10}$ (below).

Synthesis and structure investigation of the $\text{Pb}_3\text{V}(\text{PO}_4)_3$ eulytite

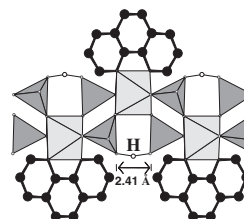
Roman V. Shpanchenko, Rodion V. Panin, Joke Hadermann, Catherine Bougerol, Eiji Takayama-Muromachi and Evgeny V. Antipov
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The scheme at the left of the $[\bar{1}2\bar{1}0]_s^*$ pattern shows one of the two twins present in the $[\bar{1}2\bar{1}0]_s^*$ pattern and the indexing of this twin.

Synthesis, structural characterization, and solid-state NMR spectroscopy of $[\text{Ga}(\text{phen})(\text{H}_{1.5}\text{PO}_4)_2] \cdot \text{H}_2\text{O}$ and $[\text{Ga}(\text{phen})(\text{HPO}_4)(\text{H}_2\text{PO}_4)] \cdot 1.5\text{H}_2\text{O}$ ($\text{phen} = 1, 10\text{-phenanthroline}$), two organic-inorganic hybrid compounds with 1-D chain structures

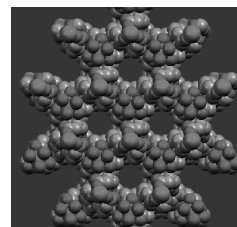
Wen-Jung Chang, Pai-Ching Chang, Hsien-Ming Kao and Kwang-Hwa Lii
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Two hydrothermally synthesized organic-inorganic hybrid compounds consist of 1-D chains of strictly alternating GaO_4N_2 octahedra and phosphate tetrahedra, which extend into 3-D supramolecular arrays via $\pi\text{-}\pi$ stacking interactions of *phen* ligands and hydrogen bonds. ^2H MAS NMR spectroscopy was applied to study the very short hydrogen bonds.

Syntheses and characterization of the samarium(III)-copper(II) 3D coordination network constructed by iminodiacetic acid

Yue-Peng Cai, Guo-Bi Li, Qing-Guang Zhan, Feng Sun, Jiang-Gao Zhang, Song Gao and An-Wu Xu
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A reaction between Sm_2O_3 , iminodiacetic acid (H_2Idad), CuO , and H_2O has allowed the synthesis of one nanoporous 3D open framework $\text{Cu}(\text{II})\text{-Sm}(\text{III})$ coordination polymer, $[\{\text{Sm}_2\text{Cu}_3(\text{Idad})_6\} \cdot 8\text{H}_2\text{O}]_n$ (1) and then magnetic behavior of the compound, $[\{\text{Gd}_2\text{Cu}_3(\text{Idad})_6\} \cdot 8\text{H}_2\text{O}]_n$ (2), with a similar structure was studied.

A novel biological active multilayer film based on polyoxometalate with pendant support-ligand

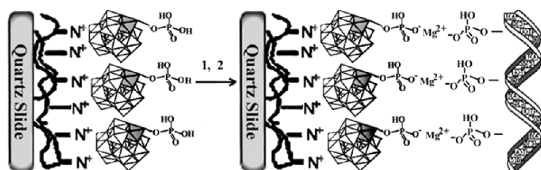
Huiyuan Ma, Jun Peng, Zhangang Han, Xia Yu and Baoxia Dong
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Cumulative subject index

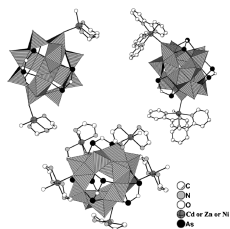
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Key steps of immobilization of DNA to the {PDDA/SiW₁₁Co-PO₄} film, **1** MgCl₂ aqueous of 5 mM, **2** DNA aqueous.

Hybrid inorganic–organic 1-D and 2-D frameworks with {As₈V₁₄O₄₂} clusters as building blocks

Shou-Tian Zheng, Jie Zhang, Ji-Qing Xu and Guo-Yu Yang
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Three inorganic–organic hybrid solid materials based on [As₈V₁₄O₄₂(H₂O)]⁴⁻ cluster building blocks bridging by transition metal complexes have been obtained by hydrothermal reaction and characterized by single-crystal X-ray diffraction. These compounds exhibit a wave-like chain, a tube-shaped chain and a rare two-dimensional structure containing interwinding puckery layers. Variable temperature susceptibility measurements demonstrate the presence of antiferromagnetic interaction between V^{IV} cations in two one-dimensional structures.