

Cumulative Subject Index for Volumes 142–148¹

A

Acetate

exchange reactions with layered hydroxide salts, **148**, 26

Acidity

silica–metal oxide sol pillared clays, effects of positive metal species, **144**, 45

Activation energy

SnS dissolution, **144**, 1thermal degradation of modified forms of lamellar titanium hydrogen-phosphate, **145**, 649

Adipic acid

structural phase transitions, **148**, 129

Adsorption

by silica–metal oxide sol pillared clays, **144**, 45

Aerosol pyrolysis

ultrasonic synthesis of SnO₂ and Pt/SnO₂ for gas sensors, **144**, 86

Alkenes

hydrosilylation, metal-mediated reactions on porous Si surfaces, **147**, 251

Alkynes

bis-silylation and hydrosilylation, metal-mediated reactions on porous Si surfaces, **147**, 251 β -Aluminastructure of, europium aluminum oxynitrides with, **142**, 48 β'' -Aluminainterface with Na, electrosubstitution by metals and metal compounds at, **143**, 111M cation bound to, doping of oxide ceramics by solid oxide electrochemical doping SOED2 method, **146**, 406

Aluminum

Al³⁺, effects on structure, thermal stability, and acidity of silica–metal oxide sol pillared clays, **144**, 45Al(OH)_x(NO₃)_{3-x}, aqueous solutions, polymerization of tetraethylorthosilicate in, **147**, 304Al₉(PO₄)₁₂(C₂₄H₉₁N₁₆)·17H₂O open framework with 12-membered ring channels, **145**, 220Z₃Al₂Si₃O₁₂ (Z = Mg, Fe, Mn, Ca) garnets, electron density study, **142**, 273Ba₅Cu₂Al₃F₂₃, crystal structure, **147**, 657Bi₂Al₄O₉, structure and oxide ion conductivity mechanism, **147**, 631CaAlTaO₅, crystal structure, **143**, 62Ca₂AlTaO₆, crystal structure, **143**, 62CaO–Al₂O₃–Ta₂O₅, phase diagram, **143**, 62[C₉H₂₀N][Al₂(HPO₄)₂(PO₄)] with layer topology, synthesis and characterization, **145**, 731[C₆H₂₁N₄][Al₃P₄O₁₆], synthesis and structure, **146**, 458Co₃Al₃(PO₄)₆Co(diethyliamine)₂·(H₂O)₃, hydrothermal synthesis and characterization, **146**, 157Co–Mg–Al layered double hydroxides, synthesis and activation, **142**, 382europium aluminum oxynitrides, magnetoplumbite or β -alumina-type structures, **142**, 48In₃Ti₂AlO₁₀, synthesis and crystal structures, **147**, 438KAl(MoO₄)₂, infrared activity, **145**, 751KAlO₂–KAISiO₄ system, cristobalite-related phases in, synthesis and characterization, **147**, 624La₄Mo₇Al₅₁, preparation and crystal structure, **143**, 198La₂TiAlO_{6.5-x} perovskite, synthesis and structure, **146**, 437La₄W₇Al₅₁, preparation and crystal structure, **143**, 198Li₂BAI₄, crystal structure and vibrational spectra, **142**, 214mediation of hydrosilylation of alkynes and alkenes on porous Si surfaces, **147**, 251 β'' -(Mg,Fe)Al(PO₄)O, Mg²⁺ and Fe²⁺ substitution in trigonal-bipyramidal-coordinated site, **142**, 51NaAl(MoO₄)₂, infrared activity, **145**, 751Na₃Al₂(PO₄)₂F₃, phase transitions, synthesis, and thermal, structural, and magnetic studies, **148**, 260N_xC₃Al_{4+x} ($x = 0$ –4) close-packed layer compounds, structure maps, **145**, 150[N₂C₃H₁₂]Al₂(PO₄)(OH_xF_{5-x}) ($x \approx 2$), synthesis and *ab initio* structure determination, **147**, 92[NH₃CH₂CH₂NH₃]_{2.5}[Al₄H(HPO₄)₄(H₂PO₄)₂(C₂O₄)₄], synthesis and structure, **143**, 74Ni_xAl_{1-x}Mn₂O₄, preparation for oxygen electrocatalysis in alkaline medium, **145**, 23rutile doped with Al³⁺, crystal growth and defect structure, **143**, 210Sr₃AlO₄F, synthesis and Rietveld refinement, **144**, 228YAlO₃ orthorhombic perovskite, zone center phonons of, **146**, 287(Y,Tb)₃Al₅O₁₂, garnet phosphor nanoparticles, preparation and characterization, **144**, 437

Aluminum hydroxonitrates

and tetraethylorthosilicate, copolymerization, **147**, 304

4-(2-Aminoethyl)diethylenetriamine

interaction with Al₉(PO₄)₁₂(C₂₄H₉₁N₁₆)·17H₂O open framework aluminophosphate with 12-membered ring channels, **145**, 220

Ammonia

intercalation into ZrS₂, **147**, 38

Ammonium

ammoniated 1-T-TaS₂, intercalation and deintercalation processes for, **145**, 336bis-dihexadecyltrimethylammonium dichromate, thermal and structural studies, **145**, 655(C₆H₅C₂H₄NH₃)₂PbCl₄, layered solution crystal growth method and crystal structure, **145**, 694(1,4-HOC₆H₄NH₃)₄P₄O₁₂·6H₂O, characterization, **144**, 318NH₄Fe₃(H₂PO₄)₆(HPO₄)₂·4H₂O, structure and magnetic properties, **144**, 163NH₄⁺X-Me²⁺X₂-H₂O (Xe^{2+} = Mn, Co, Ni; X⁻ = Cl, Br) double salts, **143**, 16NH₄VO₃, reaction with KHSO₄ at different temperatures, **145**, 128[TMA]₂[Fe(H₂O)₆]Mo₈O₂₆ and (TMA)₂FeMo₆O₂₀, hydrothermal synthesis and structures, **143**, 77

Ammonium peroxodisulfate solutions

orthorhombic LiMnO₂ in, Li⁺ extraction from, **142**, 19

Anderson localization

in BaCoO₃ hexagonal perovskite, **146**, 411¹Boldface numbers indicate volume; lightface numbers indicate pagination.

- Angular overlap model calculations
effect of mode of water coordination on electronic structure of $[V(OH_2)_6]^{3+}$ cation, **145**, 460
- Anion ordering
in fluorinated La_2CuO_4 , **142**, 440
- Anomalous synchrotron powder diffraction
 $La(Ni_{1-x}Cu_x)_x$ crystal structure, **146**, 313
- Anthracene
dimer in γ -cyclodextrin, intermolecular bonds bridging, **144**, 263
- Antiferromagnetic order
 $NdCaCrO_4$, **148**, 361
- Antiferromagnetism
 RPd_3S_4 ($R = Ce, Gd$), **146**, 226
 $ScMnO_3$, **143**, 132
- Antimony
 R_3Br_3Sb ($R = La, Pr$), syntheses and lattice dimensions, **144**, 175
 $R_xCo_{4-y}Fe_ySb_{12-z}$ ($R = La, Ce, Tl$; $0 < x, y, z < 1$), atomic displacement parameters and lattice thermal conductivity, **146**, 528
 $Cs_2Cu_2Sb_2Se_5$, synthesis from superheated organic media, crystal structure, and optical properties, **147**, 132
 $(CuI)_2Cu_3SbS_3$, electrical properties, **147**, 170
elemental, structure, **147**, 26
 $MFe_{1-x}Sb$ ($M = Zr, Hf$), and other isotropic antimonides, comparison, **144**, 330
 Gd_2GaSbO_7 pyrochlore, Bi^{3+} luminescence in, quenching, **146**, 494
 $K_2Gd_2Sb_2Se_9$ and $K_2La_2Sb_2Se_9$, eightfold superstructure caused by 3D ordering of $Sb^{3+} 5s^2$ lone pair, **147**, 309
modification of $Bi_4V_2O_{10+\delta}$ ($\delta = 0, 0.5, 1$) phases, structural study, **144**, 379
 $MNiSb$ ($M = Zr, Hf$), and other isotropic antimonides, comparison, **144**, 330
 R_5Sb_3Br ($R = La, Pr$), syntheses and lattice dimensions, **144**, 175
 Sb_2Te_3 single crystals doped with Pb, point defects in, **145**, 197
 $ScCo_{1-x}Sb$, and other isotropic antimonides, comparison, **144**, 330
- Antiphase modulated structure
 $Fe_2O_3(ZnO)_{15}$, HRTEM study, **142**, 174
- Apatite
 $A_{10}((B, Mn)O_4)_6F_2$ ($A = Ba, Sr, Ca$; $B = P, V$) substituted with Mn(V), color, **146**, 464
- Aragonite
synthetic, thermal expansion: review of elastic properties, **146**, 73
- Archetypes
quotient graphs, **147**, 429
- Arsenic
 R_5As_3Br ($R = La, Pr$), syntheses and lattice dimensions, **144**, 175
 As_4O_6 , compressibility and vibrational modes, **144**, 416
 $Be(HAsO_4) \cdot H_2O$, synthesis and structure, **146**, 394
 R_3Br_3As ($R = La, Pr$), syntheses and lattice dimensions, **144**, 175
 $RECu_{1+x}As_2$ ($RE = La, Ce, Pr$), synthesis, crystal structure, and magnetic susceptibility, **147**, 140
elemental, structure, **147**, 26
FeAs nanocrystals, synthesis via reductive recombination pathway, **144**, 237
- $GaAsO_4$, piezoelectric compound, neutron and X-ray structure refinements between 15 and 1073 K, **146**, 114
- $KTiOAsO_4$, second-order nonlinear optical coefficients, **142**, 156
- $Na_3NbO(AsO_4)_2$, synthesis and crystal structure, **144**, 53
- $Pr_3Zn_2As_6$, crystallization with vacancy variant of $HfCuSi_2$ -type structure, **142**, 266
- Atomic displacement parameters
clathrate-like thermoelectric compounds, **146**, 528
- Atomic force microscopy
 $KMPS_4$ ($M = Ni, Pd$): flexibility of MPS_4^- chains, **147**, 235
 α -SnSe: structural visualization, **148**, 513
- Atomic modeling
lithium ion electrode materials, **147**, 85
 LiV_2O_5 $\delta \leftrightarrow \epsilon$ phase transition, **146**, 129
- B**
- Band structure
 $GaMo_4S_8$ and GaV_4S_8 vacancy ordered spinels, *ab initio* calculations, **148**, 143
 $NiS_{2-x}Se_x$ system, **147**, 68
- Barium
 $AgBa(PO_3)_3$, crystal structure and luminescence properties of Ag in, **145**, 97
 $BaLnMQ_3$ ($Ln =$ rare earth; $M =$ coinage metal; $Q = Se$ or Te), synthesis and characterization, **147**, 366
 $BaAg_8S_5$, synthesis and crystal structure, **144**, 409
 $(Ba_{2-3x}Bi_{3x-1})(Fe_{2x}Bi_{1-2x})O_{2+3/2x}$ perovskites
incommensurate nuclear and magnetic structures for $0.43 \leq x \leq 0.50$, **147**, 450
synthesis, average structure, and magnetic properties, **147**, 45
 $BaBiO_3$ perovskite, thermal stability, **146**, 439
 $Ba_8(BN_2)_5F$, synthesis and crystal structure, **142**, 192
 $Ba_3Ln(BO_3)_3$ ($Ln = La-Lu, Y$), synthesis, structure, and properties, **145**, 33
 Ba_2CdTe_3 , synthesis and structure, **148**, 464
 $BaCe_xZr_{1-x}O_3$ ($0 \leq x \leq 1$) with perovskite-type structure, Raman spectroscopy, **142**, 220
 $BaCoO_3$ hexagonal perovskite, electronic structure, **146**, 411
 $LnBaCo_2O_{5+\delta}$ ($Ln = Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho$), ordered oxygen-deficient perovskites, structural and magnetic studies, **142**, 247
 $Ba_5Cu_2Al_3F_{23}$, crystal structure, **147**, 657
 $Ba_2Cu(HCOO)_6$, thermal behavior and crystal structure of room temperature phase, **147**, 545
 $Ba_2Cu'B'O_6$ ($B' = W, Te$), B-site-ordered perovskite-type oxides, crystal structure and magnetic properties, **147**, 291
 $LnBa_2Cu_3O_{7-x}$ ($Ln = Yb, Tm, Er, Ho, Dy$), Gibbs free energy of formation, **144**, 118
 $Ba_2Cu(PO_4)_2 \cdot H_2O$ and $Ba_2Cu(PO_4)_2 \cdot H_2O$, crystal structure and topology, **142**, 6
 $Ba_3CuRu_2O_9$, crystal structure, comparison to $Ba_2MRu_2O_9$ ($M = In, Co, Ni, Fe$), **146**, 65
 Ba_2FeMoO_6 double perovskite, large intragrain magnetoresistance above room temperature, **144**, 224
 $REBa_2Fe_3O_{8+\nu}$ ($RE = Gd, Eu, Sm, Nd$), cubic perovskite, partial ordering of oxygen in, **144**, 398
 $BaFe^{II}P_2O_7F_2$, hydrothermal synthesis and structural and magnetic studies, **148**, 286
 $BaFe_{11}Ti_{23}O_{23}$ and $Ba_6Fe_{45}Ti_{17}O_{106}$, characterization, **143**, 182
 $BaGeTeO_6$, structure and order-disorder phenomena, **147**, 99
 $BaHgO_2$, thermogravimetry under controlled oxygen and mercury partial pressures and related thermodynamics, **146**, 151
 Ba_2LnIrO_6 ($Ln = Sm, Eu, Gd, Yb$) ordered perovskites, magnetic properties, **147**, 618
 $BaLa_2MnS_5$, synthesis, crystal structure, and electrical properties, **146**, 336
 $Ba_{1-x}La_xPrO_3$ ($x \leq 0.075$), magnetic properties, **145**, 104
 $(Ba, La)_nTi_{n-\delta}O_{3n}$ ($n \geq 4\delta$) cation-deficient perovskite-related microphases in $La_4Ti_3O_{12}-BaTiO_3$ system, HRTEM study, **145**, 678
 $Ba_{10}((B, Mn)O_4)_6F_2$ ($B = P, V$) substituted with Mn(V), color, **146**, 464
 $BaMoO_4$, crystal structure, neutron diffraction study, **146**, 266
 $Ba_3Mo_{18}O_{28}$, polytypism and chemical intergrowth, HRTEM study, **142**, 89
 Ba_2LnNbO_6 ($Ln =$ lanthanoid elements) ordered perovskites, crystal structure and magnetic properties, **148**, 353
 $BaNbS_{3+\delta}$, quasi-one-dimensional, resistance anomaly in, **142**, 57

- Ba₄Nd₂Ti₄Ta₆O₃₀** and **Ba₅NdTi₃Ta₇O₃₀** bronzes, synthesis and characterization, **148**, 438
- BaO_{2-x}** ($1.97 \geq 2 - x \geq 1.72$), structural properties, **147**, 478
- Ba₂B'B''O₆** and **Ba₃B''B''O₉** perovskites, molten salt synthesis and thermodynamic stability, **148**, 492
- Ba_xPb_{1-x}(NO₃)₂**, Vegard's rule in, reevaluation by NMR and XRD, **145**, 327
- Ba₂PdF₆**, crystal structure, **148**, 242
- Ba₂MRu₂O₉** ($M = \text{In,Co,Ni,Fe}$), crystal structure, comparison to **Ba₃CuRu₂O₉**, **146**, 65
- Ba₁₇Sm₁₀Cl₆₄**, crystal structure, **146**, 124
- Ba_{6-3x}Sm_{8+2x}Ti₁₈O₅₄** ($x = 0.3, 0.5, 0.67, 0.71$), tungsten bronze-type solid solutions with superstructure, **142**, 336
- (Ba,Sr)Co_{1-x}O_y hexagonal perovskite-related oxides, cation deficiency in, **142**, 419
- Ba_{1-x}Sr_xCoO₃** ($0 \leq x \leq 0.5$) with one-dimensional structure, synthesis and properties, **146**, 96
- BaSrPdF₆**, crystal structure, **148**, 242
- (Ba_{0.875}Sr_{0.125})RuO₃, structure, bond-valence analysis, **143**, 69
- BaSr₄U₃O₁₄**, crystal structure, **146**, 144
- BaTiO₃**, cation doping with solid oxide electrochemical doping SOED2 method, **146**, 406
- Ba₂TiOSi₂O₇**, identification as inorganic nonlinear optical material, **148**, 75
- BaVO₃Cl**, with chain and layered structures, **145**, 634
- Ba_{4-x}Y_{3+x}F_{17+x}** ($x \approx 0.08$), synthesis in copper ampoule, **142**, 152
- Eu₂CaBa₂Cu₂Ti₃O₁₄**, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
- HgBa₂CuO_{4+\delta}**, local structural perturbations, **148**, 119
- Hg_{1-x}Re_xBa₂Ca_{n-1}Cu_nO_{2n+2+4x+\delta}**, 1256 and 1267 type single crystals, structure and properties, **143**, 277
- LaYCaBa₂Cu_{2+x}Ti_{3-x}O_{14-y}**, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
- Na₂Ba(TiO)₂Si₄O₁₂**, identification as inorganic nonlinear optical material, **148**, 75
- titanium hydrogenphosphate derivatives of, thermal degradation, **145**, 649
- YBa₂Cu₃O_y**, cation doping with solid oxide electrochemical doping SOED2 method, **146**, 406
- Barerrite**
hydrothermally synthesized, morphology, **142**, 451
- Batisite**
identification as inorganic nonlinear optical material, **148**, 75
- Batteries**
Li intercalation batteries, electrode material for, first principles calculation, **145**, 503
- Li-ion**
Li(Mn_{1-y}Co_y)O₂ positive electrode materials for, **145**, 549
nanostructured Li-doped BPO₄ ceramic electrolyte for, defect structure, **142**, 74
- Benzoate**
exchange reactions with layered hydroxide salts, **148**, 26
- Beryllium**
Be(HAsO₄)·H₂O and Be₃(PO₄)₂·2H₂O, synthesis and structure, **146**, 394
- Bidimensional cationic ordering**
in β -Pb_xV₂O₅ bronzes, **145**, 186
- Bidimensionality**
in T -, T' -, and T^* -type structures, **147**, 379
- Bipyridinium**
 $Zr_2(O_3P-CH_2CH_2-bipyridinium-CH_2CH_2-PO_3)X_6 \cdot 2H_2O$, reactivity toward organic and inorganic monophosphonates, **147**, 520
- Bis-dihexadecyltrimethylammonium dichromate**
thermal and structural studies, **145**, 655
- Bis(ethylenedithio)tetrathiafulvalene**
(BEDT-TTF)₃Cl₂·(H₂O)₂ superconductor, structure at low temperatures, **145**, 496
- Bismuth**
Ag₂BiO₃, state of bismuth in, **147**, 117
(Ba_{2-3x}Bi_{3x-1})(Fe_{2x}Bi_{1-2x})O_{2+3/2x} perovskites
incommensurate nuclear and magnetic structure for $0.43 \leq x \leq 0.50$, **147**, 450
synthesis, average structure, and magnetic properties, **147**, 45
- BaBiO₃** perovskite, thermal stability, **146**, 439
- Bi³⁺**, luminescence in pyrochlore Gd₂GaSbO₇, quenching, **146**, 494
- Bi-2223 superconductor**, granular composite with NiFe₂O₄, preparation with sintering process, **145**, 317
- Bi₂Al₄O₉**, structure and oxide ion conductivity mechanism, **147**, 631
- Bi_x(A_{0.75\pm\epsilon}Bi_{0.25\pm\epsilon}O)_{(3+3x)/2}MO₂** ($A = \text{Ca,Sr}$; $M = \text{Co,Cr}$), synthesis, structure, and physical properties, **142**, 305
- R₅Bi₃Br** ($R = \text{La,Pr}$), syntheses and lattice dimensions, **144**, 175
- BiCoPO₅**, crystal structure and physical properties, **148**, 295
- Bi(F,O)_{2.45}**, anion-excess fluorite defect structure deriving from rhombohedral $Ln\text{FO}$ type, **146**, 51
- Bi_{0.5}La_{13.5}Ti₈S₂₉Cl₄O₄**, synthesis and structure, **147**, 592
- BiMnO₃** perovskite
high-temperature XRD and DTA studies, **142**, 113
structure determination, **145**, 639
- Bi-Mo mixed oxides** with structure based on [Bi₁₂O₁₄]_∞ columns, structural and electrical data, **142**, 294
- Bi₂MoO₆** γ -phase catalyst, formation, *in situ* XRD/XAS and thermogravimetric studies, **148**, 178
- Bi_{0.5}Nd_{1.5}Ru₂O₇**, temperature-dependent structural behavior, **144**, 467
- Bi_{0.775}Ln_{0.225}O_{1.5}** ($Ln = \text{La,Pr,Nd,Sm,Eu,Gd,Tb,Dy}$) of Bi-Sr-O type, structural and conductivity properties, **142**, 349
- Bi₂O₃-M₂O₅** ($M = \text{Nb,Ta}$) and **Bi₂O₃-M₂O₆** ($M = \text{W,Mo}$), structural relationships, **148**, 380
- Bi₅Pb₃O_{10.5}** polymorphism in, **144**, 195
- Bi₈Pb₅O₁₇** fast ion conducting phases, structural properties and thermal stability, **144**, 255
- (Bi,Pb)₂Sr₂Ca_{n-1}Cu_nO_{2n+4+\delta} ($n = 2,3$) superconductors, and iodine intercalates, thermoelectric power, **142**, 199
- (Bi,Pb)_{1.64}Sr_{1.43}Ca_{1.57}Mn₂O₉, synchrotron X-ray powder diffraction, **147**, 501
- ALn_{1\pm x}Bi_{4\pm x}S₈** ($A = \text{K,Rb}$; $Ln = \text{La,Ce,Pr,Nd}$) semiconductors, synthesis and characterization, **143**, 151
- M-X-Bi₂Sr₂Ca_{n-1}Cu_nO_{2n+4+\delta}** ($M = \text{metal}$; $X = \text{halogen}$; $n = 1,2,3$), heterostructured high- T_c superconductors, **147**, 328
- Bi_{1-x}Sr_{3+x}CoCO_{6+\delta}**, 2201-type cobaltite with nonmodulated structure, synthesis and properties, **148**, 108
- Bi₄Ta₂O₁₁**, crystal structure, modeling and Rietveld refinement, **142**, 33
- Bi₄Ti₃O_{12-x}**, ferroelectric layered compounds, intercalation of lithium and iodine in, **146**, 60
- Bi₄V_{2-x}Ni_xO_{11-1.5x}** solid solution series, structural and physical properties, **143**, 9
- Bi₂VO_{5.5}**, ferroelectric nanocrystalline powders, mechanically activated synthesis, **142**, 41
- Bi₄V₂O_{10+\delta}** ($\delta = 0,0.5,1$), Sb-modified phases, structural study, **144**, 379
- R₃Br₃Bi** ($R = \text{La,Pr}$), syntheses and lattice dimensions, **144**, 175
elemental structure, **147**, 26
- GeTe-Bi₂Te₃** system, mixed layered tetradymite-like compounds, transport phenomena in, **146**, 305
- (K_{0.87}Bi_{0.13})BiO₃ superconductor, crystal structure, **144**, 205
- Na₃Bi(P₂O₇)₂**, preparation and crystal structure, **143**, 104
- Pb_{0.6}Bi_{1.4}Cs_{0.6}O₂Cl₂ and Pb_{0.6}Bi_{3.4}Cs_{0.6}O₄Cl₄, crystal structures, **147**, 527

- Pb₄BiO₄PO₄**, crystal structure, stereochemical effect of 6s² lone pair electrons, **142**, 80
- (Sr,K)₃Bi₂O₇, synthesis and crystal structure, **144**, 405
- Bis-silylation**
alkynes, metal-mediated reactions on porous Si surfaces, **147**, 251
- Bonding**
anthracene dimer in γ -cyclodextrin, **144**, 263
electron density study of $Z_3\text{Al}_2\text{Si}_3\text{O}_{12}$ ($Z = \text{Mg,Fe,Mn,Ca}$) garnets, **142**, 273
intergrowth oxides, anisotropy: bidimensionality in T -, T' -, and T^* -type structures, **147**, 379
metal-metal, in CaNb₂O₄, **147**, 671
in Pr₃Zn₂As₆ crystallizing with vacancy variant of HfCuSi₂-type structure, **142**, 266
in $AT_2\text{SiC}$ ($A = \text{rare earth elements and actinoids; } T = \text{Mn,Re,Ru,Os}$ with DyFe₂SiC-type structure, **142**, 279
YbAgSn, Yb₂Pt₂Pb, and YbZnSn, **145**, 668
- Bond length**
tetragonal zirconias, **146**, 363
- Bond length–bond valence theory**
(1 – ε)ZrO₂ · ε SmO_{1.5} (0.38 < ε < 0.55) pyrochlore system, **148**, 205
- Bond length matching**
role in stabilization of Ni⁺ in perovskite-related oxides, **148**, 499
- Bond valence analysis**
(Ba_{0.875}Sr_{0.125})RuO₃ structure, **143**, 69
tetragonal zirconias, **146**, 363
- Boron**
Ba₈(BN₂)₅F, synthesis and crystal structure, **142**, 192
Ba₃Ln(BO₃)₃ ($Ln = \text{La-Lu, Y}$), synthesis, structure, and properties, **145**, 33
hexagonal, intercalation by strong oxidizers and metallic nature of products, **147**, 74
nanocrystalline, synthesis and characterization, **148**, 325
H-LnBO₃ ($Ln = \text{La,Nd,Sm,Eu}$), synthesis and characterization, **148**, 229
B₄O₇²⁻, doping of Na₂SO₄, effects on conductivity and phase transitions, **146**, 6
B₆O_{1- δ} , nucleation and growth of icosahedral clusters at high pressure, **147**, 281
BPO₄ doped with Li, defect structure, **142**, 74
Cs₂[B₄O₅(OH)₄]·3H₂O, crystal structure and thermal behavior, **143**, 260
Li₂BAIO₄, crystal structure and vibrational spectra, **142**, 214
LiLn₆O₅(BO₃)₃ ($Ln = \text{Pr-Tm}$), detection in ternary-phase diagrams
Li₂O–Ln₂O₃–B₂O₃, **146**, 189
Li₂O–PbO–B₂O₃ glasses, structural role of PbO, **145**, 65
Na₂Ln₂(BO₃)₂O ($Ln = \text{Sm,Eu,Gd}$), crystal structure, **144**, 35
Na₂Gd₂(BO₃)₂O:Eu³⁺, optical properties, **144**, 35
Sc–B–C system, subsolidus phase relations at 1700 °C and identification of Sc₃B_{0.75}C₃, Sc₂B_{1.1}C_{3.2}, ScB₁₅C_{1.60}, and ScB₁₅C_{0.80}, **148**, 250
Sc₂B_{1.1}C_{3.2}, with graphite-like layers, synthesis and structure, **148**, 442
Sr₂BN₂I with isolated BN₂³⁻ units, synthesis and crystal structure, **142**, 187
Sr₂B₂O₅, crystal and electronic structures and linear optics, **144**, 30
Sr₂B₅O₉Cl prepared in air at high temperature, Eu³⁺ reduction to Eu²⁺ in, mechanism, **145**, 212
Yb³⁺-doped borate glass with high emission cross sections, **144**, 449
[Zn(en)₂]₆[(VO)₁₂O₆B₁₈O₃₉(OH)₃] · 13H₂O, hydrothermal synthesis and X-ray single crystal structure, **148**, 450
- Bromine**
AgBr(100) surface, photographic sensitization and effect of Au and S in latent image formation, **146**, 516
- R₃Br₃Pn and R₅Pn₃Br ($R = \text{La,Pr; } Pn = \text{P,As,Sb,Bi}$), syntheses and lattice dimensions, **144**, 175
- Me*⁺Br–Me²⁺Br₂–H₂O ($Me^+ = \text{K,NH}_4,\text{Rb,Cs; } Me^{2+} = \text{Mn,Co,Ni}$) double salts, **143**, 16
- Ce₃(SiS₄)₂Br, structure and luminescence, **147**, 259
- κ -ET₂Cu[N(CN)₂]Br organic conductor, electronic structure, soft X-ray absorption and emission studies, **143**, 1
- [Et₃NH]₂[Mn(CH₃CN)₄(H₂O)₂][Mn₁₀O₄(2,2'-biphenoxide)₄Br₁₂], slow magnetic relaxation at very low temperature, **145**, 484
- Hg–Br–Bi₂Sr₂Ca_{n-1}Cu_nO_{2n+4+ δ} , heterostructured high- T_c superconductors, **147**, 328
- InSnBr₃ with close cation–cation contacts, synthesis and structure, **146**, 344
- Mg(NH₃)₂Br₂, preparation and crystal structure, **147**, 229
- Rb₃Re₆S₇Br₇, synthesis via direct high-temperature route and crystal structure, **147**, 358
- TiPbCl_{3-x}Br_x solid solutions, high-pressure synthesis, **146**, 351
- Bronze**
Ba₄Nd₂Ti₄Ta₆O₃₀ and Ba₅NdTi₃Ta₇O₃₀, synthesis and characterization, **148**, 438
- Ba_{6-3x}Sm_{x+2z}Ti₁₈O₅₄ ($x = 0.3, 0.5, 0.67, 0.71$), tungsten bronze-type solid solutions with superstructure, **142**, 336
- K_xP₄W₈O₃₂, quasi-two-dimensional, electronic instabilities and localization effects, **147**, 320
- MoO_{3-x}(OH)_x, synthesis and characterization in aqueous solution, **147**, 269
- Na₉V₁₄O₃₅, crystal structure and magnetic properties, letter to editor, **145**, 361
- (Nb,W)₁₂O₃₂, generation by *in situ* reaction in gas reaction cell microscope, **143**, 33
- [NH₃(CH₂)₆NH₃]₁₀[V₁₅O₃₇(Cl)]₂[V₁₅O₃₆(Cl)](OH)₃(H₂O)₃ with clusters textured by diaminohexane, characterization, **147**, 552
- oxide, microwave preparation, **148**, 100
- β -Pb_xV₂O₅, bidimensional cationic ordering and thermal dependence in, **145**, 186
- (PO₂)₄(WO₃)_{2m}, quasi-two-dimensional, electronic instabilities and localization effects, **147**, 320
- Pr_xWO₃ intergrowth tungsten bronze structures formed at 50 kbar, HRTEM study, **147**, 536
- σ -M_{0.25}V₂O₅ · H₂O ($M = \text{Mg,Co,Ni}$), crystal structures and lattice distortions, **144**, 181
- n-Butylamine**
titanium hydrogenphosphate derivatives of, thermal degradation, **145**, 649
- C**
- Cadmium**
Ba₂CdTe₃, synthesis and structure, **148**, 464
- CdO, mechanochemical reactions with imidazole: proton transfer in solid state, **147**, 561
- CdS nanocrystals, preparation, **146**, 484
- CdSe nanocrystals, solvothermal synthesis, **147**, 82
- Cd_xSe_{1-x} nanowires, solvothermal fabrication, **147**, 637
- CdVO₃Cl, with chain and layered structures, **145**, 634
- Mo₁₂CdP₈X₆₂ isotypic clusters, Mo(V) phosphate structures built from, **145**, 291
- phenoxy-substituted divalent cadmium phosphonate Langmuir–Blodgett films, structure and magnetic order, **145**, 443
- PrCd₃P₃, preparation, **146**, 478
- Calcium**
amorphous calcium phosphate with atomic Ca/P ratio of 1.33, behavior in wet atmosphere, **148**, 308
- Ba₃CaNb₂O₉ perovskites, molten salt synthesis and thermodynamic stability, **148**, 492
- Bi_x(Ca_{0.75± ε} Bi_{0.25± ε} O)_{(3+3x)/2}MO₂ ($M = \text{Co,Cr}$), synthesis, structure, and physical properties, **142**, 305

- (Bi,Pb)₂Sr₂Ca_{*n*-1}Cu_{*n*}O_{2*n*+4+ δ} (*n* = 2,3) superconductors, and iodine intercalates, thermoelectric power, **142**, 199
- (Bi,Pb)_{1.64}Sr_{1.43}Ca_{1.57}Mn₂O₉, synchrotron X-ray powder diffraction, **147**, 501
- M-X-Bi₂Sr₂Ca_{*n*-1}Cu_{*n*}O_{2*n*+4+ δ} (*M* = metal; *X* = halogen; *n* = 1,2,3), heterostructured high-*T_c* superconductors, **147**, 328
- Ca²⁺, doping of oxide ceramics by solid oxide electrochemical doping SOED2 method, **146**, 406
- Ca₃Al₂Si₃O₁₂ garnets, electron density study, **142**, 273
- CaAlTaO₅, crystal structure, **143**, 62
- Ca₂AlTaO₆, crystal structure, **143**, 62
- CaCO₃, synthetic aragonite, thermal expansion: review of elastic properties, **146**, 73
- Ca₃CoRhO₆ one-dimensional oxide, synthesis, crystal structure, and magnetic properties, **146**, 137
- CaCu₃Mn₄O₁₂-based oxides with perovskite structure, giant magneto-resistance, **147**, 185
- CaF₂, Nd_{0.6}Sr_{0.33}MnO₃ doped with, crystallography and magneto-resistance, **148**, 236
- Ca[Fe(CN)₅NO]·4H₂O, oxidative thermal decomposition for synthesis of CaFeO_{2.5+x} (0 ≤ *x* ≤ 0.5), **142**, 138
- CaFeO_{2.5+x} (0 ≤ *x* ≤ 0.5), synthesis by oxidative thermal decomposition of Ca[Fe(CN)₅NO]·4H₂O, **142**, 138
- Ca₃FeRhO₆ one-dimensional oxide, synthesis, crystal structure, and magnetic properties, **146**, 137
- Ca₃Fe₂Si₃O₁₂, electron density study, **142**, 273
- CaHgO₂, thermogravimetry under controlled oxygen and mercury partial pressures and related thermodynamics, **146**, 151
- Ca_{10-x}(HPO₄)_x(PO₄)_{6-x}(OH)_{2-x}, thermal stability, preparative enhancement, **142**, 319
- calcium copper phosphates, preparation, structure, and redox characteristics, **145**, 345
- calcium malonate dihydrate, vibrational and thermal evidence of coordinated water and carboxylate groups, **143**, 174
- Ln_{1-x}Ca_{*x*}MnO₃ (Ln = rare earth), insulator-metal transition and charge ordering, IR study, **145**, 557
- Ca₃BMnO₆ (*B* = Ni,Zn) crystallizing in K₄CdCl₆ structure, synthesis, structure, and magnetic properties, **145**, 302
- Ca₁₀((B,Mn)O₄)₆F₂ (*B* = P,V) substituted with Mn(V), color, **146**, 464
- CaNb₂O₄, preparation and crystal structure, **147**, 671
- CaO-Al₂O₃-Ta₂O₅, phase diagram, **143**, 62
- Ca_{2-x}Sr_{*x*}MnO₄, crystal structure and magnetic properties, **145**, 705
- (Ca_{1-x}Y_{*x*})_{0.82}CuO₂, quasi one-dimensional compound prepared at room pressure, structural study, **145**, 511
- Ca₃ZnCoO₆ crystallizing in K₄CdCl₆ structure, synthesis, structure, and magnetic properties, **145**, 302
- Eu₂CaBa₂Cu₂Ti₃O₁₄, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
- Hg_{1-x}Re_{*x*}Ba₂Ca_{*n*-1}Cu_{*n*}O_{2*n*+2+4*x*+ δ} , 1256 and 1267 type single crystals, structure and properties, **143**, 277
- La_{0.5}Ca_{0.5}MnO_{3- δ} (0 ≤ δ ≤ 0.5), ordering of oxygen vacancies and magnetic properties in, **148**, 158
- La_{0.5}Ca_{0.5}MnO₃, charge-ordered perovskite, giant oxygen isotope effect in, **144**, 232
- La_{0.74}Ca_{0.26}MnO_{3+d}, effective oxygen content and properties as function of synthesis conditions, **144**, 461
- La_{1-x}Ca_{*x*}MnO_{3+d}, oxygen content and structures as function of synthesis conditions, **146**, 448
- LaYCaBa₂Cu_{2+x}Ti_{3-x}O_{14-y}, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
- NdCaCrO₄, structural and magnetic characterization, **148**, 361
- Nd_{0.5}Ca_{0.5}Mn_{1-x}Cr_{*x*}O₃, charge ordering process in, structural determination, **148**, 333
- PrCaCrO₄, crystal and magnetic structures, **142**, 29
- RbCa₂Na_{1-x}Sr_{*x*}Nb₄O₁₃ (*x* = 0.2,0.4) with perovskite-like layers, synthesis, structure, and semiconducting properties, **148**, 508
- (Sr,Ca,*Ln*)₃Co₂O_{6± δ} (*Ln* = Sm,Eu,Gd,Tb,Dy,Ho,Y), synthesis, crystal structure, and electrical and magnetic properties, **146**, 277
- Sr_{4-x}Ca_{*x*}Fe_{6-y}Co_{*y*}O_{13+ δ} , synthesis, crystal chemistry, and electrical properties, **145**, 260
- titanium hydrogenphosphate derivatives of, thermal degradation, **145**, 649
- Calcium hydroxyapatite
thermal stability, preparative enhancement, **142**, 319
- Calcium malonate dihydrate
vibrational and thermal evidence of coordinated water and carboxylate groups, **143**, 174
- Calorimetry
differential scanning, *see* Differential scanning calorimetry
- A_{1-x}A'_{*x*}MnO₃ (*A* = La,Nd,Y; A' = Sr,La) perovskites at high temperature, **145**, 77
tricritical behavior in tetragonal Pb(Zr_{*x*}Ti_{1-x})O₃, **144**, 188
- Capacitors
supercapacitor behavior with KCl electrolyte, **144**, 220
- Carbon
Al₉(PO₄)₁₂(C₂₄H₉₁N₁₆)·17H₂O open framework with 12-membered ring channels, **145**, 220
- Ba₂Cu(HCOO)₆, thermal behavior and crystal structure of room temperature phase, **147**, 545
- (BEDT-TTF)₃Cl₂·(H₂O)₂ superconductor, structure at low temperatures, **145**, 496
- bis-dihexadecyltrimethylammonium dichromate, thermal and structural studies, **145**, 655
- Bi_{1-x}Sr_{3+x}CoCO_{6+ δ} , 2201-type cobaltite with nonmodulated structure, synthesis and properties, **148**, 108
- CaCO₃, synthetic aragonite, thermal expansion: review of elastic properties, **146**, 73
- (C₆H₅C₂H₄NH₃)₂PbCl₄, layered solution crystal growth method and crystal structure, **145**, 694
- γ -[(CH₃)₂(C₂H₅)₂N][Ni(dmit)₂]₂, stable 2-D metallic state with stacking motif in spanning overlap, **145**, 564
- [C₉H₂₀N][Al₂(HPO₄)₂(PO₄)] with layer topology, synthesis and characterization, **145**, 731
- [C₆H₂₁N₄][Al₃P₄O₁₆], synthesis and structure, **146**, 458
- (C₂H₁₀N₂)[Mo₅O₁₆] and (C₄H₁₂N₂)[Mo₅O₁₆], hydrothermal synthesis and structure, **147**, 240
- [C₂N₂H₁₀]²⁺[Fe(HPO₄)₂(OH)]²⁻·H₂O, hydrothermal synthesis and crystal structure, **142**, 455
- CN₃H₆·VO(H₂O)(HPO₄)(H₂PO₄)·H₂O, synthesis, structure, and magnetism, **142**, 168
- (CN₃H₆)₂·Zn₄H₅(PO₄)₅ built up from 3-, 4-, and 8-ring units, synthesis and crystal structure, **148**, 433
- CO₃²⁻, doping of Na₂SO₄, effects on conductivity and phase transitions, **146**, 6
- Co₅(OH)₈(C₁₂H₂₅SO₃)₂·5H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
- [Cu(dicyanamide)₂(pyrazine)]_{*n*}, synthesis, structural isomerism, and magnetism, **145**, 387
- Cu₂(OH)₃(C₁₂H₂₅SO₃)·H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
- κ -ET₂Cu[N(CN)₂]Br and κ -ET₂Cu(SCN)₂ organic conductors, electronic structure, soft X-ray absorption and emission studies, **143**, 1
- [Et₃NH]₂[Mn(CH₃CN)₄(H₂O)₂][Mn₁₀O₄(2,2'-biphenoxide)₄Br₁₂], slow magnetic relaxation at very low temperature, **145**, 484
- EuH[O₃P(CH₂)₃PO₃] and [Eu(H₂O)₂[O₂C(CH₂)₃CO₂]₃·4H₂O, luminescence spectroscopy and crystal field simulation, **148**, 347
- κ [Fe(CN)₅NO]·4H₂O, oxidative thermal decomposition for synthesis of AFeO_{2.5+x} (0 ≤ *x* ≤ 0.5; *A* = Sr,Ca), **142**, 138

- AM^{II}Fe(C₂O₄)₃* (*M*^{II} = Mn, Fe; *A* = organic cation) layered molecular-based magnets, stacking faults in, modeling, 147, 3
- [Fe₂(H₂O)₂(O₃P-CH₂-PO₃H)₂](H₂O)₂, hydrothermal synthesis, powder structural determination, and magnetic study, 147, 122
- [Fe₂(OH₂)PO₄(C₂O₄)_{0.5}], hydrothermal synthesis, structure, and magnetic susceptibility, letter to editor, 146, 538
- Fe₄(PO₄)₂(C₂O₄)(H₂O)₂, synthesis and crystal structure, 143, 58
- graphite-to-diamond phase transition, 3D carbon structures as progressive intermediates in, 148, 278
- H₃N(CH₂)₃NH₃·Zn₂(HPO₄)₃, synthesis and structure, 147, 584
- (1,4-HOC₆H₄NH₃)₂P₄O₁₂·6H₂O, characterization, 144, 318
- p-iodotoluene, structural disorder, 143, 285
- K₂CO₃, K⁺ from, electrosynthesis at Na-β"-Al₂O₃ interface, 143, 111
- (KH)₃C₆₀ organic superconductors, preparation by intercalation of KH into C₆₀, 145, 421
- La₄[(C₂)_{1-x}Ge_x]₃, continuous transition between cubic structure types *c*/40 (Rb₄O₆/Pu₂C₃) and *c*/28 (Th₃P₄), 147, 372
- microporous rare-earth dicarboxylates, dehydration and rehydration, study by thermogravimetry, thermodiffractometry, and optical spectroscopy, 145, 580
- Na₂CsC₆₀ superconducting fulleride, pressure and temperature evolution of structure, 145, 471
- nanotubes, selective deposition of UCl₄ and (KCl)_x(UCl₄)_y in, using eutectic and noneutectic mixtures of UCl₄ with KCl, 140, 83; *erratum*, 142, 470
- NbC and niobium carbonitride, preparation and characterization, 142, 100
- N_xC₃Al_{4+x} (*x* = 0–4) close-packed layer compounds, structure maps, 145, 150
- [N₂C₃H₁₂]Al₂(PO₄)(OH_xF_{5-x}) (*x* ≈ 2), synthesis and *ab initio* structure determination, 147, 92
- [N₂C₄H₁₂]_{0.5}[Fe₂(HPO₄)(C₂O₄)_{1.5}], hydrothermal synthesis, structure, and magnetic susceptibility, letter to editor, 146, 538
- (N₂C₆H₁₄)·Zn₃(HPO₄)₄, synthesis and structure, 147, 584
- (N₂C₆H₁₄)·Zn(HPO₄)₂·H₂O, synthesis and structure, 147, 584
- [NH₃CH₂CH₂NH₃]_{2.5}[Al₄H(HPO₄)₄(H₂PO₄)₂(C₂O₄)₄], synthesis and structure, 143, 74
- [NH₃CH₂CH(NH₃)CH₃]_{0.5}[Sn₄P₃O₁₂]·H₂O with one-dimensional channels, synthesis and structure, 148, 50
- (NH₃CH₂CH₂NH₃)₄·(NH₃CH₂CH₂NH₂)·Na·[Ni₂Mo₁₂O₃₀(PO₄)₄(H₂PO₄)₃]·6H₂O, hydrothermal synthesis and structure, 146, 533
- NH₃CH₂CH(OH)CH₂NH₃·Zn₂(HPO₄)₃, synthesis and structure, 147, 154
- [NH₃(CH₂)₄NH₃][Ga₄(HPO₄)(PO₄)₄], synthesis and characterization, 142, 236
- [NH₃(CH₂)₄NH₃]₂[Ga₄(HPO₄)₂(PO₄)₃(OH)₃]·*y*H₂O (*y* ~ 5.4), and vanadium-gallium phosphate analogue, synthesis and characterization, 145, 379
- [NH₃(CH₂)₆NH₃]₁₀[V₁₅O₃₇(Cl)]₂[V₁₅O₃₆(Cl)](OH)₃(H₂O)₃ bronze with clusters textured by diaminohexane, characterization, 147, 552
- NH₃(CH₂)₂NH₃·Zn(HPO₄)₂, synthesis and structure, 147, 154
- NH₃(CH₂)₆NH₃·Zn₃(HPO₄)₄H₂O, synthesis and structure, 147, 154
- NH₃(CH₂)₂NH₃·Zn₂(HPO₄)₂(H₂PO₄)₂, synthesis and structure, 147, 154
- Ni(C₂H₃O₂), hydrothermal decomposition, formation of α,β-type hydroxides and second-stage intermediate in, 146, 39
- Ni₂(OH)₃(C₁₂H₂₅SO₃)·H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, 145, 452
- phenoxy-substituted divalent metal phosphonate Langmuir-Blodgett films, structure and magnetic order, 145, 443
- Sc-B-C system, subsolidus phase relations at 1700°C and identification of Sc₃B_{0.75}C₃, Sc₂B_{1.1}C_{3.2}, ScB₁₅C_{1.60}, and ScB₁₅C_{0.80}, 148, 250
- Sc₂B_{1.1}C_{3.2}, with graphite-like layers, synthesis and structure, 148, 442
- AT₂SiC (*A* = rare earth elements and actinoids; *T* = Mn, Re, Ru, Os), with DyFe₂SiC-type structure, characterization, 142, 279
- [TMA]₂[Fe(H₂O)₆]Mo₈O₂₆ and (TMA)₂FeMo₆O₂₀, hydrothermal synthesis and structures, 143, 77
- [Zn(en)₂]₆[(VO)₁₂O₆B₁₈O₃₉(OH)₃]·13H₂O, hydrothermal synthesis and X-ray single crystal structure, 148, 450
- Zr(HPO₄)₂·2CH₃CH₂OH, host-guest interactions, vibrational spectroscopic study and molecular simulations, 145, 1
- Zr₂(O₃P-CH₂CH₂-bipyridinium-CH₂CH₂-PO₃)X₆·2H₂O, reactivity toward organic and inorganic monophosphonates, 147, 520
- Cation deficiency in (Ba,Sr)Co_{1-x}O_y hexagonal perovskite-related oxides, 142, 419
- Cation disorder in columbite-tantalite minerals, Mössbauer assessment, 143, 219
- Cation size variance effects in high-tolerance *L*n_{0.7}M_{0.3}MnO₃ perovskites, 148, 20
- Ceramics
- BPO₄ doped with Li, nanostructured electrolyte, defect structure, 142, 74
 - oxide, cation doping with solid oxide electrochemical doping SOED2 method, 146, 406
- Cerium
- BaCe_xZr_{1-x}O₃ (0 ≤ *x* ≤ 1) with perovskite-type structure, Raman spectroscopy, 142, 220
 - CeAg₆In₆ intermetallics, structural, magnetic, and electrical properties, 145, 216
 - Ce₂Au₃In₅, complex 3-D [Au₃In₅] polyanions in, 148, 425
 - ACe_{1±x}Bi_{4±x}S₈ (*A* = K, Rb) semiconductors, synthesis and characterization, 143, 151
 - Ce^{III}/Ce^{IV}, ordering in CeTa_{4+x} (*x* ≈ 0.17) superstructure, 144, 240
 - Ce_xCo_{4-y}Fe_ySb_{12-z} (0 < *x,y,z* < 1), atomic displacement parameters and lattice thermal conductivity, 146, 528
 - CeCu_{1+x}As₂, synthesis, crystal structure, and magnetic susceptibility, 147, 140
 - CeMn₂Ge₄O₁₂, synthesis and structural characterization, 143, 145
 - CeNbO_{4+x} (*x* = 0.08, 0.25, 0.33), modulated structures, 143, 122
 - Ce(NO₃)₃·6H₂O, AC conductivity dependence on temperature and frequency, 144, 354
 - Ce-Ce₂O_{3+δ}, Ce₇O₁₂, and Ce₁₁O₂₀, structures, 147, 485
 - CeOs₄P₁₂ with skutterudite structure, electrical and magnetic properties, 142, 146
 - CeOs₂SiC, with DyFe₂SiC-type structure, characterization, 142, 279
 - CePd₃S₄, magnetic properties, 146, 226
 - CePtGe, crystal structure and magnetic properties, 142, 400
 - Ce₄Re₆O₁₉, preparation, crystal structure, and properties, 147, 218
 - CeRe₂SiC, with DyFe₂SiC-type structure, characterization, 142, 279
 - CeRu₂SiC, with DyFe₂SiC-type structure, characterization, 142, 279
 - Ce₃(SiS₄)₂X (*X* = Cl, Br, I), structure and luminescence, 147, 259
 - CeTa_{4+x} (*x* ≈ 0.17) superstructure, ordering of Ce^{III}/Ce^{IV} and interstitial oxygens in, 144, 240
 - CeZn₃P₃, preparation, 146, 478
 - CeZrO₄ prepared by reduction and successive oxidation of *t'*-Ce_{0.5}Zr_{0.5}O₂ phase, vibrational spectroscopic and XRD studies, 147, 573
 - Ce₂Zr₂O_{7.97}, pyrochlore with fluorite composition, synthesis, 148, 56
 - K₂Ce(NO₃)₃·2H₂O nonlinear optical materials, crystal growth, structure, and properties, 148, 302
 - La_{1-x}Ce_xRu₄P₁₂ with skutterudite structure, electrical and magnetic properties, 142, 146
 - La_{3-x}Ce_x(SiS₄)₂I (0 ≤ *x* ≤ 1) solid solution, structure and luminescence, 147, 259
 - Sr₂CeIrO₆ perovskites, structure and magnetic properties, 145, 356
 - ScCeO₃, ionic and electronic defect concentrations, calculation, 143, 115

- Sr_2CeO_4 , Pr^{4+} in, EPR study, 144, 20
 $\text{Y}_2\text{SiO}_5\text{:Ce}$ phosphor particles 0.5–1.4 μm in size with spherical morphology, 146, 168
- Cesium
 $\text{Cs}(\text{IV})$, Rietveld refinement of crystal structure, 144, 16
 $\text{Cs}_2[\text{B}_4\text{O}_5(\text{OH})_4]\cdot 3\text{H}_2\text{O}$, crystal structure and thermal behavior, 143, 260
 $\text{CsCr}(\text{MoO}_4)_2$ and $\text{CsCr}(\text{WO}_4)_2$, spectroscopic properties and magnetic phase transitions, 148, 468
 $\text{Cs}_2\text{Cu}_2\text{Sb}_2\text{Se}_5$, synthesis from superheated organic media, crystal structure, and optical properties, 147, 132
 CsGd_2F_7 host, Nd^{3+} ions in, optical spectroscopy, 142, 108
 $\text{Cs}^+X\text{-Me}^{2+}X_2\text{-H}_2\text{O}$ ($\text{Me}^{2+} = \text{Mn}, \text{Co}, \text{Ni}; X^- = \text{Cl}, \text{Br}$) double salts, 143, 16
 CsMnSe_2 , synthesis and structure, 146, 217
 $\text{CsPbTa}_6\text{Cl}_{18}$ and $\text{Cs}_2\text{PbTa}_6\text{Cl}_{18}$, synthesis and structures, 147, 350
 $\text{Cs}_4\text{Sn}_4\text{Se}_{10}\cdot 3.2\text{H}_2\text{O}$ with 20-membered pores, solvothermal synthesis and structure, 147, 146
 $\text{CsUV}_3\text{O}_{11}$ with layered structure, synthesis and crystal structure, 146, 258
 $\text{Cs}[(\text{VO})(\text{H}_2\text{O})\text{Ga}(\text{PO}_4)_2]$, hydrothermal synthesis and structure, 144, 442
 $\text{Li}_{4-x}\text{Cs}_x^+(\text{MoO})_3(\text{PO}_4)_3\text{P}_2\text{O}_7$, structure and magnetic and ionic transport properties, 144, 297
 $\text{Na}_2\text{CsC}_{60}$ superconducting fulleride, pressure and temperature evolution of structure, 145, 471
 $\text{Pb}_{0.6}\text{Bi}_{1.4}\text{Cs}_{0.6}\text{O}_2\text{Cl}_2$ and $\text{Pb}_{0.6}\text{Bi}_{3.4}\text{Cs}_{0.6}\text{O}_4\text{Cl}_4$, crystal structures, 147, 527
- Chabazite-type compounds
 $\text{Co}_3\text{Al}_3(\text{PO}_4)_6\text{Co}(\text{diethyltriamine})_2\cdot (\text{H}_2\text{O})_3$, hydrothermal synthesis and characterization, 146, 157
- Charge-density wave
quasi-two-dimensional bronzes $(\text{PO}_2)_4(\text{WO}_3)_{2m}$ and $\text{K}_x\text{P}_4\text{W}_8\text{O}_{32}$, instabilities, 147, 320
- Charge density wave transitions
induced in Nb_3Se_4 and Nb_3S_4 In intercalation, 144, 454
- Charge ordering
at Bi in Ag_2BiO_3 , 147, 117
manganese perovskites, giant isotope effect in, 144, 232
 $\text{Ln}_{1-x}\text{A}_x\text{MnO}_3$ (Ln = rare earth; $A = \text{Ca}, \text{Sr}, \text{Pb}$), IR study, 145, 557
 $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{Mn}_{1-x}\text{Cr}_x\text{O}_3$, structural determination, 148, 333
- Chevrel phase
high-temperature, $\text{Mo}_y[\text{Mo}_6\text{Se}_8-x\text{S}_x]$, 145, 159
host network, extra Mo atoms in, electrochemical and chemical behavior, 147, 199
- Chlorine
 $\text{Ba}_{17}\text{Sm}_{10}\text{Cl}_{64}$, crystal structure, 146, 124
($\text{BEDT-TTF})_3\text{Cl}_2\cdot (\text{H}_2\text{O})_2$ superconductor, structure at low temperatures, 145, 496
 $\text{Bi}_{0.5}\text{La}_{13.5}\text{Ti}_8\text{S}_{29}\text{Cl}_4\text{O}_4$, synthesis and structure, 147, 592
 $\text{Ce}_3(\text{SiS}_4)_2\text{Cl}$, structure and luminescence, 147, 259
 $(\text{C}_6\text{H}_5\text{C}_2\text{H}_4\text{NH}_3)_2\text{PbCl}_4$, layered solution crystal growth method and crystal structure, 145, 694
 $\text{Me}^+\text{Cl}-\text{Me}^{2+}\text{Cl}_2-\text{H}_2\text{O}$ ($\text{Me}^+ = \text{K}, \text{NH}_4, \text{Rb}, \text{Cs}; \text{Me}^{2+} = \text{Mn}, \text{Co}, \text{Ni}$) double salts, 143, 16
 $\text{CsPbTa}_6\text{Cl}_{18}$ and $\text{Cs}_2\text{PbTa}_6\text{Cl}_{18}$, synthesis and structures, 147, 350
 $\text{CuClCu}_2\text{TeS}_3$, neutron powder diffraction and electrical properties, 147, 170
 $\text{GdTe}_2\text{O}_5\text{Cl}$, crystal structure, 146, 473
 $\text{H}_3\text{Fe}_2(\text{TeO}_3)_4\text{Cl}$, hydrothermal synthesis and structure, 143, 254
 Hg_2PCl_2 , crystal structure and electronic structure of (P_2Hg_6) octahedron in, 142, 14
 InSnCl_3 with close cation–cation contacts, synthesis and structure, 146, 344
 KCl electrolyte, supercapacitor behavior with, 144, 220
- ($\text{KCl})_x(\text{UCl}_4)_y$, deposition inside carbon nanotubes using eutectic and noneutectic mixtures of UCl_4 with KCl , 140, 83; erratum, 142, 470
 $\text{La}_{23.1}\text{Ti}_{16.2}\text{S}_{49}\text{Cl}_8\text{O}_8$, synthesis and structure, 147, 592
 $\text{Mg}(\text{NH}_3)_2\text{Cl}_2$, preparation and crystal structure, 147, 229
 $\text{NdTe}_2\text{O}_5\text{Cl}$, crystal structure, 146, 473
 $[\text{NH}_3(\text{CH}_2)_6\text{NH}_3]_{10}[\text{V}_{15}\text{O}_{37}(\text{Cl})]_2[\text{V}_{15}\text{O}_{36}(\text{Cl})](\text{OH})_3(\text{H}_2\text{O})_3$ bronze with clusters textured by diaminohexane, characterization, 147, 552
 $\text{Pb}_{0.6}\text{Bi}_{1.4}\text{Cs}_{0.6}\text{O}_2\text{Cl}_2$ and $\text{Pb}_{0.6}\text{Bi}_{3.4}\text{Cs}_{0.6}\text{O}_4\text{Cl}_4$, crystal structures, 147, 527
 PbFCl -type compounds, structure and polarization energy, 144, 339
 $\text{Sr}_2\text{B}_5\text{O}_9\text{Cl}$ prepared in air at high temperature, Eu^{3+} reduction to Eu^{2+} in, mechanism, 145, 212
 TiPbCl_3 , high-pressure synthesis, 146, 351
 $\text{TiPbCl}_{3-x}\text{Br}_x$ solid solutions, preparation at high pressure, 146, 351
 $\text{Ti}_{1-x}\text{Rb}_x\text{PbCl}_3$ solid solutions, preparation at high pressure, 146, 351
 UCl_4 , deposition inside carbon nanotubes using eutectic and noneutectic mixtures of UCl_4 with KCl , 140, 83; erratum, 142, 470
 AVO_3Cl ($A = \text{Ba}, \text{Sr}, \text{Cd}$) with chain and layered structures, 145, 634
 $[\text{Zn}_2^{2+}\text{Cr}^{3+}(\text{OH}^-)_6][\text{Cl}^-, 2\text{H}_2\text{O}]$, concomitant intercalation and decomplexation of ferrocene sulfonates in, 144, 143
- Chromium
 AuCrS_2 , preparation and structure, 148, 487
 $\text{Bi}_x(A_{0.75 \pm \epsilon}\text{Bi}_{0.25 \pm \epsilon}\text{O})_{(3+3x)/2}\text{CrO}_2$ ($A = \text{Ca}, \text{Sr}$), synthesis, structure, and physical properties, 142, 305
bis-dihexadecyltrimethylammonium dichromate, thermal and structural studies, 145, 655
 Cr^{3+} , effects on structure, thermal stability, and acidity of silica–metal oxide sol pillared clays, 144, 45
 $\text{Cr}(\text{IV})$, formation, evidence for
experimental electronic structure of channel compounds $\text{Ti}_x\text{Cr}_5\text{Se}_8$ ($x = 0.2, 1$), 145, 247
magnetic properties and low-temperature X-ray studies of non-stoichiometric channel compounds $\text{Ti}_x\text{Cr}_5\text{Se}_8$ ($0 \leq x \leq 1$), 145, 235
 $M^1\text{Cr}(\text{MoO}_4)_2$ ($M^1 = \text{Li}, \text{Na}, \text{K}, \text{Cs}$), spectroscopic properties and magnetic phase transitions, 148, 468
 $\text{Cr}_4(\text{P}_2\text{S}_6)_3$, room-temperature synthesis and characterization, 144, 388
 CrS_3 , amorphous structure with $[\text{Cr}_2^{III}(\text{S}^{-1})_2]_x$ chains, XRD modeling study, 145, 573
 CrVO_4 , reduction to CrVO_3 , 144, 392
 $M^1\text{Cr}(\text{WO}_4)_2$ ($M^1 = \text{Li}, \text{Na}, \text{K}, \text{Cs}$), spectroscopic properties and magnetic phase transitions, 148, 468
 $\text{In}_3\text{Ti}_2\text{CrO}_{10}$, synthesis and crystal structures, 147, 438
 $\text{La}_{1-x}\text{Sr}_x\text{Cr}_{1-x}\text{Ti}_x\text{O}_3$ perovskites, structural characterization, 144, 81
 $\text{LiMn}_{2-y}\text{Cr}_y\text{O}_4$, powder neutron and X-ray diffraction, 146, 322
 $\text{Na}_3\text{Cr}_2(\text{PO}_4)_2\text{F}_3$, phase transitions, synthesis, and thermal, structural, and magnetic studies, 148, 260
 $\text{Na}_x\text{Cr}_x\text{Ti}_{18-x}\text{O}_{16}$, low-temperature phase with monoclinic Hollandite structure, 145, 182
 NdCaCrO_4 , structural and magnetic characterization, 148, 361
 $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{Mn}_{1-x}\text{Cr}_x\text{O}_3$, charge ordering process in, structural determination, 148, 333
 $\text{Ni}_{x}\text{Cr}_{3-x}\text{S}_4$ ($x = \frac{1}{4}, \frac{1}{2}, \frac{3}{4}$), magnetic structure and spin reorientation, 143, 163
 $\text{PbCr}^{3+}\text{M}^{4+}\text{P}_3\text{O}_{12}$ ($\text{M}^{4+} = \text{Ti}, \text{Zr}, \text{Hf}, \text{Sn}$) network phosphate with NZP structure, synthesis, 145, 227
 PrCaCrO_4 , crystal and magnetic structures, 142, 29
 $\text{Ti}_x\text{Cr}_5\text{Se}_8$
channel compounds with $x = 0.2$ and 1, experimental electronic structure, 145, 247
nonstoichiometric channel compounds with $0 \leq x \leq 1$, magnetic properties and low-temperature X-ray studies, 145, 235
 $[\text{Zn}_2^{2+}\text{Cr}^{3+}(\text{OH}^-)_6][\text{Cl}^-, 2\text{H}_2\text{O}]$, concomitant intercalation and decomplexation of ferrocene sulfonates in, 144, 143

- $Zn_{(1-x)}Ga_{2x/3}Cr_2Se_4$ spinel system, metal ion distribution and magnetic properties, **148**, 215
- $Zr_6Cr_{60}P_{39}$, defective intermetallics with empty triangular metalloid channels, crystal chemistry, **144**, 277
- Clathrates
 Na_8Si_{46} and Na_xSi_{136} , synthesis and X-ray characterization, **145**, 716
related thermoelectric compounds, atomic displacement parameters and lattice thermal conductivity, **146**, 528
- Clay
acidic and hydrophobic microporous, pillared with mixed metal oxide nano-sols, **144**, 45
- Close-packed layer compounds
structure maps, **145**, 150
- Clusters
icosahedral boron suboxide, nucleation and growth at high pressure, **147**, 281
isotypic, $Mo_{12}ZnP_8X_{62}$, Mo(V) phosphate structures built from, **145**, 291
modeling, empirical potentials for, **145**, 517
- Cobalt
 $BaCoO_3$ hexagonal perovskite, electronic structure, **146**, 411
 $LnBaCo_2O_{5+\delta}$ ($Ln = Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho$), ordered oxygen-deficient perovskites, structural and magnetic studies, **142**, 247
 $Ba_2CoRu_2O_9$, crystal structure, comparison to $Ba_3CuRu_2O_9$, **146**, 65
 $(Ba, Sr)Co_{1-x}O_y$ hexagonal perovskite-related oxides, cation deficiency in, **142**, 419
 $Ba_{1-x}Sr_xCoO_3$ ($0 \leq x \leq 0.5$) with one-dimensional structure, synthesis and properties, **146**, 96
 $Bi_3(A_{0.75 \pm \epsilon}Bi_{0.25 \pm \epsilon}O)_{(3+3x)/2}CoO_2$ ($A = Ca, Sr$), synthesis, structure, and physical properties, **142**, 305
 $BiCoPO_5$, crystal structure and physical properties, **148**, 295
 $Bi_{1-x}Sr_{3+x}CoCO_{6+\delta}$, 2201-type cobaltite with nonmodulated structure, synthesis and properties, **148**, 108
 Ca_3CoRhO_6 one-dimensional oxide, synthesis, crystal structure, and magnetic properties, **146**, 137
 Ca_3ZnCoO_6 crystallizing in K_4CdCl_6 structure, synthesis, structure, and magnetic properties, **145**, 302
 $Co_3Al_3(PO_4)_6Co$ (diethyltriamine)₂·(H₂O)₃, hydrothermal synthesis and characterization, **146**, 157
 $A_{n+2}Co_nCoO_{3n+3}$ family: ordered intergrowth between 2H- $BaCoO_3$ and $Ca_3Co_2O_6$ structures, **145**, 116
Co-Cu nanostructure prepared by electrodeposition, magnetoresistance effect, **147**, 274
 $R_xCo_{4-y}Fe_ySb_{12-z}$ ($R = La, Ce, Tl$; $0 < x, y, z < 1$), atomic displacement parameters and lattice thermal conductivity, **146**, 528
 $Me^+X-Co^{2+}X_2-H_2O$ ($Me^+ = K, NH_4, Rb, Cs$; $X^- = Cl, Br$) double salts, **143**, 16
Co-hydrotalcites, local structure, FTIR and Raman spectroscopic study, **146**, 506
Co-Mg-Al layered double hydroxides, synthesis and activation, **142**, 382
 $Co_5(OH)_8(C_{12}H_{25}SO_3)_2 \cdot 5H_2O$, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
 $Co_{1-x}O/ZrO_2$ composites, interdiffusion-induced phase changes, **145**, 739
 $CoSi_3P_3$, electronic structure, **147**, 11
 $Co_2Te_3O_8$, with spiroffrite structure, hydrothermal synthesis and characterization, **143**, 246
 $Co_{0.5}Ti_2(PO_4)_3$, with NASICON structure, optical and magnetic properties, **143**, 224, 230
 $\sigma\text{-}Co_{0.25}V_2O_5 \cdot H_2O$ bronzes, crystal structures and lattice distortions, **144**, 181
[enH₂][CoIn(PO₄)₂H(OH)₂F₂], 2D mixed-metal phosphate templated by ethylene diamine, synthesis and characterization, **142**, 241
- $In_6Ti_6CoO_{22}$, synthesis and crystal structures, **147**, 438
 $LaCo_{1-x}Cu_xO_3$ perovskites
redox properties and methane catalytic combustion, **146**, 176
solid solutions with large surface area, structural, magnetic, and morphological properties, **146**, 291
 $La_2Co_xCu_{1-x}O_{4+\delta}$, spin glass magnetism, **145**, 587
 $La_{0.7}Sr_{0.3}Co_{1-z}Mn_zO_{3 \pm y}$ ($0 \leq z \leq 1$), crystal structure, **143**, 52
 $La_{1-x}Sr_xCoO_3$, metal-insulator transition and crystal structure as function of Sr content, temperature, and oxygen partial pressure, **142**, 374
 $La_{2-x}Sr_xLi_{1/2}Co_{1/2}O_4$ ($x < 0.5$), ordered K_2NiF_4 -type structure and electronic properties of Co^{III} and Co^{IV} ions, **146**, 79
 $Li(Mn_{1-y}Co_y)O_2$, positive electrode materials for Li-ion batteries, **145**, 549
 $Na_2CoP_2O_7$ tetragonal ionic conductor, crystal growth and structure, magnetic properties, and conductivity, **145**, 604
 $Ni_{1-x}Co_xO_2$ metastable oxides prepared by soft chemistry, *in situ* structural and electrochemical study, **147**, 410
 $Pr_{1-x}Sr_xCoO_{3-\delta}$, structure and magnetism, **147**, 464
 $ScCo_{1-x}Sb$, and other isotypic antimonides, comparison, **144**, 330
 $(Sr, Ca, Ln)_3CoO_{6 \pm \delta}$ ($Ln = Sm, Eu, Gd, Tb, Dy, Ho, Y$), synthesis, crystal structure, and electrical and magnetic properties, **146**, 277
 $Sr_{4-x}Ca_xFe_{6-y}Co_yO_{13+\delta}$, synthesis, crystal chemistry, and electrical properties, **145**, 260
 $TiSr_2CoO_5$, local electronic configuration, relationship to occurrence of metallic state, **147**, 211
 $Y_2SrCu_{0.6}Co_{1.4}O_{6.5}$, double-layered, structure and weak ferromagnetism, **146**, 488
Columbite-tantalite minerals
cation disorder in, Mössbauer assessment, **143**, 219
Combustion
methane, catalysis by $LaCo_{1-x}Cu_xO_3$ and $LaMn_{1-x}Cu_xO_3$, **146**, 176
Composite films
electrochromic polyacrylic acid-WO₃, grafting mechanism, **142**, 368
Compressibility
As₄O₆, **144**, 416
Coordination polymers
one-dimensional, containing dicyanamide and pyridine-type ligands, structures and magnetic properties, **145**, 369
Copper
 $Ba_5Cu_2Al_3F_{23}$, crystal structure, **147**, 657
 $Ba_2Cu(HCOO)₆$, thermal behavior and crystal structure of room temperature phase, **147**, 545
 $LnBa_2Cu_3O_{7-x}$ ($Ln = Yb, Tm, Er, Ho, Dy$), Gibbs free energy of formation, **144**, 118
 $BaCu_2(PO_4)_2 \cdot H_2O$ and $Ba_2Cu(PO_4)_2 \cdot H_2O$, crystal structure and topology, **142**, 6
 $Ba_3CuRu_2O_9$, crystal structure, comparison to $Ba_2MRu_2O_9$ ($M = In, Co, Ni, Fe$), **146**, 65
 $BaLnCuTe_3$ ($Ln =$ rare earth), synthesis and characterization, **147**, 366
Bi-2223 superconductor, granular composite with NiFe₂O₄, preparation with sintering process, **145**, 317
 $(Bi, Pb)_2Sr_2Ca_{n-1}Cu_nO_{2n+4+\delta}$ ($n = 2, 3$), superconductors, and iodine intercalates, thermoelectric power, **142**, 199
 $M-X-Bi_2Sr_2Ca_{n-1}Cu_nO_{2n+4+\delta}$ ($M =$ metal; $X =$ halogen; $n = 1, 2, 3$), heterostructured high- T_c superconductors, **147**, 328
 $CaCu_3Mn_4O_{12}$ -based oxides with perovskite structure, giant magnetoresistance, **147**, 185
calcium copper phosphates, preparation, structure, and redox characteristics, **145**, 345
 $(Ca_{1-x}Y_x)_{0.82}CuO_2$, quasi one-dimensional compound prepared at room pressure, structural study, **145**, 511
Co-Cu nanostructure prepared by electrodeposition, magnetoresistance effect, **147**, 274

- $\text{Cs}_2\text{Cu}_2\text{Sb}_2\text{Se}_5$, synthesis from superheated organic media, crystal structure, and optical properties, **147**, 132
- $\text{RECu}_{1+x}\text{As}_2$ ($\text{RE} = \text{La,Ce,Pr}$), synthesis, crystal structure, and magnetic susceptibility, **147**, 140
- $\text{CuClCu}_2\text{TeS}_3$, neutron powder diffraction and electrical properties, **147**, 170
- $[\text{Cu}(\text{dicyanamide})_2(\text{pyrazine})]_n$, synthesis, structural isomerism, and magnetism, **145**, 387
- CuFe_2O_4 , phase transitions, effect of polymer matrix, **144**, 159
- Cu_4GeS_4 , preparation, electrical properties, and crystal and electronic structures, **145**, 204
- Cu_8GeSe_6 , phase transition, superspace-group approach to, **146**, 355
- $(\text{CuI})_2\text{Cu}_3\text{SbS}_3$, electrical properties, **147**, 170
- $(\text{CuI})_3\text{Cu}_2\text{TeS}_3$, electrical properties, **147**, 170
- CuO
- mechanochemical reactions with imidazole: proton transfer in solid state, **147**, 561
 - nанocrystal preparation and characterization, **147**, 516
- $\text{A}_2\text{CuB}'\text{O}_6$ ($A = \text{Ba,Sr}$; $B' = \text{W,Te}$), B-site-ordered perovskite-type oxides, crystal structure and magnetic properties, **147**, 291
- Cu_2O , mechanochemical reactions with imidazole: proton transfer in solid state, **147**, 561
- $\text{Cu}_2(\text{OH})_3(\text{C}_{12}\text{H}_{25}\text{SO}_3)\cdot\text{H}_2\text{O}$, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
- $\text{Cu}_2(\text{OH})_3\text{NO}_3$, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
- Cu_xS nanocrystals, preparation, **146**, 484
- Cu_2S nanocrystals, preparation, **146**, 484
- Cu_4SiP_8 , electronic structure, **147**, 11
- Cu–Te nonstoichiometric nanocrystals, synthesis and phase transformation by hydrothermal-reduction process, **146**, 387
- Cu_7Te_4 nanocrystals, solvothermal synthesis at low temperature, **146**, 47
- $\text{Cu}_2\text{Te}_3\text{O}_8$, with spiroffite structure, hydrothermal synthesis and characterization, **143**, 246
- Cu/TiO_2 sol-gel catalysts, reducibility and titania phase concentration, copper precursor effect on, **144**, 349
- $\text{Cu}_x\text{V}_2\text{O}_5$ bronze, microwave preparation, **148**, 100
- $\text{Cu}(\text{VO})(\text{SeO}_3)_2$ (A) and (B) forms, synthesis and crystal structures, **147**, 296
- $\beta\text{-Cu}_2\text{V}_2\text{O}_7-\alpha\text{-Zn}_2\text{V}_2\text{O}_7$ solid solution, structural characterization, **146**, 271
- Cu_xWO_3 bronze, microwave preparation, **148**, 100
- $\kappa\text{-ET}_2\text{Cu}[\text{N}(\text{CN})_2]\text{Br}$ and $\kappa\text{-ET}_2\text{Cu}(\text{SCN})_2$ organic conductors, electronic structure, soft X-ray absorption and emission studies, **143**, 1
- $\text{Eu}_2\text{CaBa}_2\text{Cu}_2\text{Ti}_3\text{O}_{14}$, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
- $\text{EuCu}_{1.75}\text{P}_2$, Eu valence study by Eu Mössbauer and Eu L_{III}-edge X-ray absorption spectroscopy, **144**, 252
- $\text{HgBa}_2\text{CuO}_{4+\delta}$, local structural perturbations, **148**, 119
- $\text{Hg}_{1-x}\text{Re}_x\text{Ba}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+2+4x+\delta}$, 1256 and 1267 type single crystals, structure and properties, **143**, 277
- insertion into $\text{Mo}_6\text{Se}_{8-x}\text{S}_x$, electrochemical study, **147**, 199
- $\text{In}_x\text{Ti}_6\text{CuO}_{22}$, synthesis and crystal structures, **147**, 438
- $\text{LaCo}_{1-x}\text{Cu}_x\text{O}_3$ perovskites
- redox properties and methane catalytic combustion, **146**, 176
 - solid solutions with large surface area, structural, magnetic, and morphological properties, **146**, 291
- $\text{La}_2\text{Co}_x\text{Cu}_{1-x}\text{O}_{4+\delta}$, spin glass magnetism, **145**, 587
- La_2CuO_4 , fluorinated, anion ordering in, **142**, 440
- $\text{La}_2\text{CuO}_{4+\delta}$, oxygen intercalation, electrochemical study, **144**, 8
- $\text{LaHo}_{0.75}\text{Sr}_{0.25}\text{CuO}_{3.9-x}\text{F}_y$, T* phase, structural transformations in, **147**, 647
- $\text{LaMn}_{1-x}\text{Cu}_x\text{O}_3$ perovskites
- redox properties and methane catalytic combustion, **146**, 176
 - solid solutions with large surface area, structural, magnetic, and morphological properties, **146**, 291
- $\text{La}(\text{Ni}_{1-z}\text{Cu}_z)_x$, crystal structure, neutron and synchrotron anomalous powder diffraction studies, **146**, 313
- $\text{LaYCaBa}_2\text{Cu}_{2+x}\text{Ti}_{3-x}\text{O}_{14-y}$, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
- $\text{Pb}_3\text{Cu}_3(\text{PO}_4)_4$, crystal structure and topology, **142**, 6
- $\text{RbCu}_{1.2}\text{Ag}_{3.8}\text{Se}_3$, synthesis from superheated organic media, crystal structure, and optical properties, **147**, 132
- $\text{Sr}_3\text{Cu}_3(\text{PO}_4)_4$, crystal structure and topology, **142**, 6
- $\text{YBa}_2\text{Cu}_3\text{O}_y$, cation doping with solid oxide electrochemical doping SOED2 method, **146**, 406
- $\text{YCu}(\text{OH})_3(\text{SO}_4)_2$, synthesis and structure, **147**, 641
- $\text{Y}_2\text{SrCu}_{0.6}\text{Co}_{1.4}\text{O}_{6.5}$, double-layered, structure and weak ferromagnetism, **146**, 488
- Copper ampoule
- reactor for solid-state synthesis of complex lanthanide fluorides, **142**, 152
- Coprecipitation
- oxalate, garnet phosphor nanoparticles derived from, preparation and characterization, **144**, 437
- Coulometric titration
- $(\text{Mg}_{0.22}\text{Mn}_{0.07}\text{Fe}_{0.71})_{3-\delta}\text{O}_4$ ferrite spinel: nonstoichiometry measurement, **145**, 276
- Cristobalite
- related phases in $\text{KAlO}_2\text{-KAlSiO}_4$ system, synthesis and characterization, **147**, 624
- Cross sections
- high-emission, Yb^{3+} -doped borate glass with, **144**, 449
- Crystal chemistry
- defective intermetallics with empty triangular metalloid channels, **144**, 277
- $\text{Eu}_2\text{Au}_3\text{In}_4$, **145**, 283
- $\text{HgBa}_2\text{CuO}_{4+\delta}$, **148**, 119
- $\text{Sr}_2\text{Au}_3\text{In}_4$, **145**, 283
- $\text{Sr}_{4-x}\text{Ca}_x\text{Fe}_{6-y}\text{Co}_y\text{O}_{13+\delta}$, **145**, 260
- YbAgSn , $\text{Yb}_2\text{Pt}_2\text{Pb}$, and YbZnSn , **145**, 668
- $(1-\epsilon)\text{ZrO}_2\cdot\epsilon\text{SmO}_{1.5}$ ($0.38 < \epsilon < 0.55$) pyrochlore system as function of composition, **148**, 205
- Crystal field effect
- $4f$ electron of Pr^{4+} in Sr_2CeO_4 , **144**, 20
- Crystal field parameters
- $\text{Co}_{0.5}\text{Ti}_2(\text{PO}_4)_3$ with NASICON structure, **143**, 230
- Crystal field simulation
- $\text{EuH}[\text{O}_3\text{P}(\text{CH}_2)_3\text{PO}_3]$ and $[\text{Eu}(\text{H}_2\text{O})_2[\text{O}_2\text{C}(\text{CH}_2)_3\text{CO}_2]]\cdot4\text{H}_2\text{O}$, **148**, 347
- Crystal growth
- $(\text{C}_6\text{H}_5\text{C}_2\text{H}_4\text{NH}_3)_2\text{PbCl}_4$, **145**, 694
 - $\text{K}_2\text{Ln}(\text{NO}_3)_5\cdot2\text{H}_2\text{O}$ ($\text{Ln} = \text{La,Ce,Pr,Nd,Sm}$) nonlinear optical materials, **148**, 302
 - $\text{Na}_2\text{CoP}_2\text{O}_7$ tetragonal ionic conductor, **145**, 604
 - PrS_2 , **146**, 211
 - rutile doped with Al^{3+} , **143**, 210
- Crystallization
- amorphous calcium phosphate with atomic Ca/P ratio of 1.33 in wet atmosphere, **148**, 308
 - $\text{Me}^+\text{-Me}^{2+}\text{-X}_2\text{-H}_2\text{O}$ ($\text{Me}^+ = \text{K,NH}_4,\text{Rb,Cs}$; $\text{Me}^{2+} = \text{Mn,Co,Ni}$; $\text{X}^- = \text{Cl,Br}$) double salts, **143**, 16
- Crystallographic slip
- role in $(\text{B})\text{VO}_2 \rightarrow (\text{A})\text{VO}_2$ phase transition, **148**, 224
- Crystal structure
- Ag_2BiO_3 , **147**, 117
 - LnAg_6In_6 intermetallics ($\text{Ln} = \text{La,Ce,Pr,Nd}$), **145**, 216
 - $\text{AgM}(\text{PO}_3)_3$ ($M = \text{Mg,Zn,Ba}$), **145**, 97
 - $\alpha\text{-AgVO}_3$, **142**, 360

- $\text{Al}_9(\text{PO}_4)_{12}(\text{C}_{24}\text{H}_{91}\text{N}_{16}) \cdot 17\text{H}_2\text{O}$ open framework with 12-membered ring channels, **145**, 220
- AuCrS_2 , **148**, 487
- $\text{Ln}_2\text{Au}_3\text{In}_5$ ($\text{Ln} = \text{Ce,Pr,Nd,Sm}$), complex 3-D $[\text{Au}_3\text{In}_5]$ polyanions in, **148**, 425
- BaLnMQ_3 ($\text{Ln} = \text{rare earth}$; $M = \text{coinage metal}$; $Q = \text{Se or Te}$), **147**, 366
- BaAg_8S_5 , **144**, 409
- $\text{Ba}_8(\text{BN}_2)_5\text{F}$, **142**, 192
- $\text{Ba}_3\text{Ln}(\text{BO}_3)_3$ ($\text{Ln} = \text{La-Lu, Y}$), **145**, 33
- Ba_2CdTe_3 , **148**, 464
- $\text{LnBaCo}_2\text{O}_{5+\delta}$ ($\text{Ln} = \text{Pr,Nd,Sm,Eu,Gd,Tb,Dy,Ho}$) ordered oxygen-deficient perovskites, **142**, 247
- $\text{Ba}_5\text{Cu}_2\text{Al}_3\text{F}_{23}$, **147**, 657
- $\text{Ba}_2\text{Cu}(\text{HCOO})_6$ room temperature phase, **147**, 545
- $\text{BaCu}_2(\text{PO}_4)_2 \cdot \text{H}_2\text{O}$, **142**, 6
- $\text{Ba}_2\text{Cu}(\text{PO}_4)_2 \cdot \text{H}_2\text{O}$, **142**, 6
- $\text{Ba}_3\text{CuRu}_2\text{O}_9$, comparison to $\text{Ba}_2\text{MRu}_2\text{O}_9$ ($M = \text{In,Co,Ni,Fe}$), **146**, 65
- $\text{BaFe}^{II}\text{P}_2\text{O}_7\text{F}_2$, **148**, 286
- $\text{BaFe}_{11}\text{Ti}_3\text{O}_{23}$ and $\text{Ba}_6\text{Fe}_{45}\text{Ti}_{17}\text{O}_{106}$, **143**, 182
- $\text{BaLa}_2\text{MnS}_5$, **146**, 336
- ($\text{Ba,La}_n\text{Ti}_{n-\delta}\text{O}_{3n}$ ($n \geq 4\delta$)) cation-deficient perovskite-related micro-phases in $\text{La}_x\text{Ti}_3\text{O}_{12}-\text{BaTiO}_3$ system, HRTEM study, **145**, 678
- BaMoO_4 , neutron diffraction study, **146**, 266
- $\text{Ba}_2\text{LnNbO}_6$ ($\text{Ln} = \text{lanthanoid elements}$) ordered perovskites, **148**, 353
- BaO_{2-x} ($1.97 \geq 2 - x \geq 1.72$), **147**, 478
- $\text{Ba}_2\text{MRu}_2\text{O}_9$ ($M = \text{In,Co,Ni,Fe}$), comparison to $\text{Ba}_3\text{CuRu}_2\text{O}_9$, **146**, 65
- $\text{Ba}_{17}\text{Sm}_{10}\text{Cl}_{64}$, **146**, 124
- ($\text{Ba}_{0.875}\text{Sr}_{0.125}\text{RuO}_3$), bond-valence analysis, **143**, 69
- $\text{BaSr}_4\text{U}_3\text{O}_{14}$, **146**, 144
- (BEDT-TTF)₃Cl₂·(H₂O)₂ superconductors at low temperatures, **145**, 496
- $\text{Be}(\text{HASO}_4) \cdot \text{H}_2\text{O}$, **146**, 394
- $\text{Be}_3(\text{PO}_4)_2 \cdot 2\text{H}_2\text{O}$, **146**, 394
- $\text{Bi}_2\text{Al}_4\text{O}_9$, by combined X-ray and high-resolution neutron powder diffraction and ²⁷Al solid state NMR, **147**, 631
- $\text{Bi}_x(A_{0.75 \pm \epsilon}\text{Bi}_{0.25 \pm \epsilon}\text{O})_{(3+3x)/2}\text{MO}_2$ ($A = \text{Ca,Sr}$; $M = \text{Co,Cr}$), **142**, 305
- BiCoPO_5 , **148**, 295
- $\text{Bi}(\text{F,O})_{2.45}$, anion-excess fluorite defect structure deriving from rhombohedral LnFO type, **146**, 51
- $\text{Bi}_{0.5}\text{La}_{13.5}\text{Ti}_8\text{S}_{29}\text{Cl}_4\text{O}_4$, **147**, 592
- BiMnO_3 ferromagnetic perovskite, **145**, 639
- $\text{Bi}_{0.5}\text{Nd}_{1.5}\text{Ru}_2\text{O}_7$, temperature-dependent behavior, **144**, 467
- $\text{Bi}_{0.775}\text{Ln}_{0.225}\text{O}_{1.5}$ ($\text{Ln} = \text{La,Pr,Nd,Sm,Eu,Gd,Tb,Dy}$) conductors of Bi-Sr-O type, **142**, 349
- $\text{Bi}_2\text{O}_3-\text{M}_2\text{O}_5$ ($M = \text{Nb,Ta}$) and $\text{Bi}_2\text{O}_3-\text{M}_2\text{O}_6$ ($M = \text{W,Mo}$), **148**, 380
- $\text{Bi}_5\text{Pb}_3\text{O}_{10.5}$ polymorphs, **144**, 195
- $\text{Bi}_8\text{Pb}_5\text{O}_{17}$ fast ion conducting phases, incommensurately modulated structure, **144**, 255
- $\text{ALn}_{1 \pm \epsilon}\text{Bi}_{4 \pm \epsilon}\text{S}_8$ ($A = \text{K,Rb}$; $\text{Ln} = \text{La,Ce,Pr,Nd}$) semiconductors, **143**, 151
- $M-X-\text{Bi}_2\text{Sr}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+4+\delta}$ ($M = \text{metal}$; $X = \text{halogen}$; $n = 1,2,3$) heterostructured high- T_c superconductors, **147**, 328
- $\text{Bi}_4\text{Ta}_2\text{O}_{11}$, modeling and Rietveld refinement, **142**, 33
- $\text{Bi}_4\text{V}_{2-x}\text{Ni}_x\text{O}_{11-1.5x}$ solid solution series, **143**, 9
- $\text{Bi}_4\text{V}_2\text{O}_{10+\delta}$ ($\delta = 0,0.5,1$), effect of phase modification by antimony, **144**, 379
- BN nanocrystals, **148**, 325
- CaAlTaO_5 , **143**, 62
- $\text{Ca}_2\text{AlTaO}_6$, **143**, 62
- $\text{Ca}_3\text{CoRhO}_6$ one-dimensional oxide, **146**, 137
- $\text{Ca}_3\text{FeRhO}_6$ one-dimensional oxide, **146**, 137
- calcium copper phosphates, **145**, 345
- calcium malonate dihydrate, **143**, 174
- Ca_3BMnO_6 ($B = \text{Ni,Zn}$) crystallizing in K_4CdCl_6 structure, **145**, 302
- CaNb_2O_4 , **147**, 671
- $\text{Ca}_{2-x}\text{Sr}_x\text{MnO}_4$, **145**, 705
- $(\text{Ca}_{1-x}\text{Y}_x)_{0.82}\text{CuO}_2$ quasi one-dimensional compound prepared at room pressure, **145**, 511
- $\text{Ca}_3\text{ZnCoO}_6$ crystallizing in K_4CdCl_6 structure, **145**, 302
- $\text{CeMn}_2\text{Ge}_4\text{O}_{12}$, **143**, 145
- CeNbO_{4+x} ($x = 0.08,0.25,0.33$), **143**, 122
- $\text{C-Ce}_2\text{O}_{3+\delta}$, Ce_7O_{12} , and $\text{Ce}_{11}\text{O}_{20}$, **147**, 485
- $\text{Ce}_3(\text{SiS}_4)_2X$ ($X = \text{Cl,Br,I}$), **147**, 259
- $(\text{C}_6\text{H}_5\text{C}_2\text{H}_4\text{NH}_3)_2\text{PbCl}_4$, **145**, 694
- γ -[(CH₃)₂(C₂H₅)₂N][Ni(dmit)₂]₂, stable 2-D metallic state with stacking motif in spanning overlap, **145**, 564
- $[\text{C}_9\text{H}_{20}\text{N}][\text{Al}_2(\text{HPO}_4)_2(\text{PO}_4)]$ with layer topology, **145**, 731
- $[\text{C}_6\text{H}_{21}\text{N}_4][\text{Al}_3\text{P}_4\text{O}_{16}]$, **146**, 458
- $(\text{C}_2\text{H}_{10}\text{N}_2)[\text{Mo}_5\text{O}_{16}]$ and $(\text{C}_4\text{H}_{12}\text{N}_2)[\text{Mo}_5\text{O}_{16}]$, **147**, 240
- $[\text{C}_2\text{N}_2\text{H}_{10}]^{2+}[\text{Fe}(\text{HPO}_4)_2(\text{OH})^{2-} \cdot \text{H}_2\text{O}$, **142**, 455
- $\text{CN}_3\text{H}_6 \cdot \text{VO}(\text{H}_2\text{O})(\text{HPO}_4)(\text{H}_2\text{PO}_4) \cdot \text{H}_2\text{O}$, **142**, 168
- $(\text{CN}_3\text{H}_6)_2 \cdot \text{Zn}_4\text{H}_5(\text{PO}_4)_5$ built up from 3-, 4-, and 8-ring units, **148**, 433
- $\text{Co}_3\text{Al}_3(\text{PO}_4)_6\text{Co}(\text{diethyltriamine})_2 \cdot (\text{H}_2\text{O})_3$, **146**, 157
- $\text{Co}_{0.5}\text{Ti}_2(\text{PO}_4)_3$, NASICON structure, **143**, 224
- cristobalite-related phases in $\text{KAlO}_2-\text{KAlSiO}_4$ system, **147**, 624
- Cs(IV), Rietveld refinement, **144**, 16
- $\text{Cs}_2[\text{B}_4\text{O}_5(\text{OH})_4]3\text{H}_2\text{O}$, **143**, 260
- $\text{Cs}_2\text{Cu}_2\text{Sb}_2\text{Se}_5$ synthesized from superheated organic media, **147**, 132
- $\text{CsPbTa}_6\text{Cl}_{18}$ and $\text{Cs}_2\text{PbTa}_6\text{Cl}_{18}$, **147**, 350
- $\text{CsUV}_3\text{O}_{11}$ with layered structure, **146**, 258
- $\text{Cs}[(\text{VO})(\text{H}_2\text{O})\text{Ga}(\text{PO}_4)_2]$, **144**, 442
- $\text{RECu}_{1+x}\text{As}_2$ ($RE = \text{La,Ce,Pr}$), **147**, 140
- $\text{CuClCu}_2\text{TeS}_3$, **147**, 170
- [Cu(dicyanamide)₂(pyrazine)]_n isomers, **145**, 387
- Cu_4GeS_4 , **145**, 204
- $A_2\text{Cu}'\text{B}'\text{O}_6$ ($A = \text{Ba,Sr}$; $B' = \text{W,Te}$) B-site-ordered perovskite-type oxides, **147**, 291
- $\text{Cu}_2(\text{OH})_3\text{NO}_3$ with exchangeable interlayer anions, **148**, 26
- $\text{Cu}(\text{VO})(\text{SeO}_3)_2$ (A) and (B) forms, **147**, 296
- $\beta\text{-Cu}_2\text{V}_2\text{O}_7-\alpha\text{-Zn}_2\text{V}_2\text{O}_7$ solid solution, **146**, 271
- defective intermetallics with empty triangular metalloid channels, **144**, 277
- $[\text{enH}_2][\text{CoIn}(\text{PO}_4)_2\text{H}(\text{OH})_2\text{F}_2]$, 2D mixed-metal phosphate templated by ethylene diamine, **142**, 241
- $\text{Eu}_2\text{Au}_3\text{In}_4$, **145**, 283
- EuIr_2 , EuIrSn_2 , and EuRhIn , **145**, 174
- $[(\text{EuS})_{1.5}]_{1.15}\text{NbS}_2$: detection of mixed valence state for Eu, **147**, 58
- $[\text{Fe}_2(\text{OH}_2)\text{PO}_4(\text{C}_2\text{O}_4)_{0.5}]$, letter to editor, **146**, 538
- $\text{Fe}(\text{PO}_3)_3$, neutron diffraction studies of C-type compounds, **148**, 455
- $\text{Fe}_4(\text{PO}_4)_2(\text{C}_2\text{O}_4)(\text{H}_2\text{O})_2$, **143**, 58
- $\text{Fe}_3\text{P}_3\text{SiO}_{11}$, **147**, 565
- $M\text{Fe}_{1-x}\text{Sb}$ ($M = \text{Zr,Hf}$), **144**, 330
- GaAsO_4 piezoelectric compound, neutron and X-ray structure refinements between 15 and 1073 K, **146**, 114
- $\text{GdMnGe}_2\text{O}_{17}$, **143**, 145
- $\alpha\text{-GdPdSi}$, **142**, 130
- $\text{GdTe}_2\text{O}_5\text{Cl}$, **146**, 473
- GeSe_2 at high pressures, **145**, 167
- $\text{HgBa}_2\text{CuO}_{4+\delta}$, local perturbations, **148**, 119
- Hg_2PCl_2 , **142**, 14
- $\text{Hg}_{1-x}\text{Re}_x\text{Ba}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+2+4x+\delta}$, 1256 and 1267 type single crystals, **143**, 277
- $\text{H}_3\text{N}(\text{CH}_2)_3\text{NH}_3 \cdot \text{Zn}_2(\text{HPO}_4)_3$, **147**, 584
- $(1,4\text{-HO})_6\text{H}_4\text{NH}_3)_4\text{P}_4\text{O}_{12} \cdot 6\text{H}_2\text{O}$, **144**, 318
- InSnBr_3 and InSnCl_3 with close cation-cation contacts, **146**, 344
- $\text{In}_3\text{Ti}_2\text{AO}_{10}$ ($A = \text{Al,Cr,Mn,Fe,Ga}$), **147**, 438
- $\text{In}_6\text{Ti}_6\text{BO}_{22}$ ($B = \text{Mg,Mn,Co,Ni,Cu,Zn}$), **147**, 438
- p*-iodotoluene, structural disorder, **143**, 285

- (K_{0.87}Bi_{0.13})BiO₃ superconductor, **144**, 205
 KFe₃(OH)₂(PO₄)₂·2H₂O, **142**, 455
 K₃La₂(NO₃)₆, **144**, 68
 KMn₄(PO₄)₃, **144**, 169
 K₈Nd₃Si₁₂O₃₂(OH) layered silicate with paths for possible fast-ion conduction, **148**, 406
 K₂Ln(No₃)₅·2H₂O (*Ln* = La,Ce,Pr,Nd,Sm) nonlinear optical materials, **148**, 302
 K₂SeO₄·Te(OH)₆, **145**, 612
 KVMo₆, **146**, 197
 K₂ZrGe₂O₇, **148**, 41
 La_{0.74}Ca_{0.26}MnO_{3+d} as function of synthesis conditions, **144**, 461
 La_{1-x}CaxMnO_{3+d} as function of synthesis conditions, **146**, 448
 La_{3-x}Cex(SiS₄)₂I (0 ≤ x ≤ 1) solid solution, **147**, 259
 La₄[{C₂(1-x)Ge_x]₃] continuous transition between cubic structure types *c*/40 (Rb₄O₆/Pu₂C₃) and *c*/28 (Th₃P₄), **147**, 372
 La_{1.12}Li_{0.62}Ti₂O₆, **148**, 329
 La₄Mn₃Ge_{5.2}Si_{0.8}O₂₂, **147**, 247
 LaMnO_{3±δ} perovskite, discontinuous evolution of highly distorted orthorhombic structure, **146**, 418
 La₄Mo₇Al₅₁, **143**, 198
 La₇Mo₇O₃₀, perovskite-related structure, *ab initio* determination from powder diffraction, **142**, 228
 La(Ni_{1-x}Cu_x)_x, neutron and synchrotron anomalous powder diffraction studies, **146**, 313
 La₂NiRhO₆, **146**, 163
 La₂O₃ with cubic structure, **144**, 68
 La(OH)₂NO₃·H₂O with exchangeable interlayer anions, **148**, 26
 LaONo₃· $\frac{1}{3}$ KNO₃, **144**, 68
 La_{1/6}Pb_{1/5}Zr₂(PO₄)_{1/7/6}(SiO₄)_{1/6}:Eu³⁺, **146**, 499
 La_{0.7}Sr_{0.3}Co_{1-z}Mn_zO_{3±y} (0 ≤ z ≤ 1), **143**, 52
 La_{1-x}Sr_xCoO₃, as function of Sr content, temperature, and oxygen partial pressure, **142**, 374
 La_{2-x}Sr_xLi_{1/2}Co_{1/2}O₄ (x < 0.5), ordered K₂NiF₄-type structure, **146**, 79
 La₂TiAlO_{6.5-x} perovskite, **146**, 437
 La_{23-x}Ti_{16.2}S₄₉Cl₈O₈, **147**, 592
 La₄W₇Al₅₁, **143**, 198
 Li₂BAI₄, **142**, 214
 LiGd₆O₅(BO₃)₃, **146**, 189
 LiMn_{2-y}Cr_yO₄, powder neutron and X-ray diffraction, **146**, 322
 Li_{4-x}A_x⁺(MoO₄)₃(PO₄)₃P₂O₇ (*A* = Na,Ag,Cs,K), **144**, 297
 Li₂[NiF(PO₄)] with ordered mixed anionic framework, **142**, 1
 LiP₅, **147**, 341
 γ-Li₃PO₄ after nitrogen doping, effect on ionic conductivity, **145**, 619
 Lu₂Ru₂O₇ pyrochlorites, **144**, 216
 MgIn_{2-x}Ga_xO₄ solid solutions, **142**, 206
 Mg(NH₃)₂*X* (*X* = Cl,Br,I), **147**, 229
 MIL-12 fluoroaluminophosphate templated with 1,3-diaminopropane, *ab initio* determination, **147**, 92
 MIL-13 hydrated iron diphosphonate, **147**, 122
 MIL-21 with partial cationic disorder, **148**, 150
 AMnSe₂ (*A* = Li,Na,K,Rb,Cs), **146**, 217
 Mo_y[Mo₆Se_{8-x}S_x] high-temperature Chevrel phases, **145**, 159
 monoclinic hydroxyapatite, Rietveld refinement, **144**, 272
 MoZn_{20.44}, **143**, 95
 Na₅Bi(P₂O₇)₂, **143**, 104
 Na₂Ln₂(BO₃)₂O (*Ln* = Sm,Eu,Gd), **144**, 35
 Na₂CoP₂O₇ tetragonal ionic conductor, **145**, 604
 Na_xCr_xTi_{8-x}O₁₆, low-temperature phase with monoclinic Hollandite structure, **145**, 182
 Na₂CsC₆₀ superconducting fulleride, pressure and temperature evolution, **145**, 471
 NaK₂₉Hg₄₈, **147**, 177
 Na₂Mn₂Se₃, **146**, 217
 Na₃NbO(AsO₄)₂, **144**, 53
 NaNi₄(PO₄)₃, **144**, 169
 Na₃ONO₂, low-temperature phases, **145**, 267
 naphthyl nitronyl nitroxides, correlation with magnetic properties, **145**, 427
 Na₃M₂(PO₄)₂F₃ (*M* = Al⁺,V³⁺,Cr³⁺,Fe³⁺,Ga³⁺), **148**, 260
 δ-Na₂Si₂O₅, **146**, 380
 Na₂V₃O₇ low-dimensional quantum magnet, letter to editor, **147**, 676
 Na₉V₁₄O₃₅ bronze, letter to editor, **145**, 361
 Na₃V⁴⁺O(PO₄)(HPO₄) formed in Na/V/P/H₂O system under hydrothermal conditions at 473 K, **145**, 15
 NbZn₃ and NbZn₁₆, **143**, 95
 [N₂C₄H₁₂]_{0.5}[Fe₂(HPO₄)(C₂O₄)_{1.5}], letter to editor, **146**, 538
 (N₂C₆H₁₄)·Zn₃(HPO₄)₄, **147**, 584
 (N₂C₆H₁₄)·Zn(HPO₄)₂·H₂O, **147**, 584
 NdCaCrO₄, **148**, 361
 Nd₅Ni₆In₁₁, **142**, 180
 NdPdSi, **142**, 130
 Nd_{0.67}Sr_{0.33}MnO₃ doped with CaF₂, **148**, 236
 NdTe₂O₅Cl, **146**, 473
 [NH₃CH₂CH(NH₃)CH₃]_{0.5}[Sn₄P₃O₁₂]·H₂O with one-dimensional channels, **148**, 50
 (NH₃CH₂CH₂NH₃)₄·(NH₃CH₂CH₂NH₂)·Na·[Ni₂Mo₁₂O₃₀(PO₄)₄(HPO₄)₄(H₂PO₄)₃]·6H₂O, **146**, 533
 [NH₃(CH₂)₄NH₃][Ga₄(HPO₄)(PO₄)₄], **142**, 236
 [NH₃(CH₂)₄NH₃]₂[Ga₄(HPO₄)₂(PO₄)₃(OH)₃]·yH₂O (y ~ 5.4), and vanadium-gallium phosphate analogue, **145**, 379
 [NH₃(CH₂)₆NH₃]₁₀[V₁₅O₃₇(Cl)]₂[V₁₅O₃₆(Cl)](OH)₃(H₂O)₃ bronze with clusters textured by diaminohexane, **147**, 552
 NH₄Fe₃(H₂PO₄)₆(HPO₄)₂·4H₂O, **144**, 163
 Ni₂Mo₃N, **146**, 22
 Ni₂(OH)₃NO₃ with exchangeable interlayer anions, **148**, 26
 MNiSb (*M* = Zr,Hf), **144**, 330
 one-dimensional coordination polymers containing dicyanamide and pyridine-type ligands, **145**, 369
 open-framework zinc phosphates synthesized in presence of structure-directing organic amines, **147**, 154
 Pb_{0.6}Bi_{1.4}Cs_{0.6}O₂Cl₂ and Pb_{0.6}Bi_{3.4}Cs_{0.6}O₄Cl₄, **147**, 527
 Pb₄BiO₄PO₄, stereochemical effect of 6s² lone pair electrons, **142**, 80
 Pb₃Cu₃(PO₄)₄, **142**, 6
 PbFCl-type compounds, **144**, 339
 (Pb₂FeS₃)_{0.58}NbS₂, **142**, 461
 A₂PdF₆ and AA'PdF₆ (*A*²⁺ = Ba²⁺,Sr²⁺,Pb²⁺), **148**, 242
 Ln₄PdO₇ (*Ln* = La,Nd,Sm,Eu,Gd), **146**, 428
 PrCaCrO₄, **142**, 29
 PrCd₃P₃, **146**, 478
 PrLu_{1-y}Mg_yO₃ (y ≤ 0.075), **145**, 104
 Pr_{1-x}Sr_xCoO_{3-δ}, **147**, 464
 Pr₃Zn₂As₆ crystallizing with vacancy variant of HfCuSi₂-type structure, **142**, 266
 PrZn₃P₃, **146**, 478
 LnPtGe (*Ln* = Ce,Pr,Nd,Sm), **142**, 400
 quinolinyl nitronyl nitroxides, correlation with magnetic properties, **145**, 427
 RbCu_{1.2}Ag_{3.8}Se₃ synthesized from superheated organic media, **147**, 132
 Rb₃Re₆S₇Br₇ and tetrahydrate, **147**, 358
 Rb[(VO)(H₂O)Ga(PO₄)₂], **144**, 442
 Ln₂ReO₅ (*Ln* = Sm,Eu,Gd), **147**, 218
 Ln₆ReO₁₂ (*Ln* = Ho,Er,Tm,Yb,Lu), **148**, 220
 Ln₃Re₂O₉ (*Ln* = Pr,Nd,Sm), **147**, 218
 Ln₄Re₆O₁₉ (*Ln* = La-Nd), **147**, 218
 rodaquilarite, **143**, 254
 Sc₂BC₂, **148**, 250
 Sc₂B_{1.1}C_{3.2} with graphite-like layers, **148**, 442

- S**
- ScCo_{1-x}Sb, **144**, 330
 $A_2\text{SiC}$ (A = rare earth elements and actinoids; T = Mn, Re, Ru, Os), **142**, 279
SmPdSi, **142**, 130
 $A_4\text{Sn}_4\text{Se}_{10}\cdot x\text{H}_2\text{O}$ with 20- (A = Cs; x = 3.2) and 36-membered pores (A = K, Rb; x = 4.5, 1.5), **147**, 146
Sr₂Au₃In₄, **145**, 283
Sr₂BN₂I with isolated BN₂⁻ units, **142**, 187
Sr₂B₂O₅, **144**, 30
(Sr,Ca,Ln)₃Co₂O_{6±δ} (Ln = Sm, Eu, Gd, Tb, Dy, Ho, Y), **146**, 277
Sr₃Cu₃(PO₄)₄, **142**, 6
Sr₂FeIrO₆, **145**, 541
SrFe₃(PO₄)₃, **147**, 390
Sr₂LnIrO₆ (Ln = Ce, Tb) perovskites, **145**, 356
(Sr,K)₃Bi₂O₇, **144**, 405
SrNbO₃ of GdFeO₃ type, transmission electron microscopy and neutron powder diffraction, **147**, 421
SrO_{2-x} (1.98 ≥ 2 - x ≥ 1.90), **147**, 478
Sr₂Ru₃O₁₀, **143**, 266
Sr₄Ru_{3.05}O₁₂ hexagonal perovskite, **144**, 125
SrSn_{1-x}Fe_xO_{3-y} system, **142**, 288
Sr₂TaO₃N, **146**, 390
Sr₅U₃O₁₄, **146**, 144
 α -TbPdSi, **142**, 130
 $M_2\text{Te}_3\text{O}_8$ (M = Mn, Co, Ni, Cu, Zn), spiroffite structure, **143**, 246
TlPbCl₃ synthesized at high pressure, **146**, 351
TlSr₂NiO_{4+δ} high-resolution neutron diffraction study, **144**, 62
[TMA]₂[Fe(H₂O)₆]Mo₈O₂₆ and (TMA)₂FeMo₆O₂₀, **143**, 77
U(Ta,W)₂O₈ and U(Ta,W)₅O₁₆, HREM study, **144**, 152
U₃TiX₅ (X = Ge, Sn), **144**, 311
AVO₃Cl (A = Ba, Sr, Cd) with chain and layered structures, **145**, 634
 σ -M_{0.25}V₂O₅·H₂O (M = Mg, Co, Ni) bronzes, **144**, 181
(VO)₂P₂O₇ quantum-spin chain compound, **146**, 369
WOP₂O_{7(o)}, **144**, 325
W₂O₃(PO₄)_{2(o)}, **144**, 325
YbAgSn, **145**, 668
Yb₂Pt₂Pb, **145**, 668
YbZnSn, **145**, 668
YFe₂D_x compounds (x = 1.3, 1.75, 1.9, 2.6), neutron diffraction study, **142**, 120
YM(OH)₃(SO₄) (M = Ni, Cu), **147**, 641
Y₂Ru₂O₇ pyrochlores, **144**, 216
[Zn(en)]₆[(VO)₁₂O₆B₁₈O₃₉(OH)₃]·13H₂O, **148**, 450
Zn₅(OH)₈(NO₃)₂·2H₂O with exchangeable interlayer anions, **148**, 26
ZrO₂, tetragonal and cubic nanocrystals prepared from yttrium-doped zirconium, **142**, 409
Zr₂ON₂, neutron powder diffraction study: absence of nitride–oxide ordering, **146**, 399
(1 - ε)ZrO₂· ε SmO_{1.5} (0.38 < ε < 0.55) pyrochlore system as function of composition, **148**, 205
ZrP₂S₆ and ZrP₂S₇, **143**, 239
Curie transitions
 Ln_{0.7}M_{0.3}MnO₃ high-tolerance factor perovskites, cation size variance effects in, **148**, 20
 γ -Cyclodextrin
 anthracene dimer in, intermolecular bonds bridging, **144**, 263
- D**
- Decomposition
 amorphous calcium phosphate with atomic Ca/P ratio of 1.33 in wet atmosphere, **148**, 308
Pb(Mg_{1/3}Nb_{2/3})O₃, pyrochlore-type compound formed by, Raman spectroscopy, **142**, 344
thermal, see Thermal decomposition
- Defect structure
 Bi₂F₃O_{2.45}, anion-excess fluorite defect structure deriving from rhombohedral LnFO type, **146**, 51
BPO₄ doped with Li, **142**, 74
Co_{1-x}O/ZrO₂ composites: formation of defect clusters, **145**, 739
Eu₂CaBa₂Cu₂Ti₃O₁₄ quintuple perovskite layered cuprates at high temperature, **148**, 3
LaYCaBa₂Cu_{2+x}Ti_{3-x}O_{14-y} quintuple perovskite layered cuprates at high temperature, **148**, 3
Na₂SO₄ phase I doped with Yb, **145**, 309
NiFe₂O₄ ultrafine powders prepared with mixed Ni and Fe tartrates, **145**, 50
rutile doped with Al³⁺, **143**, 210
Sb₂Te₃ single crystals doped with Pb, **145**, 197
- Dehydration
 microporous rare-earth dicarboxylates, study by thermogravimetry, thermodiffractometry, and optical spectroscopy, **145**, 580
- Density functional calculations
 Hg₂F₂ crystals, **146**, 239
- Deuterium
 YFe₂D_x compounds (x = 1.3, 1.75, 1.9, 2.6), structures and phase transitions, neutron diffraction study, **142**, 120
- 1,3-Diaminopropane
 template for synthesis of MIL-12 fluoroaluminophosphate, **147**, 92
- Diamond
 graphite-to-diamond phase transition, 3D carbon structures as progressive intermediates in, **148**, 278
- Dicyanamide
 [Cu(dicyanamide)₂(pyrazine)]_n, synthesis, structural isomerism, and magnetism, **145**, 387
 one-dimensional coordination polymers containing structures and magnetic properties, **145**, 369
- Dielectric properties
 Ba₆Fe₄₅Ti₁₇O₁₀₆, **143**, 182
 Ba₄Nd₂Ti₄Ta₆O₃₀ and Ba₅NdTi₃Ta₇O₃₀ bronzes, **148**, 438
 Sr_{1+x}La_{1-x}FeO₄ (0 ≤ x ≤ 0.20) below 300 K, **145**, 58
- Diethyltriamine
 Co₃Al₃(PO₄)₆Co(diethyltriamine)₂·(H₂O)₃, hydrothermal synthesis and characterization, **146**, 157
- Differential scanning calorimetry
 Bi₂MoO₆ γ -phase catalyst formation *in situ*, **148**, 178
 Na₃M₂(PO₄)₂F₃ (M = Al⁺, V³⁺, Cr³⁺, Fe³⁺, Ga³⁺), **148**, 260
 reduced molybdenum oxides synthesized with hydroxylamine hydrochloride in aqueous solutions, **147**, 269
- Differential thermal analysis
 BiMnO₃ perovskite at high temperature, **142**, 113
 KVMoO₆, **146**, 197
 LiKSO₄, **148**, 316
 Na₃M₂(PO₄)₂F₃ (M = Al⁺, V³⁺, Cr³⁺, Fe³⁺, Ga³⁺), **148**, 260
- Diffuse reflectance spectroscopy
 SrFe₃(PO₄)₃, **147**, 390
 M₂Te₃O₈ (M = Co, Ni, Cu) with spiroffite structure, **143**, 246
- α,ω -Dihalogenoalkanes
 and tri-*ortho*-thymotide, incommensurate solid inclusion compounds formed from, structure and diffraction properties, **148**, 63
- Displacive flexibility
 La_δZr_{1-δ}O_{2-δ/2} (0.49 < δ < 0.51) pyrochlore, structured diffuse scattering as indicator, **142**, 393
- Dissolution
 SnS, activation energy, **144**, 1
- dmit compounds
 γ -[(CH₃)₂(C₂H₅)₂N][Ni(dmit)₂]₂, stable 2-D metallic state with stacking motif in spanning overlap, **145**, 564
- DNA
 structure maps, **145**, 150

Double salts

$Me^+X-Me^{2+}X_2-H_2O$ ($Me^+ = K, NH_4, Rb, Cs$; $Me^{2+} = Mn, Co, Ni$; $X^- = Cl, Br$), **143**, 16

Dysprosium

- Ba₃Dy(BO₃)₃, synthesis, structure, and properties, **145**, 33
- Ba₂DyNbO₆ ordered perovskites, crystal structure and magnetic properties, **148**, 353
- Bi_{0.775}Dy_{0.225}O_{1.5} of Bi-Sr-O type, structural and conductivity properties, **142**, 349
- DyBaCo₂O_{5+δ}, ordered oxygen-deficient perovskites, structural and magnetic studies, **142**, 247
- DyBa₂Cu₃O_{7-x}, Gibbs free energy of formation, determination by EMF method, **144**, 118
- DyT₂SiC ($T = Mn, Re, Ru, Os$), with DyFe₂SiC-type structure, characterization, **142**, 279
- DyZn₃P₃, preparation, **146**, 478
- LiDy₆O₅(BO₃)₃, detection in ternary-phase diagrams Li₂O-Ln₂O₃-B₂O₃, **146**, 189
- (Sr,Ca,Dy)₃Co₂O_{6±δ}, synthesis, crystal structure, and electrical and magnetic properties, **146**, 277

E

Editorials

biographical note on Peter Day FRS, **145**, 367

changes since journal inception, **148**, 187

dedication of special issue honoring professor C. N. R. Rao on the occasion of his 65th birthday, **148**, 1

Elastic properties

synthetic aragonite, **146**, 73

Electrical conductivity

Bi_{0.775}Ln_{0.225}O_{1.5} ($Ln = La, Pr, Nd, Sm, Eu, Gd, Tb, Dy$) of Bi-Sr-O type, **142**, 349

(BN)_{~3}SO₃F, **147**, 74

Ce(NO₃)₃·6H₂O, AC conductivity dependence on temperature and frequency, **144**, 354

Eu₂CaBa₂Cu₂Ti₃O₁₄ quintuple perovskite layered cuprates at high temperature, **148**, 3

AlAl_{1±x}Bi_{4±x}S₈ ($A = K, Rb$) semiconductors, **143**, 151

LaGa_{1-x}Ni_xO_{3-δ} perovskites, **142**, 325

LaYCaBa₂Cu_{2+x}Ti_{3-x}O_{14-y} quintuple perovskite layered cuprates at high temperature, **148**, 3

mixed layered tetradymite-like compounds in GeTe-Bi₂Te₃ system, **146**, 305

Mn_{0.6}Ta_{0.4}O_{1.65} defect fluorite structure, **145**, 37

Na₂SO₄, effects of homovalent anion doping, **146**, 6

Sb₂Te₃ single crystals doped with Pb, **145**, 197

SrSn_{1-x}Fe_xO_{3-y} system, **142**, 288

Y-Zr-O-N materials, **142**, 163

Electrical properties

LnAg₆In₆ intermetallics ($Ln = La, Ce, Pr, Nd$), **145**, 216

BaLa₂MnS₅, **146**, 336

Ba_{1-x}Sr_xCoO₃ ($0 \leq x \leq 0.5$) with one-dimensional structure, **146**, 96

BiCoPO₅, **148**, 295

CeOs₄P₁₂ with skutterudite structure, **142**, 146

CuClCu₂TeS₃, **147**, 170

Cu₄GeS₄, **145**, 204

(CuI)₂Cu₃SbS₃, **147**, 170

(CuI)₃Cu₂TeS₃, **147**, 170

Eu₂Au₃In₄, **145**, 283

La_{1-x}Ce_xRu₄P₁₂ with skutterudite structure, **142**, 146

LaMnO₃ substituted with Na, **146**, 88

La_{1-x}Sr_xCoO₃, as function of Sr content, temperature, and oxygen partial pressure, **142**, 374

(La,Sr)MnO₃ perovskites prepared by fused salt electrolysis, **145**, 88

LiMn₂O₄ spinel phase formed by sol-gel synthesis, **147**, 509

MgIn_{2-x}Ga_xO₄ solid solutions, **142**, 206

Ni₂Mo₃N, **146**, 22

(Pb₂FeS₃)_{0.58}NbS₂ misfit layered compound, **142**, 461

Pt/SnO₂ prepared with ultrasonic aerosol device for gas sensors, **144**, 86

SnO₂ prepared with ultrasonic aerosol device for gas sensors, **144**, 86

Sr₂Au₃In₄, **145**, 283

(Sr,Ca,Ln)₃Co₂O_{6±δ} ($Ln = Sm, Eu, Gd, Tb, Dy, Ho, Y$), **146**, 277

Sr_{4-x}Ca_xFe_{6-y}Co_yO_{13±δ}, **145**, 260

YbAgSn, **145**, 668

YbZnSn, **145**, 668

Electrical resistivity

Ba₆Fe₄Ti₁₇O₁₀₆, **143**, 182

BaNb_{3±δ}, anomalous behavior in quasi-one-dimensional conductor, **142**, 57

Bi_x(A_{0.75±ε}Bi_{0.25±ε}O)_{(3+3x)/2}MO₂ ($A = Ca, Sr; M = Co, Cr$) with double rock salt layers, **142**, 305

intercalate phases in organic-inorganic polyaniline/V₂O₅ system, **147**, 601

La_{0.74}Ca_{0.26}MnO_{3+d} as function of synthesis conditions, **144**, 461

mixed layered tetradymite-like compounds in GeTe-Bi₂Te₃ system, **146**, 305

Ln_{0.7}M_{0.3}MnO₃ high-tolerance factor perovskites, cation size variance effects in, **148**, 20

Nd₅Ni₆In₁₁, **142**, 180

Electrocatalysis

oxygen electrocatalysis in alkaline medium, Ni_xAl_{1-x}Mn₂O₄ preparation for, **145**, 23

Electrochemical doping

metal from pure metal or metal compounds at Na-β''-Al₂O₃ interface, **143**, 111

oxide ceramics by cations via SOED2 method, **146**, 406

Electrochemistry

extra Mo atoms in Chevrel phase host network, **147**, 199

Ni_{1-x}Co_xO₂ metastable oxides prepared by soft chemistry, *in situ* study, **147**, 410

oxygen intercalation into La₂CuO_{4+δ}, **144**, 8

Electrochromic process

in porous and nanocrystalline WO₃ film, micro-Raman study, **142**, 368

Electrodeposition

Co-Cu nanostructure prepared by, magnetoresistance effect, **147**, 274

Electrolysis

fused salt, (La,Sr)MnO₃ perovskites prepared with, electrical and magnetic properties, **145**, 88

Electrolytes

ceramic, nanostructured Li-doped BPO₄, defect structure, **142**, 74

Electromotive force measurements

Gibbs free energy of formation of LnBa₂Cu₃O_{7-x} ($Ln = Yb, Tm, Er, Ho, Dy$), **144**, 118

Electron correlations

effects in NiS_{2-x}Se_x system, **147**, 68

Electron density study

Z₃Al₂Si₃O₁₂ ($Z = Mg, Fe, Mn, Ca$) and Ca₃Fe₂Si₃O₁₂ garnets, **142**, 273

Na_xCr_xTi_{8-x}O₁₆, low-temperature phase with monoclinic Hollandite structure, **145**, 182

Electron diffraction

LnBaCo₂O_{5+δ} ($Ln = Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho$) ordered oxygen-deficient perovskites, **142**, 247

(Ba,Sr)Co_{1-x}O_y hexagonal perovskite-related oxides: cation deficiency, **142**, 419

Bi₈Pb₅O₁₇ fast ion conducting phases, **144**, 255

CeNbO_{4+x} ($x = 0.08, 0.25, 0.33$), **143**, 122

intercalation compounds derived from 1T-MoS₂, **144**, 430

La₂CuO₄: anion ordering, **142**, 440

- $\text{La}_\delta\text{Zr}_{1-\delta}\text{O}_{2-\delta/2}$ ($0.49 < \delta < 0.51$) pyrochlore: displacive flexibility, **142**, 393
- α - MnO_2 with open tunnel, **144**, 136
- $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{Mn}_{1-x}\text{Cr}_x\text{O}_3$: structural determination of charge ordering process, **148**, 333
- $A_{n+2}B_n\text{B}'\text{O}_{3n+3}$ family ($B = B' = \text{Co}$): ordered intergrowth between $2\text{H}-\text{BaCoO}_3$ and $\text{Ca}_3\text{Co}_2\text{O}_6$ structures, **145**, 116
- ($\text{VO}_2\text{P}_2\text{O}_7$) quantum-spin chain compound, **146**, 369
- Electron energy loss spectroscopy
- $\text{Ba}_4\text{Nd}_2\text{Ti}_4\text{Ta}_6\text{O}_{30}$ and $\text{Ba}_5\text{NdTi}_3\text{Ta}_7\text{O}_{30}$ bronzes, **148**, 438
 - inner-shell, $M_3\text{SiTe}_6$ and $M\text{Te}_2$ ($M = \text{Nb}, \text{Ta}$), **142**, 63
- Electron hole chemistry
- $\text{Ni}_{1-x}\text{Co}_x\text{O}_2$ metastable oxides, **147**, 410
- Electronic absorption spectroscopy
- $M^1\text{Cr}(\text{MoO}_4)_2$ and $M^1\text{Cr}(\text{WO}_4)_2$ ($M^1 = \text{Li}, \text{Na}, \text{K}, \text{Cs}$), **148**, 468
- Electronic defect concentrations
- in proton-containing perovskites, calculation, **143**, 115
- Electronic properties
- $\text{BaNbS}_{3+\delta}$ quasi-one-dimensional conductor, **142**, 57
 - $\text{CaCu}_3\text{Mn}_4\text{O}_{12}$ -based oxides with perovskite structure, **147**, 185
 - $\text{LaNi}_{1-x}\text{Ti}_x\text{O}_3$ ($0 \leq x \leq \frac{1}{2}$) perovskite, **148**, 479
 - $\text{La}_{2-x}\text{Sr}_x\text{Li}_{1/2}\text{Co}_{1/2}\text{O}_4$ ($x < 0.5$): properties of Co^{III} and Co^{IV} ions, **146**, 79
 - $\text{NiS}_{2-x}\text{Se}_x$ system, **147**, 68
 - $\text{Sr}_2\text{FeIrO}_6$, **145**, 541
 - vortex state in cuprate superconductors, **148**, 85
- Electronic structure
- BaCoO_3 hexagonal perovskite, **146**, 411
 - CoSi_3P_3 , **147**, 11
 - Cu_4GeS_4 , **145**, 204
 - Cu_4SiP_8 , **147**, 11
 - κ - $\text{ET}_2\text{Cu}[\text{N}(\text{CN})_2]\text{Br}$ and κ - $\text{ET}_2\text{Cu}(\text{SCN})_2$ organic conductors, soft X-ray absorption and emission studies, **143**, 1
 - FeSi_4P_4 , **147**, 11
 - GaMo_5S_8 and GaV_4S_8 vacancy ordered spinels, *ab initio* calculations, **148**, 143
 - γ - Gd_2S_3 at high pressures, **148**, 370
 - IrSi_3P_3 , **147**, 11
 - γ - Li_3PO_4 after nitrogen doping, effect on ionic conductivity, **145**, 619
 - LiTiO_2 , first principles Hartree-Fock study, **142**, 428
 - (P_2Hg_6) octahedron in Hg_2PCl_2 , **142**, 14
 - $\text{Sr}_2\text{B}_2\text{O}_5$, **144**, 30
 - $\text{Ti}_x\text{Cr}_5\text{Se}_8$ ($x = 0.2, 1$) channel compounds: evidence for Cr(IV) formation, **145**, 247
 - $\text{TiSr}_2\text{CoO}_5$, local electronic configuration, relationship to occurrence of metallic state, **147**, 211
 - [$\text{V}(\text{OH}_2)_6$]³⁺ cation, effect of mode of water coordination, **145**, 460
 - $\text{ZrFe}_{1-x}\text{Sb}$, comparison to related phases, **144**, 330
- Electron microscopy, *see also* High-resolution electron microscopy; Transmission electron microscopy
- $\text{Bi}_2\text{VO}_{5.5}$, ferroelectric nanocrystalline powders prepared by mechanically activated synthesis, **142**, 41
 - reduced molybdenum oxides synthesized with hydroxylamine hydrochloride in aqueous solutions, **147**, 269
- Electron paramagnetic resonance
- $\text{Ba}_2Ln\text{NbO}_6$ (Ln = lanthanoid elements) ordered perovskites, **148**, 353
 - $M^1\text{Cr}(\text{MoO}_4)_2$ and $M^1\text{Cr}(\text{WO}_4)_2$ ($M^1 = \text{Li}, \text{Na}, \text{K}, \text{Cs}$), **148**, 468
 - $[\text{Et}_3\text{NH}]_2[\text{Mn}(\text{CH}_3\text{CN})_4(\text{H}_2\text{O})_2][\text{Mn}_{10}\text{O}_4(2,2'\text{-biphenoxide})_4\text{Br}_{12}]$, slow magnetic relaxation at very low temperature, **145**, 484
 - $\text{Fe}(\text{PO}_3)_3$, **145**, 629
 - $\text{La}_{2-x}\text{Sr}_x\text{Li}_{1/2}\text{Co}_{1/2}\text{O}_4$ ($x < 0.5$), **146**, 79
 - $R\text{Pd}_3\text{S}_4$ ($R = \text{Ce}, \text{Gd}$), **146**, 226
 - Pr^{4+} doped in pyrochlore-type $\text{La}_2\text{Sn}_2\text{O}_7$ and $\text{La}_2\text{Zr}_2\text{O}_7$, **143**, 140
 - Pr^{4+} in Sr_2CeO_4 , **144**, 20
- $\text{Ti}_x\text{Cr}_5\text{Se}_8$ ($0 \leq x \leq 1$) nonstoichiometric channel compounds at low temperature: evidence for Cr(IV) formation, **145**, 235
- [$\text{V}(\text{OH}_2)_6$]³⁺ cation: effect of mode of water coordination on electronic structure, **145**, 460
- Electron spectroscopy for chemical analysis
- ZnFe_2O_4 formed by mechanical activation and mechanosynthesis, **146**, 13
- Electron transfer
- in proteins, **145**, 488
- Electrosubstitution
- by metals and metal compounds at $\text{Na}-\beta''-\text{Al}_2\text{O}_3$ interface, **143**, 111
- Energy dispersive X-ray analysis
- $\text{SrFe}_3(\text{PO}_4)_3$, **147**, 390
- Enthalpy
- LiTi_2S_4 formation by intercalation of Li into TiS_2 , **145**, 503
 - $A_{1-x}A'_x\text{MnO}_3$ ($A = \text{La}, \text{Nd}, \text{Y}; A' = \text{Sr}, \text{La}$) perovskite oxidation, **145**, 77
 - $\text{Sr}_5\text{U}_3\text{O}_{14}$ formation, **146**, 144
 - thermal degradation of modified forms of lamellar titanium hydrogen-phosphate, **145**, 649
- EPR, *see* Electron paramagnetic resonance
- Erbium
- $\text{Ba}_3\text{Er}(\text{BO}_3)_3$, synthesis, structure, and properties, **145**, 33
 - $\text{Ba}_2\text{ErNbO}_6$ ordered perovskites, crystal structure and magnetic properties, **148**, 353
 - $\text{ErBa}_2\text{Cu}_3\text{O}_{7-x}$, Gibbs free energy of formation, determination by EMF method, **144**, 118
 - ErMn_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
 - ErOs_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
 - $\text{Er}_6\text{ReO}_{12}$, preparation and characterization, **148**, 220
 - ErRe_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
 - ErRu_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
 - ErZn_3P_3 , preparation, **146**, 478
 - $\text{LiEr}_6\text{O}_5(\text{BO}_3)_3$, detection in ternary-phase diagrams $\text{Li}_2\text{O}-Ln_2\text{O}_3-\text{B}_2\text{O}_3$, **146**, 189
 - ($\text{Sn}_{1-x}\text{Er}_x$)₁Er(2)₄Rh₆Sn(2)₁₈, competition between magnetism and superconductivity, **147**, 399
- ESCA, *see* Electron spectroscopy for chemical analysis
- ESR, *see* Electron paramagnetic resonance
- Ethyl aluminum dichloride
- induction of hydrosilylation of alkynes and alkenes on porous Si surfaces, **147**, 251
- Ethylenediamine
- [enH₂][CoIn(PO₄)₂H(OH)₂F₂], 2D mixed-metal phosphate, synthesis and characterization, **142**, 241
 - role in synthesis of Cu_7Te_4 nanocrystals, **146**, 47
- supercritical, synthesis of $\text{K}_2\text{Ag}_{12}\text{Se}_{7.11}$ and RbAg_5Se_3 from, **144**, 287
- $[\text{Zn}(\text{en})_6](\text{VO})_2\text{O}_6\text{B}_{18}\text{O}_{39}(\text{OH})_3 \cdot 13\text{H}_2\text{O}$, hydrothermal synthesis and X-ray single crystal structure, **148**, 450
- Europium
- $\text{Ba}_3\text{Eu}(\text{BO}_3)_3$, synthesis, structure, and properties, **145**, 33
 - $\text{Ba}_2\text{EuIrO}_6$ ordered perovskites, magnetic properties, **147**, 618
 - $\text{Ba}_2\text{EuNbO}_6$ ordered perovskites, crystal structure and magnetic properties, **148**, 353
 - $\text{Bi}_{0.775}\text{Eu}_{0.225}\text{O}_{1.5}$ of Bi-Sr-O type, structural and conductivity properties, **142**, 349
 - Eu^{3+} , reduction to Eu^{2+} in $\text{Sr}_2\text{B}_5\text{O}_9\text{Cl}$ prepared in air at high temperature, mechanism, **145**, 212
 - Eu aluminum oxynitrides, magnetoplumbite or β -alumina-type structures, **142**, 48
 - $\text{Eu}_2\text{Au}_3\text{In}_4$, structure and properties, **145**, 283
 - $\text{EuBa}_2\text{Co}_2\text{O}_{5+\delta}$ ordered oxygen-deficient perovskites, structural and magnetic studies, **142**, 247
 - $\text{EuBa}_2\text{Fe}_3\text{O}_{8+w}$, cubic perovskite, partial ordering of oxygen in, **144**, 398
 - H-EuBO₃, synthesis and characterization, **148**, 229

- E**
- $\text{Eu}_2\text{CaBa}_2\text{Cu}_2\text{Ti}_3\text{O}_{14}$, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
- $\text{EuCu}_{1.75}\text{P}_2$, Eu valence study by Eu Mössbauer and Eu L_{III}-edge X-ray absorption spectroscopy, **144**, 252
- $\text{EuH}[\text{O}_3\text{P}(\text{CH}_2)_3\text{PO}_3]$ and $[\text{Eu}(\text{H}_2\text{O})]_2[\text{O}_2\text{C}(\text{CH}_2)_3\text{CO}_2]_3 \cdot 4\text{H}_2\text{O}$, luminescence spectroscopy and crystal field simulation, **148**, 347
- EuIr_2 and EuIrSn_2 , syntheses, crystal structures, and properties, **145**, 174
- Eu_4PdO_7 , structure, thermodynamics, and magnetic properties, **146**, 428
- Eu_2ReO_5 , preparation, crystal structure, and properties, **147**, 218
- EuRhIn , synthesis, crystal structure, and properties, **145**, 174
- $[(\text{EuS})_{1.5}]_{1.15}\text{NbS}_2$, mixed valence state of Eu in, **147**, 58
- $\text{La}_{1/6}\text{Pb}_{1/3}\text{Zr}_2(\text{PO}_4)_{17/6}(\text{SiO}_4)_{1/6}\text{:Eu}^{3+}$, structure and luminescence, **146**, 499
- $\text{LiEu}_6\text{O}_5(\text{BO}_3)_3$, detection in ternary-phase diagrams $\text{Li}_2\text{O}-\text{Ln}_2\text{O}_3-\text{B}_2\text{O}_3$, **146**, 189
- $\text{Na}_2\text{Eu}_2(\text{BO}_3)_2\text{O}$, crystal structure, **144**, 35
- $\text{Na}_2\text{Gd}(\text{BO}_3)_2\text{O}\text{:Eu}^{3+}$, optical properties, **144**, 35
- $(\text{Sr,Ca,Eu})_3\text{Co}_2\text{O}_{6\pm\delta}$, synthesis, crystal structure, and electrical and magnetic properties, **146**, 277
- Eutectic mixtures
- UCl_4 with KCl , selective deposition of UCl_4 and $(\text{KCl})_x(\text{UCl}_4)_y$ inside carbon nanotubes using, **140**, 83; *erratum*, **142**, 470
- Extended X-ray absorption fine structure
- calcium hydroxyapatite with enhanced thermal stability, **142**, 319
- Ge-Se glasses rich in Se: short-range order, **145**, 253
- F**
- Fermi surface nesting
- role in structures of group 15 elements, **147**, 26
- Ferrimagnetism
- Ni_3S_4 spinel synthesized at ambient temperature, letter to editor, **147**, 679
- Ferrocene sulfonates
- concomitant intercalation and decomplexation in layered double hydroxides, **144**, 143
- Ferroelectric compounds
- $\text{Bi}_4\text{Ti}_3\text{O}_{12-x}$, intercalation of lithium and iodine in, **146**, 60
- Ferromagnetic exchange
- in naphthyl and quinolyl derivatives, intermolecular interactions related to, **145**, 427
- Fluorescence spectroscopy
- $M^{\text{I}}\text{Cr}(\text{MoO}_4)_2$ and $M^{\text{I}}\text{Cr}(\text{WO}_4)_2$ ($M^{\text{I}} = \text{Li}, \text{Na}, \text{K}, \text{Cs}$), **148**, 468
- Fluorination
- La_2CuO_4 by XeF_2 , **142**, 440
- $\text{LaHo}_{0.75}\text{Sr}_{0.25}\text{CuO}_{3.9}$, T* phase produced by, structural transformations in, **147**, 647
- Fluorine
- $\text{Ba}_8(\text{BN}_2)_5\text{F}$, synthesis and crystal structure, **142**, 192
- $\text{Ba}_5\text{Cu}_2\text{Al}_3\text{F}_{23}$, crystal structure, **147**, 657
- $\text{BaFe}^{\text{II}}\text{P}_2\text{O}_7\text{F}_2$, hydrothermal synthesis and structural and magnetic studies, **148**, 286
- $\text{Ba}_{4-x}\text{Y}_{3+x}\text{F}_{17+x}$ ($x \approx 0.08$), synthesis in copper ampoule, **142**, 152
- $\text{Bi}(\text{F}, \text{O})_{2.45}$, anion-excess fluorite defect structure deriving from rhombohedral LnFO type, **146**, 51
- CaF_2 , $\text{Nd}_{0.67}\text{Sr}_{0.33}\text{MnO}_3$ doped with, crystallography and magnetoresistance, **148**, 236
- CsGd_2F_7 host, Nd^{3+} ions in, optical spectroscopy, **142**, 108
- $[\text{enH}_2][\text{CoIn}(\text{PO}_4)_2\text{H}(\text{OH})_2\text{F}_2]$, 2D mixed-metal phosphate templated by ethylene diamine, synthesis and characterization, **142**, 241
- $[\text{Fe}^{\text{III}}_{5-x}\text{V}^{\text{IV}}_x(\text{H}_2\text{PO}_4)_4(\text{HPO}_4)_4\text{F}_4(\text{H}_2\text{O})_2\cdot 4(\text{H}_{2+y}\text{N}-(\text{CH}_2)_2-\text{NH}_{2+y})]$, hydrothermal synthesis, structure, and magnetic characterization, **148**, 150
- Hg_2F_2 crystals, point-charge model, **146**, 239
- $\text{LaHo}_{0.75}\text{Sr}_{0.25}\text{CuO}_{3.9-x}\text{F}_y$, T* phase, structural transformations in, **147**, 647
- LiMn_2O_4 substituted with, 4V-range Li extraction/insertion in, *in situ* structural study, **144**, 361
- $\text{Li}_2[\text{NiF}(\text{PO}_4)]$ with ordered mixed anionic framework, synthesis and crystal structure, **142**, 1
- $A_{10}((\text{B}, \text{Mn})\text{O}_4)_6\text{F}_2$ ($A = \text{Ba}, \text{Sr}, \text{Ca}; B = \text{P}, \text{V}$) substituted with Mn(V), color, **146**, 464
- $\text{Na}_3\text{M}_2(\text{PO}_4)_2\text{F}_3$ ($M = \text{Al}^{3+}, \text{V}^{3+}, \text{Cr}^{3+}, \text{Fe}^{3+}, \text{Ga}^{3+}$), phase transitions, synthesis, and thermal, structural, and magnetic studies, **148**, 260
- $[\text{N}_2\text{C}_3\text{H}_{12}]_{\text{Al}_2(\text{PO}_4)(\text{OH}, \text{F}_{5-x})}$ ($x \approx 2$), synthesis and *ab initio* structure determination, **147**, 92
- PbFCl-type compounds, structure and polarization energy, **144**, 339
- $\text{Pb}_{4+\text{x}}\text{Y}_{3-\text{x}}\text{F}_{17+\text{x}}$ ($x \leq 0.2$), synthesis in copper ampoule, **142**, 152
- A_2PdF_6 and $AA'\text{PdF}_6$ ($A^{2+} = \text{Ba}^{2+}, \text{Sr}^{2+}, \text{Pb}^{2+}$), crystal structure, **148**, 242
- $\text{S}_2\text{O}_6\text{F}_2$, intercalation of hexagonal BN by, analysis: metallic nature of products, **147**, 74
- $\text{Sr}_3\text{MO}_4\text{F}$ ($M = \text{Al}, \text{Ga}$), synthesis and Rietveld refinement, **144**, 228
- XeF_2 , fluorination of La_2CuO_4 , **142**, 440
- Fluorite
- $\text{Ce}_2\text{Zr}_2\text{O}_{7.97}$ pyrochlore with composition, synthesis, **148**, 56
- Framework switching
- $\text{KMnHP}_3\text{O}_{10}$, **145**, 479
- Free energy
- $\text{LnBa}_2\text{Cu}_3\text{O}_{7-x}$ ($\text{Ln} = \text{Yb}, \text{Tm}, \text{Er}, \text{Ho}, \text{Dy}$) formation, determination by EMF method, **144**, 118
- Frenkel disorder
- $(\text{Mg}_{0.22}\text{Mn}_{0.07}\text{Fe}_{0.71})_{3-\delta}\text{O}_4$ ferrite spinel: nonstoichiometry, **145**, 276
- Frequency effects
- $\text{Ce}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$ AC conductivity spectra, **144**, 354
- Fresnoite
- identification as inorganic nonlinear optical material, **148**, 75
- Fullerene
- related 2H-WX₂ ($X = \text{S}, \text{Se}$) structures, defect and ordered tungsten oxides encapsulated in, **144**, 100
- Fused salt electrolysis
- $(\text{La}, \text{Sr})\text{MnO}_3$ perovskites prepared with, electrical and magnetic properties, **145**, 88
- G**
- Gadolinium
- BaGdMQ_3 ($M = \text{Ag}, \text{Au}; Q = \text{Se}$ or Te), synthesis and characterization, **147**, 366
- $\text{Ba}_3\text{Gd}(\text{BO}_3)_3$, synthesis, structure, and properties, **145**, 33
- $\text{Ba}_2\text{GdIrO}_6$ ordered perovskites, magnetic properties, **147**, 618
- $\text{Ba}_2\text{GdNbO}_6$ perovskites
- molten salt synthesis and thermodynamic stability, **148**, 492
- ordered, crystal structure and magnetic properties, **148**, 353
- $\text{Bi}_{0.775}\text{Gd}_{0.225}\text{O}_{1.5}$ of Bi-Sr-O type, structural and conductivity properties, **142**, 349
- CsGd_2F_7 host, Nd^{3+} ions in, optical spectroscopy, **142**, 108
- $\text{GdBaCo}_2\text{O}_{5+\delta}$, ordered oxygen-deficient perovskites, structural and magnetic studies, **142**, 247
- $\text{GdBa}_2\text{Fe}_3\text{O}_{8+\text{n}}$, cubic perovskite, partial ordering of oxygen in, **144**, 398
- $\text{Gd}_2\text{GaSbO}_7$ pyrochlore, Bi^{3+} luminescence in, quenching, **146**, 494
- GdI_2 , large negative magnetoresistance, prediction and realization, **147**, 19
- $\text{GdMnGe}_2\text{O}_{17}$, synthesis and structural characterization, **143**, 145
- GdMn_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
- Gd_2NiO_4 , reduction: identification of factors influencing Ni^{+} stabilization, **148**, 499
- GdOs_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279

- Gd₄PdO₇, structure, thermodynamics, and magnetic properties, **146**, 428
 GdPd₃S₄, magnetic properties, **146**, 226
 α -GdPdSi, preparation and crystal structure, **142**, 130
 Gd₂ReO₅, preparation, crystal structure, and properties, **147**, 218
 GdRe₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279
 GdRu₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279
 γ -Gd₂S₃, stability and optical properties at high pressures, **148**, 370
 GdTe₂O₅Cl, crystal structure, **146**, 473
 GdZn₃P₃, preparation, **146**, 478
 K₂Gd₂Sb₂Se₉, eightfold superstructure caused by 3D ordering of Sb³⁺ 5s² lone pair, **147**, 309
 LiGd₆(BO₃)₃, detection in ternary-phase diagrams Li₂O-Ln₂O₃-B₂O₃ and crystal structure, **146**, 189
 Na₂Gd₂(BO₃)₂O, crystal structure, **144**, 35
 Na₂Gd₂(BO₃)₂O:Eu³⁺, optical properties, **144**, 35
 (Sr,Ca,Gd)₃Co₂O_{6±δ}, synthesis, crystal structure, and electrical and magnetic properties, **146**, 277
- Gallium**
 Cs[(VO)(H₂O)Ga(PO₄)₂], hydrothermal synthesis and structure, **144**, 442
 Fe_xGa_{3-x} close-packed layer compounds, structure maps, **145**, 150
 GaAsO₄, piezoelectric compound, neutron and X-ray structure refinements between 15 and 1073 K, **146**, 114
 GaMo₄S₈ vacancy ordered spinels, electronic structure, *ab initio* calculations, **148**, 143
 Ga₂O₃
 insertion into α -titanium phosphate using surfactant expanded phase as precursor, **147**, 664
 mechanochemical reactions with imidazole: proton transfer in solid state, **147**, 561
 GaV₄S₈ vacancy ordered spinels, electronic structure, *ab initio* calculations, **148**, 143
 Gd₂GaSbO₇ pyrochlore, Bi³⁺ luminescence in, quenching, **146**, 494
 In₃Ti₂GaO₁₀, synthesis and crystal structures, **147**, 438
 LaGa_{1-x}Ni_xO_{3-δ} perovskites, oxygen ionic and electronic transport, **142**, 325
 La_{0.8}Sr_{0.2}Ga_{0.85}Mg_{0.15}O_{2.825}, structural study, **143**, 202
 MgIn_{2-x}Ga_xO₄ solid solutions, crystal structures and electrical and optical properties, **142**, 206
 Na₃Ga₂(PO₄)₂F₃, phase transitions, synthesis, and thermal, structural, and magnetic studies, **148**, 260
 [NH₃(CH₂)₄NH₃]₂[Ga₄(HPO₄)₂(PO₄)₄], synthesis and characterization, **142**, 236
 [NH₃(CH₂)₄NH₃]₂[Ga₄(HPO₄)₂(PO₄)₃(OH)₃]·yH₂O (y ~ 5.4), and vanadium-gallium phosphate analogue, synthesis and characterization, **145**, 379
 Rb[(VO)(H₂O)Ga(PO₄)₂], hydrothermal synthesis and structure, **144**, 442
 Sr₃GaO₄F, synthesis and Rietveld refinement, **144**, 228
 Zn_(1-x)Ga_{2x/3}Cr₂Se₄ spinel system, metal ion distribution and magnetic properties, **148**, 215
- Galvanostatic electrochemical characterization
 reduced molybdenum oxides synthesized with hydroxylamine hydrochloride in aqueous solutions, **147**, 269
- Garnets**
 Z₃Al₂Si₃O₁₂ (Z = Mg,Fe,Mn,Ca) and Ca₃Fe₂Si₃O₁₂, electron density study, **142**, 273
 (Y,Tb)₃Al₅O₁₂ phosphor nanoparticles, preparation and characterization, **144**, 437
- Gas reaction cell
 in high-resolution TEM, *in situ* generation of (Nb,W)₁₂O₃₂ in, **143**, 33
- Gas sensors**
 synthesis of SnO₂ and Pt/SnO₂ for, application of ultrasonic aerosol device, **144**, 86
- Germanium
 BaGeTeO₆, structure and order-disorder phenomena, **147**, 99
 CeMn₂Ge₄O₁₂, synthesis and structural characterization, **143**, 145
 Cu₄GeS₄, preparation, electrical properties, and crystal and electronic structures, **145**, 204
 Cu₈GeSe₆, phase transition, superspace-group approach to, **146**, 355
 GdMnGe₂O₁₇, synthesis and structural characterization, **143**, 145
 Ge-Se glasses rich in Se, short-range order, EXAFS study, **145**, 253
 GeSe₂, structural properties at high pressures, **145**, 167
 GeTe-Bi₂Te₃ system, mixed layered tetradymite-like compounds, transport phenomena in, **146**, 305
 H₅GeW₉Mo₂VO₄₀·22H₂O, high proton-conductive silica gel containing, preparation and performance, **148**, 419
 K₂ZrGe₂O₇, synthesis, characterization, and X-ray powder structure, **148**, 41
 La₄[(C₂)_{1-x}Ge_x]₃, continuous transition between cubic structure types c/40 (Rb₄O₆/Pu₂C₃) and c/28 (Th₃P₄), **147**, 372
 La₄Mn₃Ge_{5.2}Si_{0.8}O₂₂ with perrierite structure, synthesis and structural characterization, **147**, 247
 Li₂GeTeO₆, structure and order-disorder phenomena, **147**, 99
 Na₂GeTeO₆, structure and order-disorder phenomena, **147**, 99
 LnPtGe (Ln = Ce,Pr,Nd,Sm), crystal structure and magnetic properties, **142**, 400
 SrGeTeO₆, structure and order-disorder phenomena, **147**, 99
 Ti₂GeTe₅, atomic displacement parameters and lattice thermal conductivity, **146**, 528
 U₃TiGe₅, crystal and magnetic structure, **144**, 311
- Giant magnetoresistance**
 CaCu₃MnO₁₂-based oxides with perovskite structure, **147**, 185
 Co-Cu nanostructure prepared by electrodeposition, **147**, 274
 GdI₂, large negative value, prediction and realization, **147**, 19
 Nd_{0.67}Sr_{0.33}MnO₃ doped with CaF₂, **148**, 236
- Gibbs free energy**
 LnBa₂Cu₃O_{7-x} (Ln = Yb,Tm,Er,Ho,Dy) formation, determination by EMF method, **144**, 118
- Glass**
 Ge-Se, rich in Se, EXAFS study: short-range order, **145**, 253
 GeSe₂, structural properties at high pressures, **145**, 167
 Li₂O-PbO-B₂O₃, structural role of PbO, **145**, 65
 stilbite-type zeolite preparation from, **142**, 451
 Ti(I)Te(IV) oxides, structure and optical nonlinearities, **146**, 329
 Yb³⁺-doped borates, with high emission cross sections, **144**, 449
- Gold**
 AuCrS₂, preparation and structure, **148**, 487
 Au-I-Bi₂Sr₂Ca_{n-1}Cu_nO_{2n+4+δ}, heterostructured high-T_c superconductors, **147**, 328
 Ln₂Au₃In₅ (Ln = Ce,Pr,Nd,Sm), complex 3-D [Au₃In₅] polyanions in, **148**, 425
 BaGdAuSe₃, synthesis and characterization, **147**, 366
 effect in latent image formation on AgBr(100) surface, **146**, 516
- Eu₂Au₃In₄**, structure and properties, **145**, 283
 Sr₂Au₃In₄, structure and properties, **145**, 283
- Grafting**
 electrochromic polyacrylic acid-WO₃ composite film, mechanism, **142**, 368
- Granular composites**
 sintering in, application to superconductor/ferrite system preparation, **145**, 317
- Graphite**
 graphite-diamond phase transition, 3D carbon structures as progressive intermediates in, **148**, 278
 graphite-like layers, Sc₂B_{1.1}C_{3.2} with, synthesis and structure, **148**, 442
- Grüneisen coefficients**
 synthetic aragonite, **146**, 73

H

Hafnium

HfFe_{1-x}Sb, and other isotropic antimonides, comparison, **144**, 330
 HfNiSb, and other isotropic antimonides, comparison, **144**, 330
 PbM³⁺Hf⁴⁺P₃O₁₂ (M^{3+} = Cr, Fe, In) network phosphate with NZP structure, synthesis, **145**, 227

Hall coefficient

mixed layered tetradyomite-like compounds in GeTe–Bi₂Te₃ system, **146**, 305
 Sb₂Te₃ single crystals doped with Pb, **145**, 197

Hartree–Fock study

Li insertion in oxides, **142**, 428
 lithium ion electrode materials, **147**, 85

Haven ratio

proton transport in NaOH, **148**, 169

High-resolution electron microscopy

*Ln*BaCo₂O_{5+δ} (*Ln* = Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho) ordered oxygen-deficient perovskites, **142**, 247

(Ba,La)_nTi_{n-δ}O_{3n} ($n \geq 4$) cation-deficient perovskite-related micro-phases in La₄Ti₃O₁₂–BaTiO₃ system, **145**, 678

Ba₃Mo₁₈O₂₈, polytypism and chemical intergrowth, **142**, 89

Ba₄Nd₂Ti₄Ta₆O₃₀ and Ba₅NdTi₃Ta₇O₃₀ bronzes, **148**, 438

(Ba,Sr)Co_{1-x}O_y hexagonal perovskite-related oxides: cation deficiency, **142**, 419

controlled environment, Nb₁₂O₂₉ oxidation to Nb₂₂O₅₄ in, **146**, 202

Fe₂O₃(ZnO)₁₅, antiphase modulated structure, **142**, 174

gas reaction cell for, *in situ* generation of (Nb,W)₁₂O₃₂ in, **143**, 33

La₂CuO₄: anion ordering, **142**, 440

lithium Ruddlesden–Popper phases, electron-induced structural changes during, **145**, 136

Mn_{0.6}Ta_{0.4}O_{1.65} defect fluorite structure, **145**, 37

Nd_{0.5}Ca_{0.5}Mn_{1-x}Cr_xO₃: structural determination of charge ordering process, **148**, 333

A_{n+2}B_nB'O_{3n+3} family ($B = B' = \text{Co}$): ordered intergrowth between 2H–BaCoO₃ and Ca₃Co₂O₆ structures, **145**, 116

Pr_xWO₃ intergrowth tungsten bronze structures formed at 50 kbar, **147**, 536

U(Ta,W)₂O₈ and U(Ta,W)₅O₁₆ crystal structures, **144**, 152

(VO)₂P₂O₇ quantum-spin chain compound, **146**, 369

Hollandite-type structure

monoclinic, Na_xCr_xTi_{8-x}O₁₆ low-temperature phase with, **145**, 182

Holmium

Ba₃Ho(BO₃)₃, synthesis, structure, and properties, **145**, 33

Ba₂HoNbO₆ ordered perovskites, crystal structure and magnetic properties, **148**, 353

HoBaCo₂O_{5+δ}, ordered oxygen-deficient perovskites, structural and magnetic studies, **142**, 247

HoBa₂Cu₃O_{7-x}, Gibbs free energy of formation, determination by EMF method, **144**, 118

HoMn_{0.5}SiC, with DyFe₂SiC-type structure, characterization, **142**, 279

HoOs₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279

Ho₆ReO₁₂, preparation and characterization, **148**, 220

Ho₆Re₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279

HoRu₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279

HoZn₃P₃, preparation, **146**, 478

LaHo_{0.75}Sr_{0.25}CuO_{3.9-x}F_y, T* phase, structural transformations in, **147**, 647

LiHo₆O₅(BO₃)₃, detection in ternary-phase diagrams Li₂O–Ln₂O₃–B₂O₃, **146**, 189

(Sr,Ca,Ho)₃Co₂O_{6±δ}, synthesis, crystal structure, and electrical and magnetic properties, **146**, 277

Host–guest interactions

in Zr(HPO₄)₂·2CH₃CH₂OH, vibrational spectroscopic study and molecular simulations, **145**, 1

HREM, *see* High-resolution electron microscopy

Hydration

microporous rare-earth dicarboxylates, study by thermogravimetry, thermodiffractometry, and optical spectroscopy, **145**, 580

Hydrazine

in low-temperature hydrothermal preparation of nanocrystalline Jaipurite, **146**, 36

Hydrogen

Al₉(PO₄)₁₂(C₂₄H₉₁N₁₆)·17H₂O open framework with 12-membered ring channels, **145**, 220

Ba₂Cu(HCOO)₆, thermal behavior and crystal structure of room temperature phase, **147**, 545

(BEDT-TTF)₃Cl₂·(H₂O)₂ superconductor, structure at low temperatures, **145**, 496

Be(HAsO₄)·H₂O, synthesis and structure, **146**, 394

bis-dihexadecyltrimethylammonium dichromate, thermal and structural studies, **145**, 655

Ca_{10-x}(HPO₄)_x(PO₄)_{6-x}(OH)_{2-x}, thermal stability, preparative enhancement, **142**, 319

(C₆H₅C₂H₄NH₃)₂PbCl₄, layered solution crystal growth method and crystal structure, **145**, 694

γ-[{(CH₃)₂(C₂H₅)₂N][Ni(dmit)₂]_{2145, 564}

[C₉H₂₀N][Al₂(HPO₄)₂(PO₄)] with layer topology, synthesis and characterization, **145**, 731

[C₆H₂₁N₄][Al₃P₄O₁₆], synthesis and structure, **146**, 458

(C₂H₁₀N₂)[Mo₅O₁₆] and (C₄H₁₂N₂)[Mo₅O₁₆], hydrothermal synthesis and structure, **147**, 240

[C₂N₂H₁₀]²⁺[Fe(HPO₄)₂(OH)]²⁻·H₂O, hydrothermal synthesis and crystal structure, **142**, 455

CN₃H₆·VO(H₂O)(HPO₄)(H₂PO₄)·H₂O, synthesis, structure, and magnetism, **142**, 168

(CN₃H₆)₂·Zn₄H₅(PO₄)₅ built up from 3-, 4-, and 8-ring units, synthesis and crystal structure, **148**, 433

Co₅(OH)₂(C₁₂H₂₅SO₃)₂·5H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452

[Cu(dicyanamide)₂(pyrazine)]_n, synthesis, structural isomerism, and magnetism, **145**, 387

Cu₂(OH)₃(C₁₂H₂₅SO₃)·H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452

[enH₂][CoIn(PO₄)₂H(OH)₂F₂], 2D mixed-metal phosphate templated by ethylene diamine, synthesis and characterization, **142**, 241

[Et₃NH]₂[Mn(CH₃CN)₄(H₂O)₂][Mn₁₀O₄(2,2'-biphenoxide)₄Br₁₂], slow magnetic relaxation at very low temperature, **145**, 484

EuH[O₃P(CH₂)₃PO₃] and [Eu(H₂O)]₂[O₂C(CH₂)₃CO₂]₃·4H₂O, luminescence spectroscopy and crystal field simulation, **148**, 347

[Fe₂(H₂O)₂(O₃P–CH₂–PO₃H₂)₂](H₂O)₂, hydrothermal synthesis, powder structural determination, and magnetic study, **147**, 122

[Fe_{5-x}V_x^{III}(H₂PO₄)₄(HPO₄)₄F₄(H₂O)₂·4(H₂+yN–(CH₂)₂–NH₂+y)], hydrothermal synthesis, structure, and magnetic characterization, **148**, 150

H₃Fe₂(TeO₃)₄Cl, hydrothermal synthesis and structure, **143**, 254

H₅GeW₉Mo₂VO₄₀·22H₂O, high proton-conductive silica gel containing,

preparation and performance, **148**, 419

HK₄[V₁₀O₁₀(H₂O)₂(OH)₄(PO₄)₇]·9H₂O, hydrothermal synthesis and intersecting tunnel structure, **148**, 189

H₃N(CH₂)₃NH₃⁺Zn₂(HPO₄)₃, synthesis and structure, **147**, 584

(1,4-HOC₆H₄NH₃)₄P₄O₁₂·6H₂O, characterization, **144**, 318

H₂O–Na₂SO₄–Na₂HPO₄, liquid-solid equilibria, **144**, 247

H₂S, reactivity with nanocrystalline SnO₂, *in situ* coupled Raman and impedance measurements, **143**, 86

H_{0.13}V_{0.13}Mo_{0.87}O₃·0.26H₂O, and MoO₃, phase transitions between, X-ray, thermal analysis, and TEM study, **143**, 41

p-iodotoluene, structural disorder, **143**, 285

- (KH)₃C₆₀ organic superconductors, preparation by intercalation of KH into C₆₀, **145**, 421
- KHSO₄, reaction with NH₄VO₃ at different temperatures, **145**, 128
- KMnHP₃O₁₀, weak ferromagnetism and framework switching, **145**, 479
- Mg(NH₃)₂X₂ (X = Cl,Br,I), preparation and crystal structures, **147**, 229
- microporous rare-earth dicarboxylates, dehydration and rehydration, study by thermogravimetry, thermodiffractometry, and optical spectroscopy, **145**, 580
- Na₃V⁴⁺O(PO₄)(HPO₄), formation in Na/V/P/H₂O system under hydrothermal conditions at 473 K, **145**, 15
- [N₂C₃H₁₂]Al₂(PO₄)(OH_xF_{5-x}) (x ≈ 2), synthesis and *ab initio* structure determination, **147**, 92
- [N₂C₄H₁₂]_{0.5}[Fe₂(HPO₄)(C₂O₄)_{1.5}], hydrothermal synthesis, structure, and magnetic susceptibility, letter to editor, **146**, 538
- (N₂C₆H₁₄)·Zn₃(HPO₄)₄, synthesis and structure, **147**, 584
- (N₂C₆H₁₄)·Zn(HPO₄)₂·H₂O, synthesis and structure, **147**, 584
- [NH₃CH₂CH₂NH₃]_{2.5}[Al₄H(HPO₄)₄(H₂PO₄)₂(C₂O₄)₄], synthesis and structure, **143**, 74
- [NH₃CH₂CH(NH₃)CH₃]_{0.5}[Sn₄P₃O₁₂]·H₂O with one-dimensional channels, synthesis and structure, **148**, 50
- (NH₃CH₂CH₂NH₃)₄·(NH₃CH₂CH₂NH₂)·Na·[Ni₂Mo₁₂O₃₀(PO₄)(HPO₄)₄(H₂PO₄)₃]·6H₂O, hydrothermal synthesis and structure, **146**, 533
- NH₃CH₂CH(OH)CH₂NH₃·Zn₂(HPO₄)₃, synthesis and structure, **147**, 154
- [NH₃(CH₂)₄NH₃][Ga₄(HPO₄)₂(PO₄)₃], synthesis and characterization, **142**, 236
- [NH₃(CH₂)₄NH₃]₂[Ga₄(HPO₄)₂(PO₄)₃(OH)₃]·yH₂O (y ~ 5.4), and vanadium–gallium phosphate analogue, synthesis and characterization, **145**, 379
- [NH₃(CH₂)₆NH₃]₁₀[V₁₅O₃₇(Cl)]₂[V₁₅O₃₆(Cl)]·(OH)₃(H₂O)₃ bronze with clusters textured by diaminohexane, characterization, **147**, 552
- NH₃(CH₂)₂NH₃·Zn(HPO₄)₂, synthesis and structure, **147**, 154
- NH₃(CH₂)₆NH₃·Zn₃(HPO₄)₄H₂O, synthesis and structure, **147**, 154
- NH₃(CH₂)₂NH₃·Zn₂(HPO₄)₂(H₂PO₄)₂, synthesis and structure, **147**, 154
- NH₄Fe₃(H₂PO₄)₆(HPO₄)₂·4H₂O, structure and magnetic properties, **144**, 163
- Ni(C₂H₃O₂), hydrothermal decomposition, formation of α,β -type hydroxides and second-stage intermediate in, **146**, 39
- Ni₂(OH)₃(C₁₂H₂₅SO₃)·H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
- phenoxy-substituted divalent metal phosphonate Langmuir–Blodgett films, structure and magnetic order, **145**, 443
- titanium hydrogenphosphate, lamellar compounds and modified forms, thermal degradation, **145**, 649
- [TMA]₂[Fe(H₂O)₆]Mo₈O₂₆ and (TMA)₂FeMo₆O₂₀, hydrothermal synthesis and structures, **143**, 77
- [Zn(en)₂]₆[(VO)₁₂O₆B₁₈O₃₉(OH)₃]·13H₂O, hydrothermal synthesis and X-ray single crystal structure, **148**, 450
- Zr(HPO₄)₂·2CH₃CH₂OH, host–guest interactions, vibrational spectroscopic study and molecular simulations, **145**, 1
- Zr₂(O₃P–CH₂CH₂–bipyridinium–CH₂CH₂–PO₃)X₆·2H₂O, reactivity toward organic and inorganic monophosphonates, **147**, 520
- Hydrosilylation**
- alkenes and alkynes, metal-mediated reactions on porous Si surfaces, **147**, 251
- Hydrotalcites**
- Co-, Mg-, and Ni-hydrotalcites, local structure, FTIR and Raman spectroscopic study, **146**, 506
- Hydrothermal synthesis**
- Ag–Te nonstoichiometric nanocrystals, **146**, 387
- Al₉(PO₄)₁₂(C₂₄H₉₁N₁₆)·17H₂O open framework with 12-membered ring channels, **145**, 220
- BaFe₂P₂O₇F₂, **148**, 286
- (C₂H₁₀N₂)[Mo₅O₁₆] and (C₄H₁₂N₂)[Mo₅O₁₆], **147**, 240
- [C₂N₂H₁₀]²⁺[Fe(HPO₄)₂(OH)]²⁻·H₂O, **142**, 455
- Co₃Al₃(PO₄)₆Co(diethyltriamine)₂·(H₂O)₃, **146**, 157
- Cs[(VO)(H₂O)Ga(PO₄)₂], **144**, 442
- Cu–Te nonstoichiometric nanocrystals, **146**, 387
- [enH₂][CoIn(PO₄)₂H(OH)₂F₂], 2D mixed-metal phosphate templated by ethylene diamine, **142**, 241
- [Fe₂(OH₂)PO₄(C₂O₄)_{0.5}], letter to editor, **146**, 538
- Fe₄(PO₄)₂(C₂O₄)(H₂O)₂, **143**, 58
- HK₄[V₁₀O₁₀(H₂O)₂(OH)₄(PO₄)₇]·9H₂O with intersecting tunnel structure, **148**, 189
- Jaipurite nanocrystals in hydrazine solution at low temperature, **146**, 36
- KFe₃(OH)₂(PO₄)₂·2H₂O, **142**, 455
- K₈Nd₃Si₁₂O₃₂(OH) layered silicate with paths for possible fast-ion conduction, **148**, 406
- K₂ZrGe₂O₇, **148**, 41
- MIL-12 fluorooluminophosphate templated with 1,3-diaminopropane, **147**, 92
- MIL-13 hydrated iron diphosphonate, **147**, 122
- MIL-21 with partial cationic disorder, **148**, 150
- Mo(V) phosphate structures built up of isotropic Mo₁₂MP₈X₆₂ clusters, **145**, 291
- Na₃M₂(PO₄)₂F₃ (M = Al⁺, V³⁺, Cr³⁺, Fe³⁺, Ga³⁺), **148**, 260
- Na₃V⁴⁺O(PO₄)(HPO₄) at 473 K, **145**, 15
- [N₂C₄H₁₂]_{0.5}[Fe₂(HPO₄)(C₂O₄)_{1.5}], letter to editor, **146**, 538
- [NH₃CH₂CH₂NH₃]_{2.5}[Al₄H(HPO₄)₄(H₂PO₄)₂(C₂O₄)₄], **143**, 74
- [NH₃CH₂CH(NH₃)CH₃]_{0.5}[Sn₄P₃O₁₂]·H₂O with one-dimensional channels, **148**, 50
- (NH₃CH₂CH₂NH₃)₄·(NH₃CH₂CH₂NH₂)·Na·[Ni₂Mo₁₂O₃₀(PO₄)(HPO₄)₄(H₂PO₄)₃]·6H₂O, **146**, 533
- [NH₃(CH₂)₄NH₃]₂[Ga₄(HPO₄)₂(PO₄)₃(OH)₃]·yH₂O (y ~ 5.4), and vanadium–gallium phosphate analogue, **145**, 379
- Ni(OH)₂ α,β -type hydroxides and second-stage intermediate from nickel acetate, **146**, 39
- open-framework zinc phosphates in presence of structure-directing organic amines, **147**, 154
- Rb[(VO)(H₂O)Ga(PO₄)₂], **144**, 442
- rodaquilarite, **143**, 254
- SrFe₃(PO₄)₃, **147**, 390
- Sr₂Ru₃O₁₀ at high pressure, **143**, 266
- Sr₄Ru_{3.05}O₁₂ hexagonal perovskite, **144**, 125
- stilbite-type zeolites prepared by, morphology, **142**, 451
- M₂Te₃O₈ (M = Mn,Co,Ni,Cu,Zn) with spiroffite structure, **143**, 246
- [TMA]₂[Fe(H₂O)₆]Mo₈O₂₆ and (TMA)₂FeMo₆O₂₀, **143**, 77
- σ -M_{0.25}V₂O₅·H₂O (M = Mg,Co,Ni) bronzes, **144**, 181
- YM(OH)₃(SO₄) (M = Ni,Cu), **147**, 641
- [Zn(en)₂]₆[(VO)₁₂O₆B₁₈O₃₉(OH)₃]·13H₂O, **148**, 450
- Hydroxide**
- Al(OH)_x(NO₃)_{3-x}, aqueous solutions, polymerization of tetraethylorthosilicate in, **147**, 304
- Ca_{10-x}(HPO₄)_x(PO₄)_{6-x}(OH)_{2-x}, thermal stability, preparative enhancement, **142**, 319
- [C₂N₂H₁₀]²⁺[Fe(HPO₄)₂(OH)]²⁻·H₂O, hydrothermal synthesis and crystal structure, **142**, 455
- Co–Mg–Al layered double hydroxides, synthesis and activation, **142**, 382
- Co₅(OH)₈(C₁₂H₂₅SO₃)₂·5H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
- Cs₂[B₄O₅(OH)₄]3H₂O, crystal structure and thermal behavior, **143**, 260
- Cu₂(OH)₃(C₁₂H₂₅SO₃)·H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
- Cu₂(OH)₃NO₃, with exchangeable interlayer anions, synthesis and characterization, **148**, 26

- [enH₂][CoIn(PO₄)₂H(OH)₂F₂], 2D mixed-metal phosphate templated by ethylene diamine, synthesis and characterization, **142**, 241
- HK₄[V₁₀O₁₀(H₂O)₂(OH)₄(PO₄)₇]·9H₂O, hydrothermal synthesis and intersecting tunnel structure, **148**, 189
- (1,4-HOC₆H₄NH₃)₄P₄O₁₂·6H₂O, characterization, **144**, 318
- KFe₃(OH)₂(PO₄)₂·2H₂O, hydrothermal synthesis and crystal structure, **142**, 455
- K₈Nd₃Si₁₂O₃₂(OH), structure and conductivity, **148**, 406
- K₂SeO₄·Te(OH)₆, structural and vibrational study, **145**, 612
- La(OH)₂NO₃·H₂O, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
- MoO_{3-x}(OH)_x bronze, synthesis and characterization in aqueous solution, **147**, 269
- Mo₁₂MP₈(OH)₆₂ isotypic clusters, Mo(V) phosphate structures built from, **145**, 291
- NaOH, proton transport in, giant Haven ratio for, **148**, 169
- [N₂C₃H₁₂]Al₂(PO₄)(OH_xF_{5-x}) ($x \approx 2$), synthesis and *ab initio* structure determination, **147**, 92
- NH₃CH₂CH(OH)CH₂NH₃·Zn₂(HPO₄)₃, synthesis and structure, **147**, 154
- [NH₃(CH₂)₄NH₃]₂[Ga₄(HPO₄)₂(PO₄)₃(OH)₃]·yH₂O ($y \sim 5.4$), and vanadium–gallium phosphate analogue, synthesis and characterization, **145**, 379
- [NH₃(CH₂)₆NH₃]₁₀[V₁₅O₃₇(Cl)]₂[V₁₅O₃₆(Cl)](OH)₃(H₂O)₃ bronze with clusters textured by diaminohexane, characterization, **147**, 552
- Ni(OH)₂, α and β types and second-stage intermediate, formation in hydrothermal decomposition of nickel acetate, **146**, 39
- Ni₂(OH)₃(C₁₂H₂₅SO₃)·H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
- Ni₂(OH)₃NO₃, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
- YM(OH)₃(SO₄) ($M = \text{Ni,Cu}$), synthesis and structures, **147**, 641
- [Zn₂²⁺Cr³⁺(OH⁻)₆][Cl⁻·2H₂O], concomitant intercalation and decomplexation of ferrocene sulfonates in, **144**, 143
- [Zn(en)₂]₆[(VO)₁₂O₆B₁₈O₃₉(OH)₃]·13H₂O, hydrothermal synthesis and X-ray single crystal structure, **148**, 450
- Zn₅(OH)₈(NO₃)₂·2H₂O, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
- Zr(HPO₄)₂·2CH₃CH₂OH, host–guest interactions, vibrational spectroscopic study and molecular simulations, **145**, 1
- Hydroxyapatites**
- calcium hydroxyapatite, thermal stability, preparative enhancement, **142**, 319
 - lead hydroxyapatite, preparation, characterization, and thermal stability, **143**, 296
 - monoclinic, preparation and structure refinement, **144**, 272
 - production by decomposition of amorphous calcium phosphate with atomic Ca/P ratio of 1.33 in wet atmosphere, **148**, 308
- Hydroxylamine hydrochloride**
- synthesis of reduced molybdenum oxides in aqueous solutions, **147**, 269
- I
- Imidazole**
- mechanical reactions with metallic oxides: proton transfer in solid state, **147**, 561
- Impedance measurements**
- coupled with Raman spectroscopy *in situ*, reactivity of nanocrystalline SnO₂ and H₂S, **143**, 86
 - silica gels containing H₅GeW₉Mo₂VO₄₀·22H₂O, **148**, 419
- Incommensurate solids**
- inclusion compounds formed between α,ω -dihalogenoalkanes and tri-*ortho*-thymotide, structure and diffraction properties, **148**, 63
- Indium**
- Ln*Ag₆In₆ intermetallics ($Ln = \text{La,Ce,Pr,Nd}$), structural, magnetic, and electrical properties, **145**, 216
 - Ln*₂Au₃In₅ ($Ln = \text{Ce,Pr,Nd,Sm}$), complex 3-D [Au₃In₅] polyanions in, **148**, 425
 - Ba₂InRu₂O₉, crystal structure, comparison to Ba₃CuRu₂O₉, **146**, 65
 - [enH₂][CoIn(PO₄)₂H(OH)₂F₂], 2D mixed-metal phosphate templated by ethylene diamine, synthesis and characterization, **142**, 241
 - Eu₂Au₃In₄, structure and properties, **145**, 283
 - EuRhIn, synthesis, crystal structure, and properties, **145**, 174
 - In₂O₃, mechanochemical reactions with imidazole: proton transfer in solid state, **147**, 561
 - In₂O₃–TiO₂–Fe₂O₃ system, phase relations at 1100°C in air, **144**, 91
 - In₂S spinel, lithium ion electrode materials derived from, analysis in terms of atomic orbitals, **147**, 85
 - InSnBr₃ and InSnCl₃ with close cation–cation contacts, synthesis and structure, **146**, 344
 - intercalation into Nb₃Se₄ and Nb₃S₄, charge density wave transitions induced by, **144**, 454
 - In₃Ti₂AO₁₀ ($A = \text{Al,Cr,Mn,Fe,Ga}$), synthesis and crystal structures, **147**, 438
 - In₆Ti₆BO₂₂ ($B = \text{Mg,Mn,Co,Ni,Cu,Zn}$), synthesis and crystal structures, **147**, 438
 - MgIn_{2-x}Ga_xO₄ solid solutions, crystal structures and electrical and optical properties, **142**, 206
 - Nd₅Ni₆In₁₁, structure and properties, **142**, 180
 - PbIn³⁺M⁴⁺P₃O₁₂ ($M^{4+} = \text{Ti,Zr,Hf,Sn}$) network phosphate with NZP structure, synthesis, **145**, 227
 - Sr₂Au₃In₄, structure and properties, **145**, 283
- Infrared spectroscopy**
- As₄O₆, **144**, 416
 - calcium malonate dihydrate, evidence of coordinated water and carboxylate groups, **143**, 174
 - CeZrO₄ prepared by reduction and successive oxidation of *t'*- $(\text{Ce}_{0.5}\text{Zr}_{0.5})\text{O}_2$ phase, **147**, 573
 - Co-, Mg-, and Ni-hydrotalcites, FTIR study of local structure, **146**, 506
 - M*^ICr(MoO₄)₂ and *M*^ICr(WO₄)₂ ($M^{\text{I}} = \text{Li,Na,K,Cs}$), **148**, 468
 - CrVO₄ reduction to CrVO₃, **144**, 392
 - (1,4-HOC₆H₄NH₃)₄P₄O₁₂·6H₂O, **144**, 318
 - KAl(MoO₄)₂, **145**, 751
 - K₂SeO₄·Te(OH)₆, **145**, 612
 - Li₂BAIO₄, **142**, 214
 - Li₂O-PbO-B₂O₃ glasses: structural role of PbO, **145**, 65
 - mechanical reactions of imidazole with metallic oxides: proton transfer in solid state, **147**, 561
 - α -MnO₂ with open tunnel, **144**, 136
 - Ln*_{1-x}A_xMnO₃ ($Ln = \text{rare earth}$; $A = \text{Ca,Sr,Pb}$): insulator–metal transition and charge ordering, **145**, 557
 - NaAl(MoO₄)₂, **145**, 751
 - organic–inorganic polyaniline/V₂O₅ system: intercalate phases, **147**, 601
 - phenoxy-substituted divalent metal phosphonate Langmuir–Blodgett films, **145**, 443
 - reduced molybdenum oxides synthesized with hydroxylamine hydrochloride in aqueous solutions, **147**, 269
 - silica gels containing H₅GeW₉Mo₂VO₄₀·22H₂O, **148**, 419
 - SrFe₃(PO₄)₃, **147**, 390
 - water intercalation into anhydrous vanadyl phosphate, **148**, 197
 - YAlO₃ orthorhombic perovskite, zone center phonons of, **146**, 287
 - Zr(HPO₄)₂·2CH₃CH₂OH: host–guest interactions, **145**, 1
 - Inner-shell-electron energy-loss spectroscopy**
 - M*₃SiTe₆ and *M*Te₂ ($M = \text{Nb,Ta}$), **142**, 63

Inorganic–organic anion frameworks

 - Fe₄(PO₄)₂(C₂O₄)(H₂O)₂ synthesis and crystal structure, **143**, 58

- Insulator-metal transition
 $Ln_{1-x}A_xMnO_3$ (Ln = rare earth; A = Ca,Sr,Pb), IR study, **145**, 557
- Interdiffusion
 $Co_{1-x}O/ZrO_2$ composite phase changes induced by, **145**, 739
- Intergrowth oxides
structure and bonding anisotropy: bidimensionality in T -, T' -, and T^* -type structures, **147**, 379
- Intergrowth phases
 $(Ba,La)_nTi_{n-\delta}O_{3n}$ ($n \geq 4\delta$) cation-deficient perovskite-related micro-phases in $La_4Ti_3O_{12}$ - $BaTiO_3$ system, HRTEM study, **145**, 678
- Intermetallics
defective, with empty triangular metalloid channels, crystal chemistry, **144**, 277
lanthanide, structure and magnetic and electrical properties, **145**, 216
- Iodine
 $(Bi,Pb)_2Sr_2Ca_{n-1}Cu_nO_{2n+4+\delta}$ ($n = 2,3$) superconductors with intercalated iodine, thermoelectric power, **142**, 199
 $Ce_3(SiS_4)_2I$, structure and luminescence, **147**, 259
 $(CuI)_2Cu_3SbS_3$, electrical properties, **147**, 170
 $(CuI)_3Cu_2TeS_3$, electrical properties, **147**, 170
 GdI_2 , large negative magnetoresistance, prediction and realization, **147**, 19
 $M-I-Bi_2Sr_2Ca_{n-1}Cu_nO_{2n+4+\delta}$ (M = metal), heterostructured high- T_c superconductors, **147**, 328
intercalation in ferroelectric layered compound $Bi_4Ti_3O_{12-x}$, **146**, 60
 p -iodotoluene, structural disorder, **143**, 285
 $La_{3-x}Ce_x(SiS_4)_2I$ ($0 \leq x \leq 1$) solid solution, structure and luminescence, **147**, 259
 $Mg(NH_3)_2I_2$, preparation and crystal structure, **147**, 229
 Sr_2BN_2I with isolated BN_2^{2-} units, synthesis and crystal structure, **142**, 187
- p*-Iodotoluene
structural disorder, **143**, 285
- Ion exchange
layered hydroxide salts with organic anions, **148**, 26
- Ionic conductivity
 $Bi_4V_{2-x}Ni_xO_{11-1.5x}$ solid solution series, **143**, 9
 $K_8Nd_3Si_{12}O_{32}(OH)$, relationship to structure, **148**, 406
 $LaGa_{1-x}Ni_xO_{3-\delta}$ perovskites, **142**, 325
 γ - Li_3PO_4 , electronic and structural effects of nitrogen doping, **145**, 619
 $Na_2CoP_2O_7$, **145**, 604
oxide ions in $Bi_2Al_4O_9$, mechanism, **147**, 631
- Ionic conductors
 $Bi-O$ mixed oxides with structure based on $[Bi_{12}O_{14}]_\infty$ columns, structural and electrical data, **142**, 294
- Ionic defect concentrations
in proton-containing perovskites, calculation, **143**, 115
- Ionic transport properties
 $Li_{4-x}A_x^+(MoO_3)(PO_4)_3P_2O_7$ (A = Na,Ag,Cs,K), **144**, 297
- Iridium
 Ba_2LnIrO_6 (Ln = Sm,Eu,Gd,Yb) ordered perovskites, magnetic properties, **147**, 618
 $EuIr_2$ and $EuIrSn_2$, syntheses, crystal structures, and properties, **145**, 174
 $IrSi_3P_3$, electronic structure, **147**, 11
 Sr_2FeIrO_6 , structural chemistry and electronic properties, **145**, 541
 Sr_2LnIrO_6 (Ln = Ce,Tb) perovskites, structure and magnetic properties, **145**, 356
- Iron
 $(Ba_{2-3x}Bi_{3x-1})(Fe_{2x}Bi_{1-2x})O_{2+3/2x}$ perovskites
incommensurate nuclear and magnetic structure for $0.43 \leq x \leq 0.50$, **147**, 450
synthesis, average structure, and magnetic properties, **147**, 45
 Ba_2FeMoO_6 double perovskite, large intragrain magnetoresistance above room temperature, **144**, 224
- $REBa_2Fe_3O_{8+w}$ (RE = Gd,Eu,Sm,Nd), cubic perovskite, partial ordering of oxygen in, **144**, 398
- $BaFe_2^{II}P_2O_7F_2$, hydrothermal synthesis and structural and magnetic studies, **148**, 286
- $Ba_2FeRu_2O_9$, crystal structure, comparison to $Ba_3CuRu_2O_9$, **146**, 65
- $BaFe_{11}Ti_3O_{23}$ and $Ba_6Fe_{45}Ti_{17}O_{106}$, characterization, **143**, 182
- Ca_3FeRhO_6 one-dimensional oxide, synthesis, crystal structure, and magnetic properties, **146**, 137
- $Ca_3Fe_2Si_3O_{12}$, electron density study, **142**, 273
- $[C_2N_2H_{10}]^{2+}[Fe(HPO_4)_2(OH)]^{2-}\cdot H_2O$, hydrothermal synthesis and crystal structure, **142**, 455
- $R_xCo_{4-y}Fe_ySb_{2-z}$ (R = La,Ce,Tl; $0 < x,y,z < 1$), atomic displacement parameters and lattice thermal conductivity, **146**, 528
- $CuFe_2O_4$, phase transitions, effect of polymer matrix, **144**, 159
- Fe^{3+} , effects on structure, thermal stability, and acidity of silica–metal oxide sol pillared clays, **144**, 45
- $Fe_3Al_2Si_3O_{12}$ garnets, electron density study, **142**, 273
- Fe_3As nanocrystals, synthesis via reductive recombination pathway, **144**, 237
- $A[Fe(CN)_5NO]\cdot 4H_2O$, oxidative thermal decomposition for synthesis of $AFeO_{2.5+x}$ ($0 \leq x \leq 0.5$; A = Sr,Ca), **142**, 138
- $AM^{II}Fe(C_2O_4)_3$ (M^{II} = Mn,Fe; A = organic cation) layered molecular-based magnets, stacking faults in, modeling, **147**, 3
- $Fe_xGa_2S_{3+x}$ close-packed layer compounds, structure maps, **145**, 150
- $[Fe_2(H_2O)_2(O_3P-CH_2-PO_3H_2)](H_2O)_2$, hydrothermal synthesis, powder structural determination, and magnetic study, **147**, 122
- $Fe_{3-x}Mn_x\Box_{3\delta/4}O_{4+\delta}$ highly divided powders, structure, **146**, 245
- $AFeO_{2.5+x}$ ($0 \leq x \leq 0.5$; A = Sr,Ca), synthesis by oxidative thermal decomposition of $A[Fe(CN)_5NO]\cdot 4H_2O$, **142**, 138
- Fe_2O_3 , cation doping with solid oxide electrochemical doping SOED2 method, **146**, 406
- $[Fe_2(OH_2)PO_4(C_2O_4)_{0.5}]$, hydrothermal synthesis, structure, and magnetic susceptibility, letter to editor, **146**, 538
- $Fe_2O_3(ZnO)_{15}$, antiphase modulated structure, HREM study, **142**, 174
- $Fe(PO_3)_3$
C-type compound, structure refinement and magnetic properties, neutron diffraction and Mössbauer studies, **148**, 455
- $Fe_2(OH_2)PO_4(C_2O_4)_{0.5}$, hydrothermal synthesis, structure, and magnetic properties, **145**, 629
- $Fe_4(PO_4)_2(C_2O_4)(H_2O)_2$, synthesis and crystal structure, **143**, 58
- Fe_3SiO_{11} , synthesis, crystal structure, and magnetic properties, **147**, 565
- $MFe_{1-x}Sb$ (M = Zr,Hf), and other isotypic antimonides, comparison, **144**, 330
- $FeSi_4P_4$, electronic structure, **147**, 11
- $[Fe_5^{III-x}V_x^{III}(H_2PO_4)_4(HPO_4)_4F_4(H_2O)_2\cdot 4(H_{2+y}N-(CH_2)_{2-y}NH_2+y)]$, hydrothermal synthesis, structure, and magnetic characterization, **148**, 150
- FeV_2S_4 , magnetic structure, powder neutron diffraction study, **144**, 372
- $H_3Fe_2(TeO_3)_4Cl$, hydrothermal synthesis and structure, **143**, 254
- $In_2O_3-TiO_2-Fe_2O_3$ system, phase relations at $1100^\circ C$ in air, **144**, 91
- $In_3Ti_2FeO_{10}$, synthesis and crystal structures, **147**, 438
- $KFe_3(OH)_2(PO_4)_2\cdot 2H_2O$, hydrothermal synthesis and crystal structure, **142**, 455
- $Li_2Sr_{1.5}(Nb_{3-x}Fe_x)O_{10-x}$, Ruddlesden–Popper phases, electron-induced structural changes during HREM, **145**, 136
- $\beta''-(Mg,Fe)Al(PO_4)O$, Mg^{2+} and Fe^{2+} substitution in trigonal-bipyramidal-coordinated site, **142**, 51
- $(Mg_{0.22}Mn_{0.07}Fe_{0.71})_{3-\delta}O_4$ ferrite spinel, nonstoichiometry and thermodynamics, **145**, 276
- $Na_3Fe_2(PO_4)_2F_3$, phase transitions, synthesis, and thermal, structural, and magnetic studies, **148**, 260
- $[N_2C_4H_{12}]_{0.5}[Fe_2(HPO_4)(C_2O_4)_{1.5}]$, hydrothermal synthesis, structure, and magnetic susceptibility, letter to editor, **146**, 538
- $NH_4Fe_3(H_2PO_4)_6(HPO_4)_2\cdot 4H_2O$, structure and magnetic properties, **144**, 163

NiFe₂O₄
granular composite with Bi-223 superconductor, preparation with sintering process, **145**, 317
ultrafine powders, preparation using mixed Ni and Fe tartrates, **145**, 50
PbFe³⁺M⁴⁺P₃O₁₂ (M^{4+} = Ti,Zr,Hf,Sn) network phosphate with NZP structure, synthesis, **145**, 227
(Pb₂FeS₃)_{0.58}NbS₂ misfit layered compound, structure and physical properties, **142**, 461
PbFe_xV_{6-x}O₁₁, site preference of Fe and V in, neutron diffraction and Mössbauer spectroscopic studies at low temperature, **147**, 609
Sr_{4-x}Ca_xFe_{6-y}Co_yO_{13+δ} synthesis, crystal chemistry, and electrical properties, **145**, 260
Sr₂FeIrO₆, structural chemistry and electronic properties, **145**, 541
SrFe₃(PO₄)₃, hydrothermal synthesis, structure, and physical properties, **145**, 390
Sr_{1+x}La_{1-x}FeO₄ (0 ≤ x ≤ 0.20), nonadiabatic hopping conduction below 300 K, **145**, 58
Sr_{2-x}La_xFeO_{4-δ} (0 ≤ x ≤ 0.5), magnetic susceptibility and Mössbauer spectroscopy, **146**, 253
SrSn_{1-x}Fe_xO_{3-y} system, nonstoichiometry and physical properties, **142**, 288
[TMA]₂[Fe(H₂O)₆]Mo₈O₂₆ and (TMA)₂FeMo₆O₂₀, hydrothermal synthesis and structures, **143**, 77
YFe₂D_x compounds (x = 1.3, 1.75, 1.9, 2.6), structures and phase transitions, neutron diffraction study, **142**, 120
ZnFe₂O₄ formed by mechanical activation and mechanosynthesis, surface structure, **146**, 13

J

Jahn-Teller distortion
BiMnO₃ ferromagnetic perovskite, **145**, 639
KMnHP₃O₁₀, **145**, 479
LaMnO_{3±δ} perovskite, **146**, 418
La_{2-x}Sr_xNiO_{4+δ} (0.2 ≤ x ≤ 1.0), **145**, 401
Li(Mn_{1-y}Co_y)O₂ positive electrode materials for Li-ion batteries, **145**, 549
Jaipurite
nanocrystalline, hydrazine-assisted low-temperature hydrothermal preparation, **146**, 36

K

Kjeldahl analysis
α-MnO₂ with open tunnel, **144**, 136

L

Langmuir-Blodgett films
phenoxy-substituted divalent metal phosphonates, structure and magnetic order, **145**, 443
Lanthanum
Ba₃La(BO₃)₃, synthesis, structure, and properties, **145**, 33
BaLa₂MnS₅, synthesis, crystal structure, and electrical properties, **146**, 336
Ba₂LaNbO₆ perovskites
molten salt synthesis and thermodynamic stability, **148**, 492
ordered, crystal structure and magnetic properties, **148**, 353
Ba_{1-x}La_xPrO₃ (x ≤ 0.075), magnetic properties, **145**, 104
BaLaMTe₃ (M = Cu,Ag), synthesis and characterization, **147**, 366
(Ba,La)_nTi_{n-δ}O_{3n} ($n \geq 4\delta$) cation-deficient perovskite-related micro-phases in La₄Ti₃O₁₂-BaTiO₃ system, HRTEM study, **145**, 678
Bi_{0.775}La_{0.225}O_{1.5} of Bi-Sr-O type, structural and conductivity properties, **142**, 349

Bi_{0.5}La_{13.5}Ti₈S₂₉Cl₄O₄, synthesis and structure, **147**, 592
K₃La₂(NO₃)₉, crystal structure and thermal decomposition, **144**, 68
K₂La(NO₃)₅·2H₂O
nonlinear optical materials, crystal growth, structure, and properties, **148**, 302
thermal decomposition, **144**, 68
K₂La₂Sb₂Se₉, eightfold superstructure caused by 3D ordering of Sb³⁺ 5s² lone pair, **147**, 309
LaAg₆In₆ intermetallics, structural, magnetic, and electrical properties, **145**, 216
ALa_{1±x}Bi_{4±x}S₈ (A = K,Rb) semiconductors, synthesis and characterization, **143**, 151
H-LaBO₃, synthesis and characterization, **148**, 229
La₃Br₃P_n and La₅Pn₃Br (Pn = P,As,Sb,Bi), syntheses and lattice dimensions, **144**, 175
La_{0.5}Ca_{0.5}MnO_{3-δ} (0 ≤ δ ≤ 0.5), ordering of oxygen vacancies and magnetic properties in, **148**, 158
La_{0.5}Ca_{0.5}MnO₃, charge-ordered perovskite, giant oxygen isotope effect in, **144**, 232
La_{0.74}Ca_{0.26}MnO_{3+δ}, effective oxygen content and properties as function of synthesis conditions, **144**, 461
La_{1-x}Ca_xMnO_{3+δ}, oxygen content and structures as function of synthesis conditions, **146**, 448
La_{1-x}Ce_xRu₄P₁₂ with skutterudite structure, electrical and magnetic properties, **142**, 146
La_{3-x}Ce_x(SiS₄)₂I (0 ≤ x ≤ 1) solid solution, structure and luminescence, **147**, 259
La₄[(C₂)_{1-x}Ge_x]₃, continuous transition between cubic structure types c/40 (Rb₄O₆/Pu₂C₃) and c/28 (Th₃P₄), **147**, 372
LaCo_{1-x}Cu_xO₃ perovskites
redox properties and methane catalytic combustion, **146**, 176
solid solutions with large surface area, structural, magnetic, and morphological properties, **146**, 291
La₂Co_xCu_{1-x}O_{4+δ}, spin glass magnetism, **145**, 587
La_xCo_{4-y}Fe_ySb_{12-z} (0 < x,y,z < 1), atomic displacement parameters and lattice thermal conductivity, **146**, 528
LaCu_{1+x}As₂, synthesis, crystal structure, and magnetic susceptibility, **147**, 140
La₂CuO₄, fluorinated, anion ordering in, **142**, 440
La₂CuO_{4+δ}, oxygen intercalation, electrochemical study, **144**, 8
LaGa_{1-x}Ni_xO_{3-δ} perovskites, oxygen ionic and electronic transport, **142**, 325
LaHo_{0.75}Sr_{0.25}CuO_{3.9-δ}F_y, T* phase, structural transformations in, **147**, 647
La_{0.82}K_{0.08}MnO_{3-δ} polycrystalline solid and thin film, colossal magnetoresistance in, comparison, **148**, 342
La_{1/3-x}Li_{3x}NbO₃ (0 ≤ x ≤ 0.06) perovskite-related materials, modulated structure, **148**, 93
La_{1.12}Li_{0.62}Ti₂O₆, structural refinement by neutron diffraction, **148**, 329
LaMn_{1-x}Cu_xO₃ perovskites
redox properties and methane catalytic combustion, **146**, 176
solid solutions with large surface area, structural, magnetic, and morphological properties, **146**, 291
La₄Mn₃Ge_{5.2}Si_{0.8}O₂₂ with perrierite structure, synthesis and structural characterization, **147**, 247
LaMnO₃ substituted with Na, synthesis and properties, **146**, 88
A_{1-x}La_xMnO₃ (A = La,Nd,Y) perovskites, energetics, **145**, 77
LaMnO_{3±δ} perovskite, discontinuous evolution of highly distorted orthorhombic structure and magnetic order, **146**, 418
La₄Mo₇Al₅₁, preparation and crystal structure, **143**, 198
La₇Mo₇O₃₀, perovskite-related structure, *ab initio* determination from powder diffraction, **142**, 228
La_{3-x}Nd_xNi₃O₇ and La_{4-x}Nd_xNi₄O₁₀ reduction: identification of factors influencing Ni⁺ stabilization, **148**, 499

- $\text{La}(\text{Ni}_{1-x}\text{Cu}_x)_x$, crystal structure, neutron and synchrotron anomalous powder diffraction studies, **146**, 313
- $\text{La}_2\text{NiRhO}_6$, structural and magnetic characterization, **146**, 163
- $\text{LaNi}_{1-x}\text{Ti}_x\text{O}_3$ ($0 \leq x \leq \frac{1}{2}$) perovskite, structural, electronic, and magnetic characterization, **148**, 479
- La_2O_3 with cubic structure, characterization, **144**, 68
- $\text{La}(\text{OH})_2\text{NO}_3 \cdot \text{H}_2\text{O}$, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
- $\text{LaONO}_3 \cdot \frac{1}{3}\text{KNO}_3$, structural characterization, **144**, 68
- $\text{LaONO}_3\text{-KNO}_3$ system, phase equilibria, **144**, 68
- LaOs_2SiC , with DyFe_2SiC -type structure, characterization, **142**, 279
- $\text{La}_{1/6}\text{Pb}_{1/3}\text{Zr}_2(\text{PO}_4)_{17/6}(\text{SiO}_4)_{1/6}\text{:Eu}^{3+}$, structure and luminescence, **146**, 499
- La_4PdO_7 , structure, thermodynamics, and magnetic properties, **146**, 428
- $\text{La}_4\text{Re}_6\text{O}_{19}$, preparation, crystal structure, and properties, **147**, 218
- $\text{La}_2\text{Sn}_2\text{O}_7$ pyrochlore-type compounds, Pr^{4+} doped in, EPR spectra, **143**, 140
- $\text{La}_{0.7}\text{Sr}_{0.3}\text{Co}_{1-z}\text{Mn}_z\text{O}_{3 \pm y}$ ($0 \leq z \leq 1$), crystal structure, **143**, 52
- $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$, metal-insulator transition and crystal structure as function of Sr content, temperature, and oxygen partial pressure, **142**, 374
- $\text{La}_{1-x}\text{Sr}_x\text{Cr}_{1-x}\text{Ti}_x\text{O}_3$ perovskites, structural characterization, **144**, 81
- $\text{La}_{0.8}\text{Sr}_{0.2}\text{Ga}_{0.85}\text{Mg}_{0.15}\text{O}_{2.825}$, structural study, **143**, 202
- $\text{La}_{2-x}\text{Sr}_x\text{Li}_{1/2}\text{Co}_{1/2}\text{O}_4$ ($x < 0.5$), ordered K_2NiF_4 -type structure and electronic properties of Co^{III} and Co^{IV} ions, **146**, 79
- $\text{La}_{1-x}\text{Sr}_x\text{MnO}_y$ ($0.5 \leq x \leq 1.0$) perovskite, synthesis and magnetic properties, **146**, 1
- (La,Sr) MnO_3 perovskites prepared by fused salt electrolysis, electrical and magnetic properties, **145**, 88
- $\text{La}_{2-x}\text{Sr}_x\text{NiO}_4$, reduction: identification of factors influencing Ni^{+} stabilization, **148**, 499
- $\text{La}_{2-x}\text{Sr}_x\text{NiO}_{4+\delta}$ ($0.2 \leq x \leq 1.0$), structural evolution with oxidation state: octahedral distortion and phase separation, **145**, 401
- $\text{La}_2\text{TiAlO}_{6.5-x}$ perovskite, synthesis and structure, **146**, 437
- $\text{La}_{23-x}\text{Ti}_{16.2}\text{S}_{49}\text{Cl}_8\text{O}_8$, synthesis and structure, **147**, 592
- $\text{La}_4\text{W}_7\text{Al}_{51}$, preparation and crystal structure, **143**, 198
- $\text{LaYCaBa}_2\text{Cu}_{2+x}\text{Ti}_{3-x}\text{O}_{14-y}$, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
- LaZn_3P_3 , preparation, **146**, 478
- $\text{La}_\delta\text{Zr}_{1-\delta}\text{O}_{2-\delta/2}$ ($0.49 < \delta < 0.51$) pyrochlore, displacive flexibility, structured diffuse scattering as indicator, **142**, 393
- $\text{La}_2\text{Zr}_2\text{O}_7$ pyrochlore-type compounds, Pr^{4+} doped in, EPR spectra, **143**, 140
- $\text{Li}_2\text{La}_x(\text{Nb}_{2n-3x}\text{Ti}_{3x-n})\text{O}_{3n+1}$ ($n = 2,3,4$), Ruddlesden-Popper phases, electron-induced structural changes during HREM, **145**, 136
- $\text{Sr}_{1+x}\text{La}_{1-x}\text{FeO}_4$ ($0 \leq x \leq 0.20$), nonadiabatic hopping conduction below 300 K, **145**, 58
- $\text{Sr}_{2-x}\text{La}_x\text{FeO}_{4-\delta}$ ($0 \leq x \leq 0.5$), magnetic susceptibility and Mössbauer spectroscopy, **146**, 253
- titanium hydrogenphosphate derivatives of, thermal degradation, **145**, 649
- Latent image formation
on $\text{AgBr}(100)$ surface, effect of Au and S, **146**, 516
- Lattice distortions
 $\sigma\text{-M}_{0.25}\text{V}_2\text{O}_5 \cdot \text{H}_2\text{O}$ ($M = \text{Mg,Cu,Ni}$) bronzes, **144**, 181
- Lead
 $\text{Ba}_x\text{Pb}_{1-x}(\text{NO}_3)_2$, Vegard's rule in, reevaluation by NMR and XRD, **145**, 327
- $\text{Bi}_3\text{Pb}_3\text{O}_{10.5}$, polymorphism in, **144**, 195
- $\text{Bi}_8\text{Pb}_5\text{O}_{17}$ fast ion conducting phases, structural properties and thermal stability, **144**, 255
- ($\text{Bi},\text{Pb})_2\text{Sr}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+4+\delta}$ ($n = 2,3$) superconductors, and iodine intercalates, thermoelectric power, **142**, 199
- $(\text{Bi},\text{Pb})_{1.64}\text{Sr}_{1.43}\text{Ca}_{1.57}\text{Mn}_2\text{O}_9$, synchrotron X-ray powder diffraction, **147**, 501
- $(\text{C}_6\text{H}_5\text{C}_2\text{H}_4\text{NH}_3)_2\text{PbCl}_4$, layered solution crystal growth method and crystal structure, **145**, 694
- $\text{CsPbTa}_6\text{Cl}_{18}$ and $\text{Cs}_2\text{PbTa}_6\text{Cl}_{18}$, synthesis and structures, **147**, 350
- $\text{La}_{1/6}\text{Pb}_{1/3}\text{Zr}_2(\text{PO}_4)_{17/6}(\text{SiO}_4)_{1/6}\text{:Eu}^{3+}$, structure and luminescence, **146**, 499
- $\text{Li}_2\text{O}\text{-PbO}\text{-B}_2\text{O}_3$ glasses, structural role of PbO , **145**, 65
- $\text{Pb}_{0.6}\text{Bi}_{1.4}\text{Cs}_{0.6}\text{O}_2\text{Cl}_2$ and $\text{Pb}_{0.6}\text{Bi}_{3.4}\text{Cs}_{0.6}\text{O}_4\text{Cl}_4$, crystal structures, **147**, 527
- $\text{Pb}_4\text{BiO}_4\text{PO}_4$, crystal structure, stereochemical effect of $6s^2$ lone pair electrons, **142**, 80
- $\text{Pb}_3\text{Cu}_3(\text{PO}_4)_4$, crystal structure and topology, **142**, 6
- PbF_2 -type compounds, structure and polarization energy, **144**, 339
- $(\text{Pb}_2\text{FeS}_3)_{0.58}\text{NbS}_2$ misfit layered compound, structure and physical properties, **142**, 461
- $\text{PbFe}_x\text{V}_{6-x}\text{O}_{11}$, site preference of Fe and V in, neutron diffraction and Mössbauer spectroscopic studies at low temperature, **147**, 609
- $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$, synthesis and decomposition, pyrochlore-type compound formed by, Raman spectroscopy, **142**, 344
- $\text{Ln}_{1-x}\text{Pb}_x\text{MnO}_3$ (Ln = rare earth), insulator-metal transition and charge ordering, IR study, **145**, 557
- Pb_2PdF_6 , crystal structure, **148**, 242
- $\text{PbM}^{3+}\text{M}^{4+}\text{P}_3\text{O}_{12}$ ($M^{3+} = \text{Cr,Fe,In}; M^{4+} = \text{Ti,Zr,Hf,Sn}$) network phosphate with NZP structure, synthesis, **145**, 227
- PbS nanocrystals, preparation, **146**, 484
- $\beta\text{-Pb}_x\text{V}_2\text{O}_5$ bronzes, bidimensional cationic ordering and thermal dependence in, **145**, 186
- $\text{Pb}_{4+x}\text{Y}_{3 \pm x}\text{F}_{17+x}$ ($x \leq 0.2$), synthesis in copper ampoule, **142**, 152
- $\text{Pb}(\text{Zr}_x\text{Ti}_{1-x})\text{O}_3$, tetragonal, tricritical behavior in, calorimetric study, **144**, 188
- Sb_2Te_3 single crystals doped with, point defects in, **145**, 197
- TiPbCl_3 , high-pressure synthesis, **146**, 351
- $\text{TiPbCl}_{3-x}\text{Br}_x$ solid solutions, preparation at high pressure, **146**, 351
- $\text{Ti}_{1-x}\text{Rb}_x\text{PbCl}_3$ solid solutions, preparation at high pressure, **146**, 351
- Lead hydroxyapatite
preparation, characterization, and thermal stability, **143**, 296
- Linearized augmented-plane-wave method
structural calculations for LiTiS_2 and TiS_2 spinels, **145**, 503
- Lithium
 BPO_4 doped with, defect structure, **142**, 74
- insertion in oxides, first principles Hartree-Fock study, **142**, 428
- intercalation in ferroelectric layered compound $\text{Bi}_4\text{Ti}_3\text{O}_{12-x}$, **146**, 60
- ion electrode materials, analysis in terms of atomic orbitals, **147**, 85
- $\text{La}_{1/3-x}\text{Li}_{3x}\text{NbO}_3$ ($0 \leq x \leq 0.06$) perovskite-related materials, modulated structure, **148**, 93
- $\text{La}_{1.12}\text{Li}_{0.62}\text{Ti}_2\text{O}_6$, structural refinement by neutron diffraction, **148**, 329
- $\text{La}_{2-x}\text{Sr}_x\text{Li}_{1/2}\text{Co}_{1/2}\text{O}_4$ ($x < 0.5$), ordered K_2NiF_4 -type structure and electronic properties of Co^{III} and Co^{IV} ions, **146**, 79
- Li_2BAIO_4 , crystal structure and vibrational spectra, **142**, 214
- $\text{LiCr}(\text{MoO}_4)_2$ and $\text{LiCr}(\text{WO}_4)_2$, spectroscopic properties and magnetic phase transitions, **148**, 468
- $\text{Li}_2\text{GeTeO}_6$, structure and order-disorder phenomena, **147**, 99
- LiKSO_4 , thermal analysis and X-ray diffraction studies of phase transitions, **148**, 316
- $\text{Li}_2\text{La}_x(\text{Nb}_{2n-3x}\text{Ti}_{3x-n})\text{O}_{3n+1}$ ($n = 2,3,4$), Ruddlesden-Popper phases, electron-induced structural changes during HREM, **145**, 136
- $\text{Li}(\text{Mn}_{1-y}\text{Co}_y)\text{O}_2$, positive electrode materials for Li-ion batteries, **145**, 549
- $\text{LiMn}_{2-y}\text{Cr}_y\text{O}_4$, powder neutron and X-ray diffraction, **146**, 322
- LiMnO_2 , orthorhombic, in ammonium peroxodisulfate solutions, Li^+ extraction from, **142**, 19

- LiMn₂O₄**
fluorine-substituted, 4V-range Li extraction/insertion in, *in situ* structural study, **144**, 361
mechanical synthesis, state of Mn atoms during, **146**, 184
spinel phase formed by sol-gel synthesis, characterization, **147**, 509
- LiMnSe₂**, synthesis and structure, **146**, 217
- Li_xMoO₃** bronze, microwave preparation, **148**, 100
- Li_{4-x}A_x⁺(MoO)₃(PO₄)₃P₂O₇** (*A* = Na,Ag,Cs,K), structure and magnetic and ionic transport properties, **144**, 297
- Li₂[NiF(PO₄)]** with ordered mixed anionic framework, synthesis and crystal structure, **142**, 1
- LiLn₆O₅(BO₃)₃** (*Ln* = Pr-Tm), detection in ternary-phase diagrams Li₂O-Ln₂O₃-B₂O₃, **146**, 189
- Li₂O-PbO-B₂O₃** glasses, structural role of PbO, **145**, 65
- LiP₅**, crystal structure and site assignments, **147**, 341
- γ -Li₃PO₄, ionic conductivity, electronic and structural effects of nitrogen doping, **145**, 619
- Li₂Sr_{1.5}(Nb_{3-x}Fe_x)O_{10-x}**, Ruddlesden-Popper phases, electron-induced structural changes during HREM, **145**, 136
- Li₃Ta_{1-x}Nb_xO₄** prepared by flux synthesis, ultraviolet and X-ray luminescence and phosphor characterization, **145**, 110
- LiTiO₂**, first principles Hartree-Fock study, **142**, 428
- LiTiS₂** cubic spinel structure, first principles calculation, **145**, 503
- LiV₂O₅**
 $\delta \leftrightarrow \epsilon$ phase transition, atomic modeling and simulation of XRD powder pattern evolution, **146**, 129
 $\delta \rightarrow \epsilon \rightarrow \gamma$ high-temperature phase transitions, synchrotron X-ray powder diffraction analysis, **146**, 103
- Li_xV₂O₅ and Li_xWO₃ bronzes, microwave preparation, **148**, 100
- Lone pair electrons
on Bi³⁺ and Pb²⁺ in Bi₂Pb₃O_{10.5} polymorphs, relationship to β_2 phase metastability, **144**, 195
- in InSnCl₃-type arrangements
 ABX_3 structure type with close cation-cation contacts, **146**, 344
high-pressure synthesis of TiPbCl₃ and solid solutions containing Rb or Br, **146**, 351
- Pb₄BiO₄PO₄ 6s², stereochemical effect on crystal structure, **142**, 80
- Sb³⁺ 5s², 3D ordering, eightfold superstructure of K₂Gd₂Sb₂Se₉ and K₂La₂Sb₂Se₉ caused by, **147**, 309
- Luminescence
Ag in AgM(PO₃)₃ (*M* = Mg,Zn,Ba), **145**, 97
- Bi³⁺ in pyrochlore Gd₂GaSbO₇, quenching, **146**, 494
- H-LnBO₃ (*Ln* = La,Nd,Sm,Eu), **148**, 229
- Ce₃(SiS₄)₂*X* (*X* = Cl,Br,I), **147**, 259
- EuH[O₃P(CH₂)₃PO₃] and [Eu(H₂O)]₂[O₂C(CH₂)₃CO₂]₃·4H₂O, **148**, 347
- La_{3-x}Ce_x(SiS₄)₂I (0 ≤ *x* ≤ 1) solid solution, **147**, 259
- La_{1/6}Pb_{1/3}Zr₂(PO₄)_{17/6}(SiO₄)_{1/6}:Eu³⁺, **146**, 499
- TiO₂ ultrafine particles: surface state study, **145**, 711
- ultraviolet and X-ray, Li₃Ta_{1-x}Nb_xO₄ prepared by flux synthesis, **145**, 110
- Lutetium**
Ba₃Lu(BO₃)₃, synthesis, structure, and properties, **145**, 33
- Ba₂LuNbO₆ ordered perovskites, crystal structure and magnetic properties, **148**, 353
- LuMn₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279
- Lu₆ReO₁₂, preparation and characterization, **148**, 220
- Lu₂Ru₂O₇ pyrochlores, magnetic properties, **144**, 216
- PrLu_{1-y}Mg_yO₃ (*y* ≤ 0.075), magnetic properties, **145**, 104
- M**
- Magnesium**
AgMg(PO₃)₃, crystal structure and luminescence properties of Ag in, **145**, 97
- Co-Mg-Al layered double hydroxides, synthesis and activation, **142**, 382
- In₆Ti₆MgO₁₀, synthesis and crystal structures, **147**, 438
- La_{0.8}Sr_{0.2}Ga_{0.85}Mg_{0.15}O_{2.825}, structural study, **143**, 202
- Mg₃Al₂Si₃O₁₂ garnets, electron density study, **142**, 273
- β'' -(Mg,Fe)Al(PO₄)O, Mg²⁺ and Fe²⁺ substitution in trigonal-bipyramidal-coordinated site, **142**, 51
- Mg-hydrotalcites, local structure, FTIR and Raman spectroscopic study, **146**, 506
- MgIn_{2-x}Ga_xO₄ solid solutions, crystal structures and electrical and optical properties, **142**, 206
- (Mg_{0.22}Mn_{0.07}Fe_{0.71})_{3-x}O₄ ferrite spinel, nonstoichiometry and thermodynamics, **145**, 276
- Mg(NH₃)₂X₂ (*X* = Cl,Br,I), preparation and crystal structures, **147**, 229
- σ -Mg_{0.25}V₂O₅·H₂O bronzes, crystal structures and lattice distortions, **144**, 181
- oxides of, XRD and ¹H MAS NMR, **144**, 25
- Pb(Mg_{1/3}Nb_{2/3})O₃, synthesis and decomposition, pyrochlore-type compound formed by, Raman spectroscopy, **142**, 344
- PrLu_{1-y}Mg_yO₃ (*y* ≤ 0.075), magnetic properties, **145**, 104
- Magnetic order**
LaMnO_{3±δ} perovskite, **146**, 418
- phenoxy-substituted divalent metal phosphonate Langmuir-Blodgett films, **145**, 443
- Magnetic properties**
LnAg₆In₆ intermetallics (*Ln* = La,Ce,Pr,Nd), **145**, 216
- (Ba_{2-3x}Bi_{3x-1})(Fe_{2x}Bi_{1-2x})O_{2+3/2x} perovskites, **147**, 45
- BaCoO₃ hexagonal perovskite, **146**, 411
- BaFe₂P₂O₇F₂, **148**, 286
- Ba₆Fe₄₅Ti₁₇O₁₀₆, **143**, 182
- Ba₂LnIrO₆ (*Ln* = Sm,Eu,Gd,Yb) ordered perovskites, **147**, 618
- Ba_{1-x}La_xPrO₃ (*x* ≤ 0.075), **145**, 104
- Ba₂LnNbO₆ (*Ln* = lanthanoid elements) ordered perovskites, **148**, 353
- Ba_{1-x}Sr_xCoO₃ (0 ≤ *x* ≤ 0.5) with one-dimensional structure, **146**, 96
- Bi_x(A_{0.75±ε}Bi_{0.25±ε}O)_{(3+3x)/2}MO₂ (*A* = Ca,Sr; *M* = Co,Cr) with double rock salt layers, **142**, 305
- BiMnO₃ perovskite, **142**, 113
- Bi_{1-x}Sr_{3+x}CoCO_{6+δ} 2201-type cobaltite with nonmodulated structure, **148**, 108
- Ca₃CoRhO₆ one-dimensional oxide, **146**, 137
- CaCu₃Mn₄O₁₂-based oxides with perovskite structure, **147**, 185
- Ca₃FeRhO₆ one-dimensional oxide, **146**, 137
- Ca₃BMnO₆ (*B* = Ni,Zn) crystallizing in K₄CdCl₆ structure, **145**, 302
- Ca_{2-x}Sr_xMnO₄, **145**, 705
- Ca₃ZnCoO₆ crystallizing in K₄CdCl₆ structure, **145**, 302
- ACe_{1±x}Bi_{4±x}S₈ (*A* = K,Rb) semiconductors, **143**, 151
- CeOs₄P₁₂ with skutterudite structure, **142**, 146
- Co_{0.5}Ti₂(PO₄)₃ with NASICON structure, **143**, 224, 230
- A₂Cu'B' O₆ (*A* = Ba,Sr; *B'* = W,Te) B-site-ordered perovskite-type oxides, **147**, 291
- Eu₂Au₃In₄, **145**, 283
- [(EuS_{1.5})_{1.15}NbS₂]: detection of mixed valence state for Eu, **147**, 58
- Fe(PO₃)₃, **145**, 629
- Fe(PO₃)₃, C-type compound, **148**, 455
- FeP₃SiO₁₁, **147**, 565
- Hg_{1-x}Re_xBa₂Ca_{n-1}Cu_nO_{2n+2+4x+δ}, 1256 and 1267 type single crystals, **143**, 277
- KMn₄(PO₄)₃, **144**, 169
- La_{0.5}Ca_{0.5}MnO_{3-δ} (0 ≤ *δ* ≤ 0.5), **148**, 158
- La_{0.74}Ca_{0.26}MnO_{3+δ} as function of synthesis conditions, **144**, 461
- La_{1-x}Ce_xRu₄P₁₂ with skutterudite structure, **142**, 146
- LaCo_{1-x}Cu_xO₃ perovskite-type solid solutions with large surface area, **146**, 291
- LaMn_{1-x}Cu_xO₃ perovskite-type solid solutions with large surface area, **146**, 291

- LaMnO₃ substituted with Na, **146**, 88
 LaMnO_{3±δ} perovskite, **146**, 418
 La₂NiRhO₆, **146**, 163
 LaNi_{1-x}Ti_xO₃ ($0 \leq x \leq \frac{1}{2}$) perovskite, **148**, 479
 La_{1-x}Sr_xMnO_y ($0.5 \leq x \leq 1.0$) perovskite, **146**, 1
 (La,Sr)MnO₃ perovskites prepared by fused salt electrolysis, **145**, 88
 layered metal-hydroxide triangular lattices 25 Å apart, **145**, 452
 LiMn₂O₄ spinel phase formed by sol-gel synthesis, **147**, 509
 Li_{4-x}A_x⁺(MoO₃)(PO₄)₃P₂O₇ ($A = \text{Na,Ag,Cs,K}$), **144**, 297
 Lu₂Ru₂O₇ pyrochlores, **144**, 216
 MIL-13 hydrated iron diphosphonate, **147**, 122
 Na₂CoP₂O₇ tetragonal ionic conductor, **145**, 604
 NaNi₄(PO₄)₃, **144**, 169
 naphthyl nitronyl nitroxides, correlation with structure, **145**, 427
 Na₉V₁₄O₃₅ bronze, letter to editor, **145**, 361
 NdCaCrO₄, **148**, 361
 NH₄Fe₃(H₂PO₄)₆(HPO₄)₂·4H₂O, **144**, 163
 Ni₂Mo₃N, **146**, 22
 one-dimensional coordination polymers containing dicyanamide and pyridine-type ligands, **145**, 369
 (Pb₂FeS₃)_{0.58}NbS₂ misfit layered compound, **142**, 461
 Ln₄PdO₇ ($Ln = \text{La,Nd,Sm,Eu,Gd}$), **146**, 428
 RPd₃S₄ ($R = \text{Ce,Gd}$), **146**, 226
 PrLu_{1-y}Mg_yO₃ ($y \leq 0.075$), **145**, 104
 LnPtGe ($Ln = \text{Ce,Pr,Nd,Sm}$), **142**, 400
 quinolyl nitronyl nitroxides, correlation with structure, **145**, 427
 Ln₂ReO₅ ($Ln = \text{Sm,Eu,Gd}$), Ln₃Re₂O₉ ($Ln = \text{Pr,Nd,Sm}$), and Ln₄Re₆O₁₉ ($Ln = \text{La-Nd}$), **147**, 218
 AT₂SiC ($A = \text{rare earth elements and actinoids; } T = \text{Mn,Re,Ru,Os}$ with DyFe₂SiC-type structure, **142**, 279
 Sr₂Au₃In₄, **145**, 283
 (Sr,Ca,Ln)₃Co₂O_{6±δ} ($Ln = \text{Sm,Eu,Gd,Tb,Dy,Ho,Y}$), **146**, 277
 Sr₂LnIrO₆ ($Ln = \text{Ce,Tb}$) perovskites, **145**, 356
 SrSn_{1-x}Fe_xO_{3-y} system, **142**, 288
 Tl_xCr₅Se₈ ($0 \leq x \leq 1$) nonstoichiometric channel compounds: evidence for Cr(IV) formation, **145**, 235
 YbAgSn, **145**, 668
 YbZnSn, **145**, 668
 Y₂Ru₂O₇ pyrochlores, **144**, 216
 Zn_(1-x)Ga_{2x/3}Cr₂Se₄ spinel system, **148**, 215
 Magnetic relaxation
 slow, [Et₃NH]₂[Mn(CH₃CN)₄(H₂O)₂][Mn₁₀O₄(2,2'-biphenoxide)₄Br₁₂] at very low temperature, **145**, 484
 Magnetic structure
 (Ba_{2-3x}Bi_{3x-1})(Fe_{2x}Bi_{1-2x})O_{2+3/2x} ($0.43 \leq x \leq 0.50$) perovskites, **147**, 450
 Bi₄V_{2-x}Ni_xO_{11-1.5x} solid solution series, **143**, 9
 Fe(PO₃)₃, **148**, 455
 FeV₂S₄, powder neutron diffraction study, **144**, 372
 NdCaCrO₄, **148**, 361
 Ni_xCr_{3-x}S₄ ($x = \frac{1,2,3}{4,2,4}$), **143**, 163
 PrCaCrO₄, **142**, 29
 ScMnO₃, **143**, 132
 U₃TiX₅ ($X = \text{Ge,Sn}$), **144**, 311
 YFe₂D_x compounds ($x = 1.3, 1.75, 1.9, 2.6$), neutron diffraction study, **142**, 120
 Magnetic susceptibility
 Ln₂Au₃In₅ ($Ln = \text{Ce,Pr,Nd,Sm}$), **148**, 425
 BaLnMQ₃ ($Ln = \text{rare earth; } M = \text{coinage metal; } Q = \text{Se or Te}$), **147**, 366
 LnBaCo₂O_{5+δ} ($Ln = \text{Pr,Nd,Sm,Eu,Gd,Tb,Dy,Ho}$) ordered oxygen-deficient perovskites, **142**, 247
 BaNbS_{3+δ}, quasi-one-dimensional conductor, **142**, 57
 BiCoPO₅, **148**, 295
 Bi₄V_{2-x}Ni_xO_{11-1.5x} solid solution series, **143**, 9
 (BN)_{~3}SO₃F, **147**, 74
 M^ICr(MoO₄)₂ and M^ICr(WO₄)₂ ($M^I = \text{Li,Na,K,Cs}$), **148**, 468
 Cr₄(P₂S₆)₃ synthesized at room temperature, **144**, 388
 RECu_{1+x}As₂ ($RE = \text{La,Ce,Pr}$), **147**, 140
 [enH₂][CoIn(PO₄)₂H(OH)₂F₂], 2D mixed-metal phosphate templated by ethylene diamine, **142**, 241
 [Fe₂(OH₂)PO₄(C₂O₄)_{0.5}], letter to editor, **146**, 538
 La₂Co_xCu_{1-x}O_{4+δ}, **145**, 587
 LaNi_{1-x}Ti_xO₃ ($0 \leq x \leq \frac{1}{2}$) perovskite, **148**, 479
 MIL-21 with partial cationic disorder, **148**, 150
 Mn_{0.6}Ta_{0.4}O_{1.65} defect fluorite structure, **145**, 37
 [N₂C₄H₁₂]_{0.5}[Fe₂(HPO₄)(C₂O₄)_{1.5}], letter to editor, **146**, 538
 Nd₅Ni₆In₁₁, **142**, 180
 Ln₆ReO₁₂ ($Ln = \text{Ho,Er,Tm,Yb,Lu}$), **148**, 220
 ScMnO₃, **143**, 132
 SrFe₃(PO₄)₃, **147**, 390
 Sr_{2-x}La_xFeO_{4-δ} ($0 \leq x \leq 0.5$), **146**, 253
 M₂Te₃O₈ ($M = \text{Co,Ni,Cu}$) with spiroffite structure, **143**, 246
 VO₂(SO₃)_{0.5}, **145**, 128
 Magnetism
 CN₃H₆·VO(H₂O)(HPO₄)(H₂PO₄)·H₂O, **142**, 168
 [Cu(dicyanamide)₂(pyrazine)]_n, **145**, 387
 erbium rhodium stannide, competition between magnetism and superconductivity, **147**, 399
 EuIr₂, EuIrSn₂, and EuRhIn, **145**, 174
 KMnHP₃O₁₀, weak ferromagnetism, **145**, 479
 La₂Co_xCu_{1-x}O_{4+δ} spin glasses, **145**, 587
 Na₃M₂(PO₄)₂F₃ ($M = \text{Al}^+, \text{V}^{3+}, \text{Cr}^{3+}, \text{Fe}^{3+}, \text{Ga}^{3+}$), **148**, 260
 Pr_{1-x}Sr_xCoO_{3-δ}, **147**, 464
 Y₂SrCu_{0.6}Co_{1.4}O_{6.5}, weak ferromagnetism, **146**, 488
 Magnetite
 Verwey transition in, quantum state model, **148**, 135
 Magnetization
 MIL-21 with partial cationic disorder, **148**, 150
 Magnetoplumbite structure
 europium aluminum oxynitrides with, **142**, 48
 Magnetoresistance
 colossal, in La_{0.82}K_{0.08}MnO_{3-δ} polycrystalline solid and thin film, comparison, **148**, 342
 giant, see Giant magnetoresistance
 LaMnO₃ substituted with Na, **146**, 88
 large intragrain, in double perovskite Ba₂FeMoO₆ above room temperature, **144**, 224
 quasi-two-dimensional bronzes (PO₂)₄(WO₃)_{2m} and K_xP₄W₈O₃₂, **147**, 320
 Magnets
 AM^{II}Fe(C₂O₄)₃ ($M^{II} = \text{Mn,Fe}$; A = organic cation), layered molecular-based, stacking faults in, modeling, **147**, 3
 molecular, nitronyl nitroxide isomeric series, magneto-structural correlations in, **145**, 427
 quantum, low-dimensional Na₂V₃O₇, crystal structure, letter to editor, **147**, 676
 Manganese
 BaLa₂MnS₅, synthesis, crystal structure, and electrical properties, **146**, 336
 BiMnO₃ perovskite
 high-temperature XRD and DTA studies, **142**, 113
 structure determination, **145**, 639
 (Bi,Pb)_{1.64}Sr_{1.43}Ca_{1.57}Mn₂O₉, synchrotron X-ray powder diffraction, **147**, 501
 CaCu₃Mn₄O₁₂-based oxides with perovskite structure, giant magnetoresistance, **147**, 185
 Ca₃BMnO₆ ($B = \text{Ni,Zn}$) crystallizing in K₄CdCl₆ structure, synthesis, structure, and magnetic properties, **145**, 302

- $\text{Ca}_{2-x}\text{Sr}_x\text{MnO}_4$, crystal structure and magnetic properties, 145, 705
 $\text{CeMn}_2\text{Ge}_4\text{O}_{12}$, synthesis and structural characterization, 143, 145
 $[\text{Et}_3\text{NH}]_2[\text{Mn}(\text{CH}_3\text{CN})_4(\text{H}_2\text{O})_2][\text{Mn}_{10}\text{O}_4(2,2'\text{-biphenoxide})_4\text{Br}_{12}]$, slow magnetic relaxation at very low temperature, 145, 484
 $\text{Fe}_{3-x}\text{Mn}_x\square_{3\delta/4}\text{O}_{4+\delta}$ highly divided powders, structure, 146, 245
 $\text{GdMnGe}_2\text{O}_{17}$, synthesis and structural characterization, 143, 145
 $\text{In}_3\text{Ti}_2\text{MnO}_{10}$, synthesis and crystal structures, 147, 438
 $\text{In}_6\text{Ti}_6\text{MnO}_{10}$, synthesis and crystal structures, 147, 438
 $\text{KMnHP}_3\text{O}_{10}$, weak ferromagnetism and framework switching, 145, 479
 $\text{KMn}_4(\text{PO}_4)_3$, structure and magnetic behavior, 144, 169
 $\text{La}_{0.5}\text{Ca}_{0.5}\text{MnO}_{3-\delta}$ ($0 \leq \delta \leq 0.5$), ordering of oxygen vacancies and magnetic properties in, 148, 158
 $\text{La}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$, charge-ordered perovskite, giant oxygen isotope effect in, 144, 232
 $\text{La}_{0.74}\text{Ca}_{0.26}\text{MnO}_{3+d}$, effective oxygen content and properties as function of synthesis conditions, 144, 461
 $\text{La}_{1-x}\text{Ca}_x\text{MnO}_{3+d}$, oxygen content and structures as function of synthesis conditions, 146, 448
 $\text{La}_{0.82}\text{K}_{0.08}\text{MnO}_{3-\delta}$ polycrystalline solid and thin film, colossal magnetoresistance in, comparison, 148, 342
 $\text{LaMn}_{1-x}\text{Cu}_x\text{O}_3$ perovskites
 redox properties and methane catalytic combustion, 146, 176
 solid solutions with large surface area, structural, magnetic, and morphological properties, 146, 291
 $\text{La}_4\text{Mn}_3\text{Ge}_{5.2}\text{Si}_{0.8}\text{O}_{22}$ with perrierite structure, synthesis and structural characterization, 147, 247
 LaMnO_3 substituted with Na, synthesis and properties, 146, 88
 $\text{LaMnO}_{3\pm\delta}$ perovskite, discontinuous evolution of highly distorted orthorhombic structure and magnetic order, 146, 418
 $\text{La}_{0.7}\text{Sr}_{0.3}\text{Co}_{1-z}\text{Mn}_z\text{O}_{3\pm y}$ ($0 \leq z \leq 1$), crystal structure, 143, 52
 $\text{La}_{1-x}\text{Sr}_x\text{MnO}_y$ ($0.5 \leq x \leq 1.0$) perovskite, synthesis and magnetic properties, 146, 1
 $(\text{La},\text{Sr})\text{MnO}_3$ perovskites prepared by fused salt electrolysis, electrical and magnetic properties, 145, 88
 $\text{Li}(\text{Mn}_{1-y}\text{Co}_y)\text{O}_2$, positive electrode materials for Li-ion batteries, 145, 549
 $\text{LiMn}_{2-y}\text{Cr}_y\text{O}_4$, powder neutron and X-ray diffraction, 146, 322
 LiMnO_2 , orthorhombic, in ammonium peroxodisulfate solutions, Li^+ extraction from, 142, 19
 LiMn_2O_4
 fluorine-substituted, 4V-range Li extraction/insertion in, *in situ* structural study, 144, 361
 mechanical synthesis, state of Mn atoms during, 146, 184
 spinel phase formed by sol-gel synthesis, characterization, 147, 509
 $(\text{Mg}_{0.22}\text{Mn}_{0.07}\text{Fe}_{0.71})_{3-\delta}\text{O}_4$ ferrite spinel, nonstoichiometry and thermodynamics, 145, 276
 $\text{Mn}_3\text{Al}_2\text{Si}_3\text{O}_{12}$ garnets, electron density study, 142, 273
 $\text{AMnFe}(\text{C}_2\text{O}_4)_3$ (A = organic cation) layered molecular-based magnets, stacking faults in, modeling, 147, 3
 $\text{Me}^+\text{X}-\text{Mn}^{2+}\text{X}_2-\text{H}_2\text{O}$ ($\text{Me}^+ = \text{K}, \text{NH}_4, \text{Rb}, \text{Cs}; \text{X}^- = \text{Cl}, \text{Br}$) double salts, 143, 16
 $\alpha\text{-MnO}_2$ with open tunnel, preparation, 144, 136
 $A_{1-x}\text{A}'_x\text{MnO}_3$ ($A = \text{La}, \text{Nd}, \text{Y}; A' = \text{Sr}, \text{La}$) perovskites, energetics, 145, 77
 $\text{Ln}_{1-x}\text{A}_x\text{MnO}_3$ (Ln = rare earth; $A = \text{Ca}, \text{Sr}, \text{Pb}$), insulator-metal transition and charge ordering, IR study, 145, 557
 $\text{Ln}_{0.7}\text{M}_{0.3}\text{MnO}_3$ high-tolerance factor perovskites, cation size variance effects in, 148, 20
 $\text{A}_{10}((\text{B},\text{Mn})\text{O}_4)_6\text{F}_2$ ($A = \text{Ba}, \text{Sr}, \text{Ca}; B = \text{P}, \text{V}$) substituted with Mn(V), color, 146, 464
 $\text{MnO}_2 \cdot n\text{H}_2\text{O}$ in KCl electrolyte, supercapacitor behavior, 144, 220
 $\alpha\text{-MnS}$ nanocrystals, preparation, 146, 484
 4MnSe_2 ($A = \text{Li}, \text{Na}, \text{K}, \text{Rb}, \text{Cs}$), synthesis and structures, 146, 217
 $4\text{Mn}_2\text{SiC}$ ($A = \text{Y}, \text{Sm}, \text{Gd-Tm}, \text{Lu}, \text{Th}, \text{U}$), with DyFe₂SiC-type structure, characterization, 142, 279
 $\text{Mn}_{0.6}\text{Ta}_{0.4}\text{O}_{1.65}$, defect fluorite structure, electron and X-ray powder diffraction study, 145, 37
 $\text{Mn}_2\text{Te}_3\text{O}_8$, with spiroffite structure, hydrothermal synthesis and characterization, 143, 246
 $\text{Na}_2\text{Mn}_2\text{Se}_3$, synthesis and structure, 146, 217
 $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{Mn}_{1-x}\text{Cr}_x\text{O}_3$, charge ordering process in, structural determination, 148, 333
 $\text{Nd}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$, charge-ordered perovskite, giant oxygen isotope effect in, 144, 232
 $\text{Nd}_{0.67}\text{Sr}_{0.33}\text{MnO}_3$ doped with CaF₂, crystallography and magneto-resistance, 148, 236
 $\text{Ni}_x\text{Al}_{1-x}\text{Mn}_2\text{O}_4$, preparation for oxygen electrocatalysis in alkaline medium, 145, 23
 phenoxy-substituted divalent manganese phosphonate Langmuir-Blodgett films, structure and magnetic order, 145, 443
 ScMnO_3 , magnetic structure and spin reorientation transition, 143, 132
Many-body potentials
 for modeling of solids, surfaces, and clusters, 145, 517
Marcus equation
 electron transfer and proton coupling in proteins, 145, 488
Matlockites
 structure and polarization energy, 144, 339
Maximum entropy method
 $\text{Na}_x\text{Cr}_x\text{Ti}_{8-x}\text{O}_{16}$, low-temperature phase with monoclinic Hollandite structure, 145, 182
Mechanical properties
 Nb₂O₅/V₂O₅ doped spinel ferrites, 148, 376
Mechanical treatment
 induction of low-temperature polymorphism of WO₃ powders, 143, 24
Mechanochemical reactions
 imidazole with metallic oxides: proton transfer in solid state, 147, 561
 syntheses
 Bi₂VO_{5.5} ferroelectric nanocrystalline powders, 142, 41
 LiMn₂O₄, state of Mn atoms during, 146, 184
 tin sulfides, 144, 1
Mechanosynthesis
 ZnFe₂O₄ formed by, surface structure, 146, 13
Melting point
 $\text{Ba}_3\text{Ln}(\text{BO}_3)_3$ ($\text{Ln} = \text{La-Lu, Y}$), 145, 33
Mercury
 $\text{HgBa}_2\text{CuO}_{4+\delta}$, local structural perturbations, 148, 119
 $\text{Hg-X-Bi}_2\text{Sr}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+4+\delta}$ ($X = \text{halogen}$), heterostructured high- T_c superconductors, 147, 328
 Hg_2F_2 crystals, point-charge model, 146, 239
 Hg-MoS_2 , synthesis and characterization, 147, 336
 HgO , mechanochemical reactions with imidazole: proton transfer in solid state, 147, 561
 MHgO_2 ($M = \text{Ca}, \text{Sr}, \text{Ba}$), thermogravimetry under controlled oxygen and mercury partial pressures and related thermodynamics, 146, 151
 Hg_2PCl_2 , crystal structure and electronic structure of (P₂Hg₆) octahedron in, 142, 14
 $\text{Hg}_{1-x}\text{Re}_x\text{Ba}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+2+4x+\delta}$, 1256 and 1267 type single crystals, structure and properties, 143, 277
 $\text{NaK}_{29}\text{Hg}_{48}$, crystal structure, 147, 177
Metal-insulator transition
 $\text{LnBaCo}_2\text{O}_{5+\delta}$ ($\text{Ln} = \text{Pr}, \text{Nd}, \text{Sm}, \text{Eu}, \text{Gd}, \text{Tb}, \text{Dy}, \text{Ho}$) ordered oxygen-deficient perovskites, 142, 247
 (BEDT-TTF)₃Cl₂ · (H₂O)₂ superconductor, 145, 496
 CaCu₃Mn₄O₁₂-based oxides with perovskite structure, 147, 185
 LaNi_{1-x}Ti_xO₃ ($0 \leq x \leq \frac{1}{2}$) perovskite, 148, 479
 La_{1-x}Sr_xCoO₃, as function of Sr content, temperature, and oxygen partial pressure, 142, 374

- Ln_{0.7}M_{0.3}MnO₃* high-tolerance factor perovskites, cation size variance effects in, **148**, 20
- TiSr₂CoO₅, **147**, 211
- Metal–semiconductor transition
Bi_{0.5}Nd_{1.5}Ru₂O₇, **144**, 467
- Methane
catalytic combustion with LaCo_{1-x}Cu_xO₃ and LaMn_{1-x}Cu_xO₃, **146**, 176
- Microporous pillared clay
acidic and hydrophobic, pillared with mixed metal oxide nano-sols, **144**, 45
- Microwave synthesis
oxide bronzes, **148**, 100
- MIL-12
synthesis and *ab initio* structure determination, **147**, 92
- MIL-13
hydrothermal synthesis, powder structural determination, and magnetic study, **147**, 122
- MIL-21
with partial cationic disorder, hydrothermal synthesis, structure, and magnetic characterization, **148**, 150
- Minimal nets
embeddings of, **147**, 429
- Misfit layered compounds
Bi_x(A_{0.75±ε}Bi_{0.25±ε}O)_{(3+3x)/2}MO₂ (A = Ca,Sr; M = Co,Cr), synthesis, structure, and physical properties, **142**, 305
(Pb₂FeS₃)_{0.58}NbS₂, structure and physical properties, **142**, 461
- Molecular magnets
nitronyl nitroxide isomeric series, magneto-structural correlations in, **145**, 427
- Molecular orbital calculations
KMPS₄ (M = Ni,Pd): flexibility of MPS₄⁻ chains, **147**, 235
- Molecular simulations
Zr(HPO₄)₂·2CH₃CH₂OH: host–guest interactions, **145**, 1
- Molten salt method
synthesis of Ba₂B'₂O₆ and Ba₃B'*₂O₉ perovskites, **148**, 492
- Molybdenum
Ba₂FeMoO₆ double perovskite, large intragrain magnetoresistance above room temperature, **144**, 224
BaMoO₄, crystal structure, neutron diffraction study, **146**, 266
Ba₃Mo₁₈O₂₈, polytypism and chemical intergrowth, HREM study, **142**, 89
Bi–Mo mixed oxides with structure based on [Bi₁₂O₁₄]_∞ columns, structural and electrical data, **142**, 294
Bi₂MoO₆ γ-phase catalyst, formation, *in situ* XRD/XAS and thermogravimetric studies, **148**, 178
Bi₂O₃–MoO₃, structural relationships with other bismuth-rich phases, **148**, 380
(C₂H₁₀N₂)[Mo₅O₁₆] and (C₄H₁₂N₂)[Mo₅O₁₆], hydrothermal synthesis and structure, **147**, 240
M^ICr(MoO₄)₂ (M^I = Li,Na,K,Cs), spectroscopic properties and magnetic phase transitions, **148**, 468
extra atoms in Chevrel phase host network, electrochemical and chemical behavior, **147**, 199
GaMo₄S₈ vacancy ordered spinels, electronic structure, *ab initio* calculations, **148**, 143
H₅GeW₉Mo₂VO₄₀·22H₂O, high proton-conductive silica gel containing, preparation and performance, **148**, 419
Hg–MoS₂, synthesis and characterization, **147**, 336
H_{0.13}V_{0.13}Mo_{0.87}O₃·0.26H₂O, and MoO₃, phase transitions between, X-ray, thermal analysis, and TEM study, **143**, 41
- KAl(MoO₄)₂, infrared activity, **145**, 751
K_{0.3}(H₂O)_yMoS₂, structural study, **144**, 430
K_xMoO₃ bronze, microwave preparation, **148**, 100
- K_{0.7}MoS₂, structural study, **144**, 430
KVMoO₆, crystal structure, **146**, 197
- La₄Mo₇Al₅₁, preparation and crystal structure, **143**, 198
- La₇Mo₇O₃₀, perovskite-related structure, *ab initio* determination from powder diffraction, **142**, 228
- Li_xMoO₃ bronze, microwave preparation, **148**, 100
- Li_{4-x}A_x⁺(MoO₃)(PO₄)₃P₂O₇ (A = Na,Ag,Cs,K), structure and magnetic and ionic transport properties, **144**, 297
- Mo₃[Mo₆Se_{8-x}S_x], high-temperature Chevrel phases, **145**, 159
- MoO₃, and H_{0.13}V_{0.13}Mo_{0.87}O₃·0.26H₂O, phase transitions between, X-ray, thermal analysis, and TEM study, **143**, 41
- MoO₄²⁻, doping of Na₂SO₄, effects on conductivity and phase transitions, **146**, 6
- MoO_{3-x}(OH)_x bronze, synthesis and characterization in aqueous solution, **147**, 269
- Mo(V) phosphate structures built up of isotypic Mo₁₂MP₈X₆₂ clusters, **145**, 291
- 1T-MoS₂, intercalation compounds derived from, electron diffraction study, **144**, 430
- MoZn_{20.44}, preparation and crystal structure, **143**, 95
- NaAl(MoO₄)₂, infrared activity, **145**, 751
- (NH₃CH₂CH₂NH₃)₄·(NH₃CH₂CH₂NH₂)·Na·[Ni₂Mo₁₂O₃₀(PO₄)₄(HPO₄)₄(H₂PO₄)₃]·6H₂O, hydrothermal synthesis and structure, **146**, 533
- Ni₂Mo₃N, crystal structure and property measurements, **146**, 22
- [TMA]₂[Fe(H₂O)₆]Mo₈O₂₆ and (TMA)₂FeMo₆O₂₀, hydrothermal synthesis and structures, **143**, 77
- Monetite
production by decomposition of amorphous calcium phosphate with atomic Ca/P ratio of 1.33 in wet atmosphere, **148**, 308
- Monophosphonates
inorganic and organic, reaction with zirconium viologen diphosphonate, **147**, 520
- Mössbauer spectroscopy
BaFe₂^{II}P₂O₇, **148**, 286
- Ba₂LnNbO₆ (Ln = lanthanoid elements) ordered perovskites, **148**, 353
- cation disorder in columbite–tantalite minerals, **143**, 219
- decomplexation of ferrocene sulfonates in layered double hydroxides, **144**, 143
- Eu₂Au₃In₄ and Sr₂Au₃In₄, **145**, 283
- EuIr₂, EuIrSn₂, and EuRhIn, **145**, 174
- [EuS]_{1.5}[NbS₂]: detection of mixed valence state for Eu, **147**, 58
- Eu valence in EuCu_{1.75}P₂, **144**, 252
- Fe(PO₃)₃ C-type compound, **148**, 455
- FeP₃SiO₁₁, **147**, 565
- β'-(Mg,Fe)Al(PO₄)O with Mg²⁺ and Fe²⁺ substitution in trigonal-bipyramidal-coordinated site, **142**, 51
- MIL-21 with partial cationic disorder, **148**, 150
- Na₃M₂(PO₄)₂F₃ (M = Al⁺, V³⁺, Cr³⁺, Fe³⁺, Ga³⁺), **148**, 260
- (Pb₂FeS₃)_{0.58}NbS₂ misfit layered compound, **142**, 461
- PbFe_xV_{6-x}O₁₁ at low temperature: site preference of Fe and V, **147**, 609
- SrFe₃(PO₄)₃, **147**, 390
- Sr_{2-x}La_xFeO_{4-δ} (0 ≤ x ≤ 0.5), **146**, 253
- SrSn_{1-y}Fe_xO_{3-y} system, **142**, 288
- YbAgSn and YbZnSn, **145**, 668
- Muon-spin-relaxation studies
La₂Co_xCu_{1-x}O_{4+δ}, **145**, 587
- Murrell–Mottram potentials
for modeling of solids, surfaces, and clusters, **145**, 517

N

Nanocrystals

- Bi₂VO_{5.5}, ferroelectric powders, mechanically activated synthesis, **142**, 41

- BN, synthesis and characterization, **148**, 325
 CdSe, solvothermal synthesis, **147**, 82
 CuO, preparation and characterization, **147**, 516
 Cu_7Te_4 , solvothermal synthesis at low temperature, **146**, 47
 FeAs, synthesis via reductive recombination pathway, **144**, 237
 jaipurite, hydrazine-assisted low-temperature hydrothermal preparation, **146**, 36
 nonstoichiometric IB-VIA tellurides, synthesis and phase transformation by hydrothermal-reduction process, **146**, 387
 SnO_2 , reactivity with H_2S , *in situ* coupled Raman and impedance measurements, **143**, 86
 Sn_4P_3 , solvothermal synthesis, **146**, 110
 TiO_2 , monodispersed ultrafine powders with rutile phase, homogeneous spontaneous precipitation, **146**, 230
 transition metal sulfides, preparation, **146**, 484
 ZrO_2 , tetragonal and cubic, prepared from yttrium-doped zirconium, **142**, 409
 Nano-sols
 mixed metal oxide, acidic and hydrophobic microporous clays pillared with, **144**, 45
 Nanotubes
 vanadium(IV)-oxide: crystal structure of $\text{Na}_2\text{V}_3\text{O}_7$, letter to editor, **147**, 676
 Nanowires
 $\text{CdS}_x\text{Se}_{1-x}$, solvothermal fabrication, **147**, 637
 Naphthyl nitronyl nitroxides
 molecular magnets, magneto-structural correlations in, **145**, 427
 Neodymium
 $\text{Ba}_3\text{Nd}(\text{BO}_3)_3$, synthesis, structure, and properties, **145**, 33
 BaNdCuTe_3 , synthesis and characterization, **147**, 366
 $\text{Ba}_2\text{Nd}\text{O}_6$ perovskites
 molten salt synthesis and thermodynamic stability, **148**, 492
 ordered, crystal structure and magnetic properties, **148**, 353
 $\text{Ba}_4\text{Nd}_2\text{Ti}_4\text{Ta}_6\text{O}_{30}$ and $\text{Ba}_5\text{NdTi}_3\text{Ta}_7\text{O}_{30}$ bronzes, synthesis and characterization, **148**, 438
 $\text{Bi}_{0.775}\text{Nd}_{0.225}\text{O}_{1.5}$ of Bi-Sr-O type, structural and conductivity properties, **142**, 349
 $\text{Bi}_{0.5}\text{Nd}_{1.5}\text{Ru}_2\text{O}_7$, temperature-dependent structural behavior, **144**, 467
 $\text{K}_2\text{Nd}(\text{NO}_3)_5 \cdot 2\text{H}_2\text{O}$ nonlinear optical materials, crystal growth, structure, and properties, **148**, 302
 $\text{K}_8\text{Nd}_3\text{Si}_{12}\text{O}_{32}(\text{OH})$, structure and conductivity, **148**, 406
 $\text{La}_{3-x}\text{Nd}_x\text{Ni}_3\text{O}_7$ and $\text{La}_{4-x}\text{Nd}_x\text{Ni}_4\text{O}_{10}$ reduction: identification of factors influencing Ni^+ stabilization, **148**, 499
 $\text{LiNd}_6\text{O}_5(\text{BO}_3)_3$, detection in ternary-phase diagrams $\text{Li}_2\text{O}-\text{Ln}_2\text{O}_3-\text{B}_2\text{O}_3$, **146**, 189
 Nd^{3+} ions in CsGd_2F_7 host, optical spectroscopy, **142**, 108
 NdAg_6In_6 intermetallics, structural, magnetic, and electrical properties, **145**, 216
 $\text{Nd}_2\text{Au}_3\text{In}_5$, complex 3-D $[\text{Au}_3\text{In}_5]$ polyanions in, **148**, 425
 $\text{NdBaCo}_2\text{O}_{5+\delta}$, ordered oxygen-deficient perovskites, structural and magnetic studies, **142**, 247
 $\text{NdBa}_2\text{Fe}_3\text{O}_{8+w}$ cubic perovskite, partial ordering of oxygen in, **144**, 398
 $\text{ANd}_{1\pm x}\text{Bi}_{4\pm x}\text{S}_8$ ($A = \text{K}, \text{Rb}$) semiconductors, synthesis and characterization, **143**, 151
 H-NdBO₃, synthesis and characterization, **148**, 229
 NdCaCrO₄, structural and magnetic characterization, **148**, 361
 $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{Mn}_{1-x}\text{Cr}_x\text{O}_3$, charge ordering process in, structural determination, **148**, 333
 $\text{Nd}_{1-x}\text{A}'_x\text{MnO}_3$ ($\text{A}' = \text{Sr}, \text{La}$) perovskites, energetics, **145**, 77
 $\text{Nd}_5\text{Ni}_6\text{In}_{11}$, structure and properties, **142**, 180
 Nd_2NiO_4 , reduction: identification of factors influencing Ni^+ stabilization, **148**, 499
 NdOs_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
 Nd_4PdO_7 , structure, thermodynamics, and magnetic properties, **146**, 428
 NdPdSi , preparation and crystal structure, **142**, 130
 NdPtGe , crystal structure and magnetic properties, **142**, 400
 $\text{Nd}_3\text{Re}_2\text{O}_9$ and $\text{Nd}_4\text{Re}_6\text{O}_{19}$, preparation, crystal structure, and properties, **147**, 218
 NdRe_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
 NdRu_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
 $\text{Nd}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$, charge-ordered perovskite, giant oxygen isotope effect in, **144**, 232
 $\text{Nd}_{0.67}\text{Sr}_{0.33}\text{MnO}_3$ doped with CaF_2 , crystallography and magnetoresistance, **148**, 236
 $\text{NdTe}_2\text{O}_5\text{Cl}$, crystal structure, **146**, 473
 NdZn_3P_3 , preparation, **146**, 478
 Neutron diffraction, *see also* Powder neutron diffraction
 C-Ce₂O_{3+δ}, Ce₇O₁₂, and Ce₁₁O₂₀, **147**, 485
 FeP₃SiO₁₁, **147**, 565
 GaAsO₄ piezoelectric compound, structure refinement between 15 and 1073 K, **146**, 114
 Nickel
 $\text{Ba}_2\text{NiRu}_2\text{O}_9$, crystal structure, comparison to $\text{Ba}_3\text{CuRu}_2\text{O}_9$, **146**, 65
 $\text{Bi}_4\text{V}_{2-x}\text{Ni}_x\text{O}_{11-1.5x}$ solid solution series, structural and physical properties, **143**, 9
 $\text{Ca}_3\text{NiMnO}_6$ crystallizing in K_4CdCl_6 structure, synthesis, structure, and magnetic properties, **145**, 302
 γ -[(CH₃)₂(C₂H₅)₂N][Ni(dmit)₂]₂, stable 2-D metallic state with stacking motif in spanning overlap, **145**, 564
 In₆Ti₆NiO₂₂, synthesis and crystal structures, **147**, 438
 KNiPS₄, flexibility of MPS₄⁻ chains in, molecular orbital calculations and atomic force microscopy measurements, **147**, 235
 LaGa_{1-x}Ni_xO_{3-δ} perovskites, oxygen ionic and electronic transport, **142**, 325
 La_{3-x}Nd_xNi₃O₇ and La_{4-x}Nd_xNi₄O₁₀ reduction: identification of factors influencing Ni⁺ stabilization, **148**, 499
 La(Ni_{1-z}Cu_z)_x, crystal structure, neutron and synchrotron anomalous powder diffraction studies, **146**, 313
 La₂NiRhO₆, structural and magnetic characterization, **146**, 163
 LaNi_{1-x}Ti_xO₃ ($0 \leq x \leq \frac{1}{2}$) perovskite, structural, electronic, and magnetic characterization, **148**, 479
 La_{2-x}Sr_xNiO₄, reduction: identification of factors influencing Ni⁺ stabilization, **148**, 499
 La_{2-x}Sr_xNiO_{4+δ} ($0.2 \leq x \leq 1.0$), structural evolution with oxidation state: octahedral distortion and phase separation, **145**, 401
 Li₂[NiF(PO₄)] with ordered mixed anionic framework, synthesis and crystal structure, **142**, 1
 NaNi₄(PO₄)₃, structure and magnetic behavior, **144**, 169
 Nd₅Ni₆In₁₁, structure and properties, **142**, 180
 (NH₃CH₂CH₂NH₃)₄·(NH₃CH₂CH₂NH₂)·Na·[Ni₂Mo₁₂O₃₀(PO₄)₄(HPO₄)₄(H₂PO₄)₃]·6H₂O, hydrothermal synthesis and structure, **146**, 533
 Ni⁺, stabilization in perovskite-related oxides, factors influencing, **148**, 499
 Ni_xAl_{1-x}Mn₂O₄, preparation for oxygen electrocatalysis in alkaline medium, **145**, 23
 Ni(C₂H₅O₂)₂, hydrothermal decomposition, formation of α, β -type hydroxides and second-stage intermediate in, **146**, 39
 Ni_{1-x}Co_xO₂ metastable oxides prepared by soft chemistry, *in situ* structural and electrochemical study, **147**, 410
 Ni_xCr_{3-x}S₄ ($x = \frac{1}{4}, \frac{1}{2}, \frac{3}{4}$), magnetic structure and spin reorientation, **143**, 163
 NiFe₂O₄
 granular composite with Bi-223 superconductor, preparation with sintering process, **145**, 317
 ultrafine powders, preparation using mixed Ni and Fe tartrates, **145**, 50

- Me⁺X-Ni²⁺X₂-H₂O* (*Me⁺* = K,NH₄,Rb,Cs; *X⁻* = Cl,Br) double salts, **143**, 16
- Ni-hydroaluminates, local structure, FTIR and Raman spectroscopic study, **146**, 506
- Ni₂Mo₃N, crystal structure and property measurements, **146**, 22
- NiO, mechanochemical reactions with imidazole: proton transfer in solid state, **147**, 561
- Ln₂NiO₄* (*Ln* = Nd,Gd), reduction: identification of factors influencing Ni⁺ stabilization, **148**, 499
- Ni(OH)₂, α and β types and second-stage intermediate, formation in hydrothermal decomposition of nickel acetate, **146**, 39
- Ni₂(OH)₃(C₁₂H₂₅SO₃)·H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
- Ni₂(OH)₃NO₃, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
- NiS nanocrystals, preparation, **146**, 484
- Ni₃S₄ spinel, synthesis at ambient temperature and electron ferrimagnetism, letter to editor, **147**, 679
- MNi₂b (M = Zr,Hf), and other isotropic antimonides, comparison, **144**, 330
- NiS_{2-x}Se_x system, correlation effects in, **147**, 68
- Ni₂Te₃O₈, with spiroffite structure, hydrothermal synthesis and characterization, **143**, 246
- σ -Ni_{0.25}V₂O₅·H₂O bronzes, crystal structures and lattice distortions, **144**, 181
- TiSr₂NiO_{4+δ}, structure, high-resolution neutron diffraction study, **144**, 62
- YNi(OH)₃(SO₄), synthesis and structure, **147**, 641
- Niobium
- Ba₂B'NbO₆ and Ba₃B'*Nb₂O₉ perovskites, molten salt synthesis and thermodynamic stability, **148**, 492
 - Ba₂*Ln*NbO₆ (*Ln* = lanthanoid elements) ordered perovskites, crystal structure and magnetic properties, **148**, 353
 - BaNbS_{3+δ}, quasi-one-dimensional, resistance anomaly in, **142**, 57
 - Bi₂O₃-Nb₂O₅, structural relationships with other bismuth-rich phases, **148**, 380
 - CaNb₂O₄, preparation and crystal structure, **147**, 671
 - CeNbO_{4+x} (*x* = 0.08,0.25,0.33), modulated structures, **143**, 122
 - [[(EuS)_{1.5}]_{1.15}NbS₂, mixed valence state of Eu in, **147**, 58
 - La_{1/3-x}Li_{3x}NbO₃ (0 ≤ *x* ≤ 0.06) perovskite-related materials, modulated structure, **148**, 93
 - Li₂La_x(Nb_{2n-3x}Ti_{3x-n})O_{3n+1} (*n* = 2,3,4), Ruddlesden-Popper phases, electron-induced structural changes during HREM, **145**, 136
 - Li₂Sr_{1.5}(Nb_{3-x}Fe_x)O_{10-x}, Ruddlesden-Popper phases, electron-induced structural changes during HREM, **145**, 136
 - Li₃Ta_{1-x}Nb_xO₄ prepared by flux synthesis, ultraviolet and X-ray luminescence and phosphor characterization, **145**, 110
 - Na₃NbO(AsO₄)₂, synthesis and crystal structure, **144**, 53
 - NbC and niobium carbonitride, preparation and characterization, **142**, 100
 - Nb₁₂O₂₉, oxidation to Nb₂₂O₅₄ in controlled environment high-resolution microscope, **146**, 202
 - Nb₂O₅/V₂O₅ doped spinel ferrites, mechanical properties, **148**, 376
 - Nb₃S₄, charge density wave transitions induced by In intercalation, **144**, 454
 - Nb₃Se₄, charge density wave transitions induced by In intercalation, **144**, 454
 - Nb₃SiTe₆, scanning-tunneling microscopy, X-ray photoelectron spectroscopy, and inner-shell-electron energy-loss spectroscopy, **142**, 63
 - NbTe₂, scanning-tunneling microscopy, X-ray photoelectron spectroscopy, and inner-shell-electron energy-loss spectroscopy, **142**, 63
 - (Nb,W)₁₂O₃₂, generation by *in situ* reaction in gas reaction cell microscope and characterization, **143**, 33
 - NbZn₃ and NbZn₁₆, preparation and crystal structure, **143**, 95
- (Pb₂FeS₃)_{0.58}NbS₂ misfit layered compound, structure and physical properties, **142**, 461
- Pb(Mg_{1/3}Nb_{2/3})O₃, synthesis and decomposition, pyrochlore-type compound formed by, Raman spectroscopy, **142**, 344
- RbCa₂Na_{1-x}Sr_xNb₄O₁₃ (*x* = 0.2,0.4) with perovskite-like layers, synthesis, structure, and semiconducting properties, **148**, 508
- SrNbO₃, GdFeO₃-type, transmission electron microscopy and neutron powder diffraction, **147**, 421
- Nitrogen
- Al(OH)_x(NO₃)_{3-x}, aqueous solutions, polymerization of tetraethylorthosilicate in, **147**, 304
 - Al₉(PO₄)₁₂(C₂₄H₉₁N₁₆)·17H₂O open framework with 12-membered ring channels, **145**, 220
 - Ba₈(BN₂)₅F, synthesis and crystal structure, **142**, 192
 - Ba_xPb_{1-x}(NO₃)₂, Vegard's rule in, reevaluation by NMR and XRD, **145**, 327
- BN
- hexagonal, intercalation by strong oxidizers and metallic nature of products, **147**, 74
 - nanocrystalline, synthesis and characterization, **148**, 325
- Ce(NO₃)₃·6H₂O, AC conductivity dependence on temperature and frequency, **144**, 354
- (C₆H₅C₂H₄NH₃)₂PbCl₄, layered solution crystal growth method and crystal structure, **145**, 694
- γ -[(CH₃)₂(C₂H₅)₂N][Ni(dmit)₂]₂, stable 2-D metallic state with stacking motif in spanning overlap, **145**, 564
- [C₉H₂₀N][Al₂(HPO₄)₂(PO₄)] with layer topology, synthesis and characterization, **145**, 731
- [C₆H₂₁N₄][Al₃P₄O₁₆], synthesis and structure, **146**, 458
- (C₂H₁₀N₂)[Mo₅O₁₆] and (C₄H₁₂N₂)[Mo₅O₁₆], hydrothermal synthesis and structure, **147**, 240
- [C₂N₂H₁₀]²⁺[Fe(HPO₄)₂(OH)]²⁻·H₂O, hydrothermal synthesis and crystal structure, **142**, 455
- CN₃H₆·VO(H₂O)(HPO₄)(H₂PO₄)·H₂O, synthesis, structure, and magnetism, **142**, 168
- (CN₃H₆)₂·Zn₄H₅(PO₄)₅ built up from 3-, 4-, and 8-ring units, synthesis and crystal structure, **148**, 433
- [Cu(dicyanamide)₂(pyrazine)]_n, synthesis, structural isomerism, and magnetism, **145**, 387
- Cu₂(OH)₃NO₃, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
- doping of γ -Li₃PO₄, effect on ionic conductivity, **145**, 619
- κ -ET₂Cu[N(CN)₂]Br and κ -ET₂Cu(SCN)₂ organic conductors, electronic structure, soft X-ray absorption and emission studies, **143**, 1
- [Et₃NH]₂[Mn(CH₃CN)₄(H₂O)₂][Mn₁₀O₄(2,2'-biphenoxide)₄Br₁₂]_n, slow magnetic relaxation at very low temperature, **145**, 484
- europerium aluminum oxynitrides, magnetoplumbite or β -alumina-type structures, **142**, 48
- A[Fe(CN)₅NO]·4H₂O, oxidative thermal decomposition for synthesis of AFeO_{2.5+x} (0 ≤ *x* ≤ 0.5; A = Sr,Ca), **142**, 138
- [Fe^{III}₅-V^{IV}_x(H₂PO₄)₄(HPO₄)₄F₄(H₂O)₂·4(H_{2+y}N-(CH₂)₂-NH_{2+y})], hydrothermal synthesis, structure, and magnetic characterization, **148**, 150
- H₃N(CH₂)₃NH₃·Zn₂(HPO₄)₃, synthesis and structure, **147**, 584
- K₃La₂(NO₃)₉, crystal structure and thermal decomposition, **144**, 68
- K₂La(NO₃)₅·2H₂O, thermal decomposition, **144**, 68
- KNO₃, phase transitions in, study by variable-temperature ¹⁵N MAS NMR, **145**, 10
- K₂*Ln*(NO₃)₅·2H₂O (*Ln* = La,Ce,Pr,Nd,Sm) nonlinear optical materials, crystal growth, structure, and properties, **148**, 302
- La(OH)₂NO₃·H₂O, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
- LaONO₃· $\frac{1}{3}$ KNO₃, structural characterization, **144**, 68
- LaONO₃-KNO₃ system, phase equilibria, **144**, 68

- Mg(NH₃)₂X₂ ($X = \text{Cl}, \text{Br}, \text{I}$), preparation and crystal structures, **147**, 229
 Na₃ONO₂, neutron diffraction study of low-temperature phases, **145**, 267
 N_xC₃Al_{4+x} ($x = 0\text{--}4$) close-packed layer compounds, structure maps, **145**, 150
 [N₂C₃H₁₂]Al₂(PO₄)(OH_xF_{5-x}) ($x \approx 2$), synthesis and *ab initio* structure determination, **147**, 92
 [N₂C₄H₁₂]_{0.5}[Fe₂(HPO₄)(C₂O₄)_{1.5}], hydrothermal synthesis, structure, and magnetic susceptibility, letter to editor, **146**, 538
 (N₂C₆H₁₄)·Zn₃(HPO₄)₄, synthesis and structure, **147**, 584
 (N₂C₆H₁₄)·Zn(HPO₄)₂·H₂O, synthesis and structure, **147**, 584
 [NH₃CH₂CH₂NH₃]_{2.5}[Al₄H(HPO₄)₄(H₂PO₄)₂(C₂O₄)₄], synthesis and structure, **143**, 74
 [NH₃CH₂CH(NH₃)CH₃]_{0.5}[Sn₄P₃O₁₂]·H₂O with one-dimensional channels, synthesis and structure, **148**, 50
 (NH₃CH₂CH₂NH₃)₄·(NH₃CH₂CH₂NH₂)·Na·[Ni₂Mo₁₂O₃₀(PO₄)₄(H₂PO₄)₃]·6H₂O, hydrothermal synthesis and structure, **146**, 533
 NH₃CH₂CH(OH)CH₂NH₃·Zn₂(HPO₄)₃, synthesis and structure, **147**, 154
 [NH₃(CH₂)₄NH₃][Ga₄(HPO₄)(PO₄)₄], synthesis and characterization, **142**, 236
 [NH₃(CH₂)₄NH₃]₂[Ga₄(HPO₄)₂(PO₄)₃(OH)₃]·yH₂O ($y \sim 5.4$), and vanadium–gallium phosphate analogue, synthesis and characterization, **145**, 379
 [NH₃(CH₂)₆NH₃]₁₀[V₁₅O₃₇(Cl)]₂[V₁₅O₃₆(Cl)](OH)₃(H₂O)₃ bronze with clusters textured by diaminohexane, characterization, **147**, 552
 NH₃(CH₂)₂NH₃·Zn(HPO₄)₂, synthesis and structure, **147**, 154
 NH₃(CH₂)₆NH₃·Zn₃(HPO₄)₄H₂O, synthesis and structure, **147**, 154
 NH₃(CH₂)₂NH₃·Zn₂(HPO₄)₂(H₂PO₄)₂, synthesis and structure, **147**, 154
 Ni₂Mo₃N, crystal structure and property measurements, **146**, 22
 niobium carbonitride, preparation and characterization, **142**, 100
 Ni₂(OH)₃NO₃, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
 Sr₂BN₂I with isolated BN₂⁻ units, synthesis and crystal structure, **142**, 187
 Sr₂TaO₃N, crystal structure determination, **146**, 390
 Y-Zr-O-N materials, electrical conductivity, **142**, 163
 [Zn(en)₂]₆[(VO)₁₂O₆B₁₈O₃₉(OH)₃]·13H₂O, hydrothermal synthesis and X-ray single crystal structure, **148**, 450
 Zn₅(OH)₈(NO₃)₂·2H₂O, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
 Zr₂ON₂, structure, neutron powder diffraction study: absence of nitride–oxide ordering, **146**, 399
 Nonadiabatic hopping conduction
 Sr_{1+x}La_{1-x}FeO₄ ($0 \leq x \leq 0.20$) below 300 K, **145**, 58
 Nonlinear optical coefficients
 second-order, calculation for KTiOPO₄ and KTiOAsO₄, **142**, 156
 Nonlinear optical materials
 inorganic, for second harmonic generation, search for, **148**, 75
 K₂Ln(NO₃)₅·2H₂O ($Ln = \text{La,Ce,Pr,Nd,Sm}$), crystal growth, structure, and properties, **148**, 302
 Nuclear magnetic resonance
²⁷Al, Bi₂Al₄O₉: structure and oxide ion conductivity mechanism, **147**, 631
¹¹B high-resolution MAS, Li₂O–PbO–B₂O₃ glasses: structural role of PbO, **145**, 65
¹³C, *p*-iodotoluene: structural disorder, **143**, 285
¹H MAS, magnesium oxides, **144**, 25
¹⁵N variable-temperature MAS, phase transitions in KNO₃, **145**, 10
²⁰⁷Pb, reevaluation of Vegard's rule in Ba_xPb_{1-x}(NO₃)₂, **145**, 327
 solid-state connectivity studies in dipolar inorganic networks, **147**, 341
¹²⁵Te, A²⁺M⁴⁺Te⁶⁺O₆ and A₂¹⁺M⁴⁺Te⁶⁺O₆: structure and order-disorder phenomena, **147**, 99
⁵¹V, V₂O₅·nH₂O gel synthesis from peroxovanadic acid solutions, **148**, 16
 Nuclear structure
(Ba_{2-3x}Bi_{3x-1})(Fe_{2x}Bi_{1-2x})O_{2+3/2x} ($0.43 \leq x \leq 0.50$) perovskites, **147**, 450
 Nucleation
icosahedral boron suboxide clusters at high pressure, **147**, 281
 NZP-type phosphates
with network structure, synthesis, **145**, 227
 O
 Obituary
Jean Rouxel, **147**, 1
 Optical coefficients
nonlinear, second-order, calculation for KTiOPO₄ and KTiOAsO₄, **142**, 156
 Optical nonlinearity
Tl(IV) oxide glasses, **146**, 329
 Optical properties
Co_{0.5}Ti₂(PO₄)₃ with NASICON structure, **143**, 224, 230
Cs₂Cu₂Sb₂Se₅ synthesized from superheated organic media, **147**, 132
γ-Gd₂S₃ at high pressures, **148**, 370
K₂Ln(NO₃)₅·2H₂O ($Ln = \text{La,Ce,Pr,Nd,Sm}$), nonlinear properties, **148**, 302
MgIn_{2-x}Ga_xO₄ solid solutions, **142**, 206
Na₂Gd₂(BO₃)₂O:Eu³⁺, **144**, 35
RbCu_{1.2}Ag_{3.8}Se₃ synthesized from superheated organic media, **147**, 132
Sr₂B₂O₅, linear optics, **144**, 30
Optical spectroscopy
dehydration and rehydration of microporous rare-earth dicarboxylates, **145**, 580
La_{2-x}Sr_xLi_{1/2}Co_{1/2}O₄ ($x < 0.5$), **146**, 79
Order-disorder phenomena
A²⁺M⁴⁺Te⁶⁺O₆ and A₂¹⁺M⁴⁺Te⁶⁺O₆, **147**, 99
Ordering, *see also* Charge ordering
anions in fluorinated La₂CuO₄, **142**, 440
Bi³⁺ and Sr²⁺ in Bi_{1-x}Sr_{3-x}CoCO_{6+δ} 2201-type cobaltite, **148**, 108
bidimensional cationic, in β-Pb_xV₂O₅ bronzes, **145**, 186
Ce^{III}/Ce^{IV} and interstitial oxygens in CeTa_{4+x} ($x \approx 0.17$) superstructure, **144**, 240
Ce⁴⁺ and Zr⁴⁺ ions in CeZrO₄ prepared by reduction and successive oxidation of t'-(Ce_{0.5}Zr_{0.5})O₂ phase, **147**, 573
nitride–oxide, absence in Zr₂ON₂, **146**, 399
oxygen, partial ordering in cubic perovskite REBa₂Fe₃O_{8+w} ($RE = \text{Gd,Eu,Sm,Nd}$), **144**, 398
oxygen vacancies
in C-Ce₂O_{3+δ}, Ce₇O₁₂, and Ce₁₁O₂₀, **147**, 485
in La_{0.5}Ca_{0.5}MnO_{3-δ} ($0 \leq \delta \leq 0.5$), **148**, 158
three-dimensional
long-range, in layered metal–hydroxide triangular lattices 25 Å apart, **145**, 452
Sb³⁺ 5s² lone pair, eightfold superstructure of K₂Gd₂Sb₂Se₉ and K₂La₂Sb₂Se₉ caused by, **147**, 309
Organic conductors
κ-ET₂Cu[N(CN)₂]Br and κ-ET₂Cu(SCN)₂, electronic structure, soft X-ray absorption and emission studies, **143**, 1
Orthogonal projection
periodic structures by, **147**, 429
Osmium
CeOs₄P₁₂ with skutterudite structure, electrical and magnetic properties, **142**, 146
AO₂SiC ($A = \text{Y,La-Nd,Sm,Gd-Tm,Th,U}$), with DyFe₂SiC-type structure, characterization, **142**, 279

Oxidation state

$\text{La}_{2-x}\text{Sr}_x\text{NiO}_{4+\delta}$ ($0.2 \leq x \leq 1.0$), effect on structure, 145, 401

Oxidative thermal decomposition

$A[\text{Fe}(\text{CN})_5\text{NO}] \cdot 4\text{H}_2\text{O}$, synthesis of $A\text{FeO}_{2.5+x}$ ($0 \leq x \leq 0.5$; $A = \text{Sr,Ca}$) by, 142, 138

Oxide anion conductors

Bi–Mo mixed oxides with structure based on $[\text{Bi}_{12}\text{O}_{14}]_\infty$ columns, structural and electrical data, 142, 294

Oxygen

giant isotope effect in charge-ordered manganese perovskites, 144, 232
intercalation into $\text{Ce}_2\text{Zr}_2\text{O}_7$ to produce pyrochlore with fluorite composition, 148, 56

intercalation into $\text{La}_2\text{CuO}_{4+\delta}$, electrochemical study, 144, 8
in $\text{La}_{0.74}\text{Ca}_{0.26}\text{MnO}_{3+d}$, effective content as function of synthesis conditions, 144, 461

in $\text{La}_{1-x}\text{Ca}_x\text{MnO}_{3+d}$, content as function of synthesis conditions, 146, 448

ordering in CeTa_{4+x} ($x \approx 0.17$) superstructure, 144, 240

partial ordering in cubic perovskite $RE\text{Ba}_2\text{Fe}_3\text{O}_{8+w}$ ($RE = \text{Gd,Eu, Sm,Nd}$), 144, 398

partial pressure, effect on $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$ metal–insulator transition and crystal structure, 142, 374

vacancies in $\text{La}_{0.5}\text{Ca}_{0.5}\text{MnO}_{3-\delta}$ ($0 \leq \delta \leq 0.5$), ordering of, 148, 158

vacancy ordering in $\text{C-Ce}_2\text{O}_{3+\delta}$, Ce_7O_{12} , and $\text{Ce}_{11}\text{O}_{20}$, 147, 485

Oxygen electrocatalysis

in alkaline medium, $\text{Ni}_x\text{Al}_{1-x}\text{Mn}_2\text{O}_4$ preparation for, 145, 23

Oxygen electrolytes

$\text{La}_{0.8}\text{Sr}_{0.2}\text{Ga}_{0.85}\text{Mg}_{0.15}\text{O}_{2.825}$, structural study, 143, 202

Oxygen permeability

$\text{LaGa}_{1-x}\text{Ni}_x\text{O}_{3-\delta}$ perovskites, 142, 325

Oxynitrides

europium aluminum oxynitrides, magnetoplumbite or β -alumina-type structures, 142, 48

Y-Zr-O-N materials, electrical conductivity, 142, 163

P

Pair-potentials study

SrTiO_3 point defect energies, 144, 423

Palladium

α -GdPdSi, preparation and crystal structure, 142, 130

KPdPS₄, flexibility of MPS₄⁻ chains in, molecular orbital calculations and atomic force microscopy measurements, 147, 235

mediation of hydrosilylation of alkynes and alkenes on porous Si surfaces, 147, 251

NdPdSi, preparation and crystal structure, 142, 130

$A_2\text{PdF}_6$ and $AA'\text{PdF}_6$ ($A^{2+} = \text{Ba}^{2+}, \text{Sr}^{2+}, \text{Pb}^{2+}$), crystal structure, 148, 242

Ln_4PdO_7 ($Ln = \text{La,Nd,Sm,Eu,Gd}$), structure, thermodynamics, and magnetic properties, 146, 428

RPd₃S₄ ($R = \text{Ce,Gd}$), magnetic properties, 146, 226

SmPdSi, preparation and crystal structure, 142, 130

α -TbPdSi, preparation and crystal structure, 142, 130

Peierls distortions

group 15 elements, 147, 26

Perovskites

2H-related, ordered intergrowth with $\text{Ca}_3\text{Co}_2\text{O}_6$ structures, 145, 116

$(\text{Ba}_{2-3x}\text{Bi}_{3x-1})(\text{Fe}_{2x}\text{Bi}_{1-2x})\text{O}_{2+3/2x}$
incommensurate nuclear and magnetic structure for $0.43 \leq x \leq 0.50$, 147, 450

synthesis, average structure, and magnetic properties, 147, 45

BaBiO_3 , thermal stability, 146, 439

$\text{BaCe}_x\text{Zr}_{1-x}\text{O}_3$ ($0 \leq x \leq 1$), Raman spectroscopy, 142, 220

BaCoO_3 , electronic structure, 146, 411

$\text{LnBaCo}_2\text{O}_{5+\delta}$ ($Ln = \text{Pr,Nd,Sm,Eu,Gd,Tb,Dy,Ho}$), deficient in oxygen, structural and magnetic studies, 142, 247

$\text{Ba}_2\text{FeMoO}_6$ double perovskite, large intragrain magnetoresistance above room temperature, 144, 224

$RE\text{Ba}_2\text{Fe}_3\text{O}_{8+w}$ ($RE = \text{Gd,Eu,Sm,Nd}$), partial ordering of oxygen in, 144, 398

$\text{Ba}_2\text{LnIrO}_6$ ($Ln = \text{Sm,Eu,Gd,Yb}$), magnetic properties, 147, 618

$\text{Ba}_{1-x}\text{La}_x\text{PrO}_3$ ($x \leq 0.075$), magnetic properties, 145, 104

$(\text{Ba},\text{La})_n\text{Ti}_{n-\delta}\text{O}_{3n}$ ($n \geq 40$) microphases in $\text{La}_4\text{Ti}_3\text{O}_{12}-\text{BaTiO}_3$ system, HRTEM study, 145, 678

$\text{Ba}_2\text{LnNbO}_6$ ($Ln = \text{lanthanoid elements}$), crystal structure and magnetic properties, 148, 353

$\text{Ba}_2\text{B}'\text{O}_6$ and $\text{Ba}_3\text{B}'\text{B}_2''\text{O}_9$, molten salt synthesis and thermodynamic stability, 148, 492

$(\text{Ba},\text{Sr})\text{Co}_{1-x}\text{O}_y$ hexagonal perovskite-related oxides, cation deficiency in, 142, 419

BiMnO_3 high-temperature XRD and DTA studies, 142, 113

structure determination, 145, 639

$\text{Ca}_2\text{AlTaO}_6$, crystal structure, 143, 62

$\text{CaCu}_3\text{Mn}_4\text{O}_{12}$ -based oxides, giant magnetoresistance, 147, 185

$(\text{C}_6\text{H}_5\text{C}_2\text{H}_4\text{NH}_3)_2\text{PbCl}_4$, layered solution crystal growth method and crystal structure, 145, 694

$A_2\text{CuB}'\text{O}_6$ ($A = \text{Ba,Sr}; B' = \text{W,Te}$) B-site-ordered perovskite-type oxides, crystal structure and magnetic properties, 147, 291

$\text{Eu}_2\text{CaBa}_2\text{Cu}_2\text{Ti}_3\text{O}_{14}$, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, 148, 3

$(\text{K}_{0.87}\text{Bi}_{0.13})\text{BiO}_3$ superconductor, crystal structure, 144, 205

$\text{LaCo}_{1-x}\text{Cu}_x\text{O}_3$

redox properties and methane catalytic combustion, 146, 176

solid solutions with large surface area, structural, magnetic, and morphological properties, 146, 291

$\text{LaGa}_{1-x}\text{Ni}_x\text{O}_{3-\delta}$, oxygen ionic and electronic transport, 142, 325

$\text{La}_{1/3-x}\text{Li}_{3x}\text{NbO}_3$ ($0 \leq x \leq 0.06$), modulated structure, 148, 93

$\text{LaMn}_{1-x}\text{Cu}_x\text{O}_3$

redox properties and methane catalytic combustion, 146, 176

solid solutions with large surface area, structural, magnetic, and morphological properties, 146, 291

LaMnO_3 substituted with Na, synthesis and properties, 146, 88

$\text{LaMnO}_{3\pm\delta}$, discontinuous evolution of highly distorted orthorhombic structure and magnetic order, 146, 418

$\text{La}_7\text{Mo}_7\text{O}_{30}$, perovskite-related structure, *ab initio* determination from powder diffraction, 142, 228

$\text{La}_2\text{NiRhO}_6$, structural and magnetic characterization, 146, 163

$\text{LaNi}_{1-x}\text{Ti}_x\text{O}_3$ ($0 \leq x \leq \frac{1}{2}$), structural, electronic, and magnetic characterization, 148, 479

$\text{La}_{0.7}\text{Sr}_{0.3}\text{Co}_{1-z}\text{Mn}_z\text{O}_{3\pm y}$ ($0 \leq z \leq 1$), crystal structure, 143, 52

$\text{La}_{1-x}\text{Sr}_x\text{Cr}_{1-x}\text{Ti}_x\text{O}_3$, structural characterization, 144, 81

$\text{La}_{0.8}\text{Sr}_{0.2}\text{Ga}_{0.85}\text{Mg}_{0.15}\text{O}_{2.825}$, structural study, 143, 202

$\text{La}_{1-x}\text{Sr}_x\text{MnO}_y$ ($0.5 \leq x \leq 1.0$), synthesis and magnetic properties, 146, 1

$(\text{La},\text{Sr})\text{MnO}_3$, prepared by fused salt electrolysis, electrical and magnetic properties, 145, 88

$\text{La}_2\text{TiAlO}_{6.5-x}$, synthesis and structure, 146, 437

$\text{LaYC}_2\text{Ba}_2\text{Cu}_{2+x}\text{Ti}_{3-x}\text{O}_{14-y}$, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, 148, 3

manganese perovskites, charge-ordered, giant oxygen isotope effect in, 144, 232

$A_{1-x}\text{A}'_x\text{MnO}_3$ ($A = \text{La,Nd,Y}; A' = \text{Sr,La}$), energetics, 145, 77

$\text{Ln}_{0.7}\text{M}_{0.3}\text{MnO}_3$ high-tolerance factor perovskites, cation size variance effects in, 148, 20

oxides related to, Ni⁺ stabilization in, factors influencing, 148, 499

$\text{PrLu}_{1-y}\text{Mg}_y\text{O}_3$ ($y \leq 0.075$), magnetic properties, 145, 104

proton-containing, ionic and electronic defect concentrations in, calculation, 143, 115

- $\text{Pr}_{1-x}\text{Sr}_x\text{CoO}_{3-\delta}$, structure and magnetism, **147**, 464
 $\text{RbCa}_2\text{Na}_{1-x}\text{Sr}_x\text{Nb}_4\text{O}_{13}$ ($x = 0.2, 0.4$) with perovskite-like layers, synthesis, structure, and semiconducting properties, **148**, 508
 $\text{Sr}_2\text{FeIrO}_6$, structural chemistry and electronic properties, **145**, 541
 $\text{Sr}_2\text{LnIrO}_6$ ($\text{Ln} = \text{Ce}, \text{Tb}$), structure and magnetic properties, **145**, 356
 SrNbO_3 , GdFeO_3 -type, transmission electron microscopy and neutron powder diffraction, **147**, 421
 $\text{Sr}_4\text{Ru}_{3.05}\text{O}_{12}$, synthesis and crystal structure, **144**, 125
 $\text{SrSn}_{1-x}\text{Fe}_x\text{O}_{3-y}$, nonstoichiometry and physical properties, **142**, 288
tetragonal $\text{Pb}(\text{Zr}_x\text{Ti}_{1-x})\text{O}_3$, tricritical behavior, calorimetric study, **144**, 188
 YAlO_3 , orthorhombic, zone center phonons of, **146**, 287
Peroxovanadic acid
aqueous solutions, synthesis of $\text{V}_2\text{O}_5 \cdot n\text{H}_2\text{O}$ gels from, ^{51}V NMR study, **148**, 16
Perrierite
 $\text{La}_4\text{Mn}_3\text{Ge}_{5.2}\text{Si}_{0.8}\text{O}_{22}$, synthesis and structural characterization, **147**, 247
pH
effect on ZrO_2 formed from Zr(IV) acetate solution, X-ray powder diffraction and Raman spectroscopic study, **145**, 394
Phase diagram
 $\text{BaCe}_x\text{Zr}_{1-x}\text{O}_3$ ($0 \leq x \leq 1$) with perovskite-type structure, **142**, 220
 $\text{CaO}-\text{Al}_2\text{O}_3-\text{Ta}_2\text{O}_5$, **143**, 62
Phase relations
 AgVO_3 , **142**, 360
 $\text{Bi}_5\text{Pb}_3\text{O}_{10.5}$ polymorphs, **144**, 195
 $\text{H}_2\text{O}-\text{Na}_2\text{SO}_4-\text{Na}_2\text{HPO}_4$, liquid-solid equilibria, **144**, 247
 $\text{In}_2\text{O}_3-\text{TiO}_2-\text{Fe}_2\text{O}_3$ system at 1100°C in air, **144**, 91
 $\text{LaONO}_3-\text{KNO}_3$ system, **144**, 68
 PrS_2 , **146**, 211
subsolidus, in Sc-B-C system at 1700 °C, **148**, 250
 $\text{ZrO}_2-\text{Y}_2\text{O}_3-\text{TiO}_2$ at 1500°C, **143**, 273
Phase stability
 $A_{1-x}A'\text{MnO}_3$ ($A = \text{La}, \text{Nd}, \text{Y}; A' = \text{Sr}, \text{La}$) perovskites, **145**, 77
Phase transitions
adipic acid, **148**, 129
 $\text{Ba}_3\text{Ln}(\text{BO}_3)_3$ ($\text{Ln} = \text{La-Lu}, \text{Y}$), **145**, 33
 BiMnO_3 perovskite, **142**, 113
 $\text{Bi}_8\text{Pb}_5\text{O}_{17}$ fast ion conducting phases, **144**, 255
bis-dihexadecyldimethylammonium dichromate, **145**, 655
 $\text{Co}_{1-x}\text{O}/\text{ZrO}_2$ composites, interdiffusion-induced changes, **145**, 739
 CuFe_2O_4 , effect of polymer matrix, **144**, 159
 Cu_8GeSe_6 , superspace-group approach to, **146**, 355
graphite-to-diamond, 3D carbon structures as progressive intermediates in, **148**, 278
between $\text{H}_{0.13}\text{V}_{0.13}\text{Mo}_{0.87}\text{O}_3 \cdot 0.26\text{H}_2\text{O}$ and MoO_3 , X-ray, thermal analysis, and TEM study, **143**, 41
 $\text{KAIO}_2-\text{KAlSiO}_4$ system: cristobalite-related phases, **147**, 624
 KNO_3 , study by variable-temperature ^{15}N MAS NMR, **145**, 10
 $\text{LaHo}_{0.75}\text{Sr}_{0.25}\text{CuO}_{3.9-x}\text{F}_y$, in T^* phase, **147**, 647
 LiKSO_4 , thermal analysis and X-ray diffraction study, **148**, 316
 $\text{Li}_3\text{Ta}_{1-x}\text{Nb}_x\text{O}_4$ prepared by flux synthesis, **145**, 110
 LiV_2O_5
 $\delta \leftrightarrow \epsilon$ phase transition, atomic modeling and simulation of XRD powder pattern evolution, **146**, 129
 $\delta \rightarrow \epsilon \rightarrow \gamma$ high-temperature phase transitions, synchrotron X-ray powder diffraction analysis, **146**, 103
magnetic, $M^1\text{Cr}(\text{MoO}_4)_2$ and $M^1\text{Cr}(\text{WO}_4)_2$ ($M^1 = \text{Li}, \text{Na}, \text{K}, \text{Cs}$), **148**, 468
 $\text{Na}_2\text{CsC}_{60}$ superconducting fulleride, **145**, 471
 Na_3ONO_2 , low-temperature phases, **145**, 267
 $\text{Na}_3\text{M}_2(\text{PO}_4)_2\text{F}_3$ ($M = \text{Al}^+, \text{V}^{3+}, \text{Cr}^{3+}, \text{Fe}^{3+}, \text{Ga}^{3+}$), **148**, 260
 Na_2SO_4
effects of homovalent anion doping, **146**, 6
Yb(III)-doped phase I, **145**, 309
nonstoichiometric IB-VIA nanocrystals by hydrothermal-reduction process, **146**, 387
 $\text{Pb}(\text{Zr}_x\text{Ti}_{1-x})\text{O}_3$: calorimetric study of tricritical behavior, **144**, 188
solids, empirical potentials for analysis of, **145**, 517
(B) $\text{VO}_2 \rightarrow$ (A) VO_2 , by crystallographic slip, **148**, 224
 WO_3 powders at low temperature, dependence on mechanical treatments, **143**, 24
 YFe_2D_x compounds ($x = 1.3, 1.75, 1.9, 2.6$), neutron diffraction study, **142**, 120
Phonons
zone center phonons of orthorhombic perovskite YAlO_3 , **146**, 287
Phosphors
X-ray, $\text{Li}_3\text{Ta}_{1-x}\text{Nb}_x\text{O}_4$ prepared by flux synthesis, characterization, **145**, 110
 $\text{Y}_2\text{SiO}_5:\text{Ce}$ particles 0.5–1.4 μm in size with spherical morphology, **146**, 168
(Y, Tb)₃ Al_5O_{12} garnets, nanoparticle preparation and characterization, **144**, 437
Phosphorus
 $\text{AgM}(\text{PO}_3)_3$ ($M = \text{Mg}, \text{Zn}, \text{Ba}$), crystal structure and luminescence properties of Ag in, **145**, 97
 $\text{Al}_9(\text{PO}_4)_{12}(\text{C}_{24}\text{H}_{91}\text{N}_{16}) \cdot 17\text{H}_2\text{O}$ open framework with 12-membered ring channels, **145**, 220
amorphous calcium phosphate with atomic Ca/P ratio of 1.33, behavior in wet atmosphere, **148**, 308
 $\text{BaCu}_2(\text{PO}_4)_2 \cdot \text{H}_2\text{O}$ and $\text{Ba}_2\text{Cu}(\text{PO}_4)_2 \cdot \text{H}_2\text{O}$, crystal structure and topology, **142**, 6
 $\text{BaFe}_2^{\text{II}}\text{P}_2\text{O}_7\text{F}_2$, hydrothermal synthesis and structural and magnetic studies, **148**, 286
 $\text{Be}_3(\text{PO}_4)_2 \cdot 2\text{H}_2\text{O}$, synthesis and structure, **146**, 394
 BiCoPO_5 , crystal structure and physical properties, **148**, 295
 BPO_4 doped with Li, defect structure, **142**, 74
 $\text{R}_3\text{Br}_3\text{P}$ ($R = \text{La}, \text{Pr}$), syntheses and lattice dimensions, **144**, 175
 $\text{Ca}_{10-x}(\text{HPO}_4)_x(\text{PO}_4)_{6-x}(\text{OH})_{2-x}$, thermal stability, preparative enhancement, **142**, 319
calcium copper phosphates, preparation, structure, and redox characteristics, **145**, 345
 $\text{CeOs}_4\text{P}_{12}$ with skutterudite structure, electrical and magnetic properties, **142**, 146
 $[\text{C}_9\text{H}_{20}\text{N}][\text{Al}_2(\text{HPO}_4)_2(\text{PO}_4)]$ with layer topology, synthesis and characterization, **145**, 731
 $[\text{C}_6\text{H}_{21}\text{N}_4][\text{Al}_3\text{P}_4\text{O}_{16}]$, synthesis and structure, **146**, 458
 $[\text{C}_2\text{N}_2\text{H}_{10}]^{2+}[\text{Fe}(\text{HPO}_4)_2(\text{OH})]^{2-} \cdot \text{H}_2\text{O}$, hydrothermal synthesis and crystal structure, **142**, 455
 $\text{CN}_3\text{H}_6 \cdot \text{VO}(\text{H}_2\text{O})(\text{HPO}_4)(\text{H}_2\text{PO}_4) \cdot \text{H}_2\text{O}$, synthesis, structure, and magnetism, **142**, 168
 $(\text{CN}_3\text{H}_6)_2 \cdot \text{Zn}_4\text{H}_5(\text{PO}_4)_5$ built up from 3-, 4-, and 8-ring units, synthesis and crystal structure, **148**, 433
 $\text{Co}_3\text{Al}_3(\text{PO}_4)_6\text{Co}(\text{diethyltriamine})_2 \cdot (\text{H}_2\text{O})_3$, hydrothermal synthesis and characterization, **146**, 157
 CoSi_3P_3 , electronic structure, **147**, 11
 $\text{Co}_{0.5}\text{Ti}_2(\text{PO}_4)_3$, with NASICON structure, optical and magnetic properties, **143**, 224, 230
 $\text{Cr}_4(\text{P}_2\text{S}_6)_3$, room-temperature synthesis and characterization, **144**, 388
 $\text{Cs}[(\text{VO})(\text{H}_2\text{O})\text{Ga}(\text{PO}_4)_2]$, hydrothermal synthesis and structure, **144**, 442
 Cu_4SiP_8 , electronic structure, **147**, 11
elemental structure, **147**, 26
 $[\text{enH}_2][\text{CoIn}(\text{PO}_4)_2\text{H}(\text{OH})_2\text{F}_2]$, 2D mixed-metal phosphate templated by ethylene diamine, synthesis and characterization, **142**, 241
 $\text{EuCu}_{1.75}\text{P}_2$, Eu valence study by Eu Mössbauer and Eu L_{III}-edge X-ray absorption spectroscopy, **144**, 252
 $\text{EuH}[\text{O}_3\text{P}(\text{CH}_2)_3\text{PO}_3]$, luminescence spectroscopy and crystal field simulation, **148**, 347

- [Fe₂(H₂O)₂(O₃P-CH₂-PO₃H)₂](H₂O)₂, hydrothermal synthesis, powder structural determination, and magnetic study, **147**, 122
- [Fe₂(OH₂)PO₄(C₂O₄)_{0.5}], hydrothermal synthesis, structure, and magnetic susceptibility, letter to editor, **146**, 538
- Fe(PO₃)₃
C-type compound, structure refinement and magnetic properties, neutron diffraction and Mössbauer studies, **148**, 455
magnetic properties, **145**, 629
- Fe₄(PO₄)₂(C₂O₄)(H₂O)₂, synthesis and crystal structure, **143**, 58
- FeP₃SiO₁₁, synthesis, crystal structure, and magnetic properties, **147**, 565
- FeSi₄P₄, electronic structure, **147**, 11
- [Fe_{5-*x*}V_{*x*}(H₂PO₄)₄(HPO₄)₄F₄(H₂O)_{2.4}(H_{2+y}N-(CH₂)₂-NH_{2+y})], hydrothermal synthesis, structure, and magnetic characterization, **148**, 150
- Hg₂PCl₂, crystal structure and electronic structure of (P₂Hg₆) octahedron in, **142**, 14
- HK₄[V₁₀O₁₀(H₂O)₂(OH)₄(PO₄)₇]·9H₂O, hydrothermal synthesis and intersecting tunnel structure, **148**, 189
- H₃N(CH₂)₃NH₃·Zn₂(HPO₄)₃, synthesis and structure, **147**, 584
(1,4-HOC₆H₄NH₃)₄P₄O₁₂·6H₂O, characterization, **144**, 318
- H₂O-Na₂SO₄-Na₂HPO₄, liquid-solid equilibria, **144**, 247
- IrSi₃P₃, electronic structure, **147**, 11
- KFe₃(OH)₂(PO₄)₂·2H₂O, hydrothermal synthesis and crystal structure, **142**, 455
- KMnHP₃O₁₀, weak ferromagnetism and framework switching, **145**, 479
- KMn₄(PO₄)₃, structure and magnetic behavior, **144**, 169
- KMPS₄ (*M* = Ni,Pd), flexibility of MPS₄⁻ chains in, molecular orbital calculations and atomic force microscopy measurements, **147**, 235
- K_xP₄W₈O₃₂, quasi-two-dimensional bronze, electronic instabilities and localization effects, **147**, 320
- KTiOPO₄, second-order nonlinear optical coefficients, **142**, 156
- KV₂O₄PO₄, tunnel structure, **145**, 643
- La_{1-x}Ce_xRu₄P₁₂ with skutterudite structure, electrical and magnetic properties, **142**, 146
- La_{1/6}Pb_{1/3}Zr₂(PO₄)_{17/6}(SiO₄)_{1/6}:Eu³⁺, structure and luminescence, **146**, 499
- Li_{4-x}A_x⁺(MoO₃)(PO₄)₃P₂O₇ (*A* = Na,Ag,Cs,K), structure and magnetic and ionic transport properties, **144**, 297
- Li₂[NiF(PO₄)] with ordered mixed anionic framework, synthesis and crystal structure, **142**, 1
- LiP₅, crystal structure and site assignments, **147**, 341
- γ-Li₃PO₄, ionic conductivity, electronic and structural effects of nitrogen doping, **145**, 619
- β''-(Mg,Fe)Al(PO₄)O, Mg²⁺ and Fe²⁺ substitution in trigonal-bipyramidal-coordinated site, **142**, 51
- Mo(V) phosphate structures built up of isotopic Mo₁₂MP₈X₆₂ clusters, **145**, 291
- Na₅Bi(P₂O₇)₂, preparation and crystal structure, **143**, 104
- Na₂CoP₂O₇ tetragonal ionic conductor, crystal growth and structure, magnetic properties, and conductivity, **145**, 604
- NaNi₄(PO₄)₃, structure and magnetic behavior, **144**, 169
- Na₃M₂(PO₄)₂F₃ (*M* = Al⁺,V³⁺,Cr³⁺,Fe³⁺,Ga³⁺), phase transitions, synthesis, and thermal, structural, and magnetic studies, **148**, 260
- Na₃V⁴⁺O(PO₄)(HPO₄), formation in Na/V/P/H₂O system under hydrothermal conditions at 473 K, **145**, 15
- [N₂C₃H₁₂]Al₂(PO₄)(OH_xF_{5-x}) (*x* ≈ 2), synthesis and *ab initio* structure determination, **147**, 92
- [N₂C₄H₁₂]_{0.5}[Fe₂(HPO₄)(C₂O₄)_{1.5}], hydrothermal synthesis, structure, and magnetic susceptibility, letter to editor, **146**, 538
- (N₂C₆H₁₄)·Zn₃(HPO₄)₄, synthesis and structure, **147**, 584
- (N₂C₆H₁₄)·Zn(HPO₄)₂·H₂O, synthesis and structure, **147**, 584
- network phosphates with NZP structure, synthesis, **145**, 227
- [NH₃CH₂CH₂NH₃]_{2.5}[Al₄H(HPO₄)₄(H₂PO₄)₂(C₂O₄)₄], synthesis and structure, **143**, 74
- [NH₃CH₂CH(NH₃)CH₃]_{0.5}[Sn₄P₃O₁₂]·H₂O with one-dimensional channels, synthesis and structure, **148**, 50
- (NH₃CH₂CH₂NH₃)₄·(NH₃CH₂CH₂NH₂)·Na·[Ni₂Mo₁₂O₃₀(PO₄)_{(HPO₄)₄(H₂PO₄)₃]]·6H₂O, hydrothermal synthesis and structure, **146**, 533}
- NH₃CH₂CH(OH)CH₂NH₃·Zn₂(HPO₄)₃, synthesis and structure, **147**, 154
- [NH₃(CH₂)₄NH₃][Ga₄(HPO₄)(PO₄)₄], synthesis and characterization, **142**, 236
- [NH₃(CH₂)₄NH₃]₂[Ga₄(HPO₄)₂(PO₄)₃(OH)₃]·*y*H₂O (*y* ~ 5.4), and vanadium-gallium phosphate analogue, synthesis and characterization, **145**, 379
- NH₃(CH₂)₂NH₃·Zn(HPO₄)₂, synthesis and structure, **147**, 154
- NH₃(CH₂)₆NH₃·Zn₃(HPO₄)₄H₂O, synthesis and structure, **147**, 154
- NH₃(CH₂)₂NH₃·Zn₂(HPO₄)₂(H₂PO₄)₂, synthesis and structure, **147**, 154
- NH₄Fe₃(H₂PO₄)₆(HPO₄)₂·4H₂O, structure and magnetic properties, **144**, 163
- Pb₄BiO₄PO₄, crystal structure, stereochemical effect of 6s² lone pair electrons, **142**, 80
- Pb₃Cu₃(PO₄)₄, crystal structure and topology, **142**, 6
- R₅P₃Br (*R* = La,Pr), syntheses and lattice dimensions, **144**, 175
- phenoxy-substituted divalent metal phosphonate Langmuir-Blodgett films, structure and magnetic order, **145**, 443
- A₁₀((P,Mn)O₄)₆F₂ (*A* = Ba,Sr,Ca) substituted with Mn(V), color, **146**, 464
- (PO₂)₄(WO₃)_{2m}, quasi-two-dimensional bronze, electronic instabilities and localization effects, **147**, 320
- PrCd₃P₃, preparation, **146**, 478
- Rb[(VO)(H₂O)Ga(PO₄)₂], hydrothermal synthesis and structure, **144**, 442
- Sn₄P₃ nanocrystals, solvothermal synthesis, **146**, 110
- Sr₃Cu₃(PO₄)₄, crystal structure and topology, **142**, 6
- SrFe₃(PO₄)₃, hydrothermal synthesis, structure, and physical properties, **147**, 390
- titanium hydrogenphosphate, lamellar compounds and modified forms, thermal degradation, **145**, 649
- α-titanium phosphate, gallium oxide insertion using surfactant expanded phase as precursor, **147**, 664
- α₁-VOPO₄, water intercalation into, IR and Raman spectroscopic studies, **148**, 197
- (VO)₂P₂O₇ quantum-spin chain compound, structural study, **146**, 369
- WOP₂O₇(*o*), structure, **144**, 325
- W₂O₃(PO₄)₂(*o*), structure, **144**, 325
- RZn₃P₃ (*R* = Y,La-Nd,Sm,Gd-Er), preparation, **146**, 478
- Zr₆Cr₆₀P₃₉, defective intermetallics with empty triangular metalloid channels, crystal chemistry, **144**, 277
- Zr(HPO₄)₂·2CH₃CH₂OH, host-guest interactions, vibrational spectroscopic study and molecular simulations, **145**, 1
- Zr₂(O₃P-CH₂-bipyridinium-CH₂CH₂-PO₃)X₆·2H₂O, reactivity toward organic and inorganic monophosphonates, **147**, 520
- ZrP₂S₆ and ZrP₂S₇, synthesis and crystal structure, **143**, 239
- Photographic sensitization
AgBr(100) surface, **146**, 516
- Photoluminescence spectroscopy
Y₂SiO₅:Ce phosphor particles 0.5–1.4 μm in size with spherical morphology, **146**, 168
- (Y,Tb)₃Al₅O₁₂ garnet phosphor nanoparticles, **144**, 437
- Piezoelectric properties
GaAsO₄, relationship to structure, **146**, 114
- Pillared materials
acidic and hydrophobic microporous clays pillared with mixed metal oxide nano-sols, **144**, 45

- Platinum
LnPtGe (*Ln* = Ce,Pr,Nd,Sm), crystal structure and magnetic properties, **142**, 400
- Pt/SnO₂, synthesis for gas sensors, applicaton of ultrasonic aerosol device, **144**, 86
- Point-charge model
Hg₂F₂ crystals, **146**, 239
- Point defect energy
SrTiO₃, pair-potentials study, **144**, 423
- Polarization energy
PbFCl-type compounds, **144**, 339
- Polyacrylic acid
 electrochromic PAA-WO₃ composite film, grafting mechanism, **142**, 368
- Polyaniline
 organic-inorganic polyaniline/V₂O₅ system, intercalate phases in, synthesis and characterization, **147**, 601
- Polymerization
 copolymerization of tetraethylorthosilicate and aluminum hydroxoxonates, **147**, 304
- Polymer matrix
 effect on phase transitions of CuFe₂O₄, **144**, 159
- Polymers
 one-dimensional, containing dicyanamide and pyridine-type ligands, structures and magnetic properties, **145**, 369
- Porosity
Nb₂O₅/V₂O₅ doped spinel ferrites, **148**, 376
- Potassium
HK₄[V₁₀O₁₀(H₂O)₂(OH)₄(PO₄)₇]·9H₂O, hydrothermal synthesis and intersecting tunnel structure, **148**, 189
- K₂Ag₁₂Se_{7.11}*, synthesis from supercritical ethylenediamine, **144**, 287
- KAl(MoO₄)₂*, infrared activity, **145**, 751
- KAIO₂-KAlSiO₄* system, cristobalite-related phases in, synthesis and characterization, **147**, 624
- (K_{0.87}Bi_{0.13})BiO₃ superconductor, crystal structure, **144**, 205
- KLn_{1±x}Bi_{4±x}S₈* (*Ln* = La,Ce,Pr,Nd) semiconductors, synthesis and characterization, **143**, 151
- KCl electrolyte, supercapacitor behavior with, **144**, 220
- (KCl)_x(UCl₄)_y, deposition inside carbon nanotubes using eutectic and noneutectic mixtures of UCl₄ with KCl, **140**, 83; *erratum*, **142**, 470
- K₂CO₃, K⁺ from, electrosubstitution at Na-β''-Al₂O₃ interface, **143**, 111
- KCr(MoO₄)₂ and KCr(WO₄)₂, spectroscopic properties and magnetic phase transitions, **148**, 468
- KFe₃(OH)₂(PO₄)₂·2H₂O, hydrothermal synthesis and crystal structure, **142**, 455
- K₂Gd₂Sb₂Se₉, eightfold superstructure caused by 3D ordering of Sb³⁺ 5s² lone pair, **147**, 309
- (KH)_xC₆₀ organic superconductors, preparation by intercalation of KH into C₆₀, **145**, 421
- K⁺X-Me²⁺X₂-H₂O (*Me*²⁺ = Mn,Co,Ni; X⁻ = Cl,Br) double salts, **143**, 16
- K_{0.3}(H₂O)_yMoS₂, structural study, **144**, 430
- KHSO₄, reaction with NH₄VO₃ at different temperatures, **145**, 128
- K₃La₂(NO₃)₉, crystal structure and thermal decomposition, **144**, 68
- K₂La(NO₃)₅·2H₂O, thermal decomposition, **144**, 68
- K₂La₂Sb₂Se₉, eightfold superstructure caused by 3D ordering of Sb³⁺ 5s² lone pair, **147**, 309
- KMnHP₃O₁₀, weak ferromagnetism and framework switching, **145**, 479
- KMn₄(PO₄)₃, structure and magnetic behavior, **144**, 169
- KMnSe₂, synthesis and structure, **146**, 217
- K_xMoO₃ bronze, microwave preparation, **148**, 100
- K_{0.7}MoS₂, structural study, **144**, 430
- K₈Nd₃Si₁₂O₃₂(OH), structure and conductivity, **148**, 406
- KNO₃, phase transitions in, study by variable-temperature ¹⁵N MAS NMR, **145**, 10
- K₂*Ln*(NO₃)₅·2H₂O (*Ln* = La,Ce,Pr,Nd,Sm) nonlinear optical materials, crystal growth, structure, and properties, **148**, 302
- KMPS₄ (*M* = Ni,Pd), flexibility of MPS₄⁻ chains in, molecular orbital calculations and atomic force microscopy measurements, **147**, 235
- K_xP₄W₈O₃₂, quasi-two-dimensional bronze, electronic instabilities and localization effects, **147**, 320
- K₂SeO₄·Te(OH)₆, structural and vibrational study, **145**, 612
- K₄Sn₄Se₁₀·4.5H₂O with 36-membered pores, solvothermal synthesis and structure, **147**, 146
- KTiOAsO₄ and KTiOPO₄, second-order nonlinear optical coefficients, **142**, 156
- KVMO₆, crystal structure, **146**, 197
- K_xV₂O₅ bronze, microwave preparation, **148**, 100
- KV₂O₄PO₄, tunnel structure, **145**, 643
- K_xWO₃ bronze, microwave preparation, **148**, 100
- K₂ZrGe₂O₇, synthesis, characterization, and X-ray powder structure, **148**, 41
- La_{0.82}K_{0.08}MnO_{3-δ} polycrystalline solid and thin film, colossal magnetoresistance in, comparison, **148**, 342
- LaONO₃· $\frac{1}{3}$ KNO₃, structural characterization, **144**, 68
- LaONO₃-KNO₃ system, phase equilibria, **144**, 68
- Li_{4-x}K_x⁺(MoO₃)(PO₄)₃P₂O₇, structure and magnetic and ionic transport properties, **144**, 297
- LiKSO₄, thermal analysis and X-ray diffraction studies of phase transitions, **148**, 316
- NaK₂₉Hg₄₈, crystal structure, **147**, 177
- (Sr,K)₃Bi₂O₇, synthesis and crystal structure, **144**, 405
- titanium hydrogenphosphate derivatives of, thermal degradation, **145**, 649
- Powder neutron diffraction
- Ba₃CuRu₂O₉, crystal structure, comparison to Ba₂MRu₂O₉ (*M* = In,Co,Ni,Fe), **146**, 65
- BaMoO₄, **146**, 266
- Bi₂Al₄O₉, structure and oxide ion conductivity mechanism, **147**, 631
- BiMnO₃ ferromagnetic perovskite, **145**, 639
- Bi-Mo mixed oxides with structure based on [Bi₁₂O₁₄]_∞ columns, **142**, 294
- CuClCu₂TeS₃, **147**, 170
- Fe(PO₃)₃ C-type compound, **148**, 455
- FeV₂S₄ magnetic structure, **144**, 372
- HgBa₂CuO_{4+δ}: local structural perturbations, **148**, 119
- La_{1.12}Li_{0.62}Ti₂O₆, **148**, 329
- La₇Mo₇O₃₀ with perovskite-related structure, **142**, 228
- La(Ni_{1-z}Cu_z)_x crystal structure, **146**, 313
- La_{0.7}Sr_{0.3}Co_{1-z}Mn_zO_{3±y} (0 ≤ z ≤ 1), **143**, 52
- La_{2-x}Sr_xNiO_{4+δ} (0.2 ≤ x ≤ 1.0), structural evolution with oxidation state: octahedral distortion and phase separation, **145**, 401
- La₂TiAlO_{6.5-x} perovskite, **146**, 437
- LiMn_{2-y}Cr_yO₄, **146**, 322
- Na₃ON₂O₂, low-temperature phases, **145**, 267
- network phosphates with NZP structure, **145**, 227
- Ni_xCr_{3-x}S₄ (x = $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$), **143**, 163
- Ni₂Mo₃N, **146**, 22
- PbFe_xV_{6-x}O₁₁ at low temperature: site preference of Fe and V, **147**, 609
- PrCaCrO₄, **142**, 29
- SrNbO₃ of GdFeO₃ type, **147**, 421
- Sr₃MO₄F (*M* = Al,Ga), **144**, 228
- tetragonal zirconias, **146**, 363
- TiSr₂NiO_{4+δ}, structure, **144**, 62
- (VO)₂P₂O₇ quantum-spin chain compound, **146**, 369
- WO₃, high-temperature phases, **144**, 209

- YFe₂D_x compounds ($x = 1.3, 1.75, 1.9, 2.6$), analysis of structures and phase transitions, **142**, 120
- Zr₂ON₂, structure: absence of nitride–oxide ordering, **146**, 399
- Powder X-ray diffraction
- BaNbS_{3+δ}, quasi-one-dimensional conductor displaying resistance anomaly, **142**, 57
 - Ba₄Nd₂Ti₄Ta₆O₃₀ and Ba₅NdTi₃Ta₇O₃₀ bronzes, **148**, 438
 - Ba_{1-x}Sr_xCoO₃ ($0 \leq x \leq 0.5$) with one-dimensional structure, **146**, 96
 - Bi₂Al₄O₉: structure and oxide ion conductivity mechanism, **147**, 631
 - Bi_{1-x}Sr_{3+x}CoCO_{6+δ} 2201-type cobaltite with nonmodulated structure, **148**, 108
 - Bi₂VO_{5.5}, ferroelectric nanocrystalline powders prepared by mechanically activated synthesis, **142**, 41
 - CeNbO_{4+δ} ($\delta = 0.08, 0.25, 0.33$), **143**, 122
 - CeZrO₄ prepared by reduction and successive oxidation of t' -(Ce_{0.5}Zr_{0.5})O₂ phase, **147**, 573
 - cristobalite-related phases in KAlO₂–KAlSiO₄ system, **147**, 624
 - FeP₃SiO₁₁, **147**, 565
 - HgBa₂CuO_{4+δ}: local structural perturbations, **148**, 119
 - p-iodotoluene: structural disorder, **143**, 285
 - KVMO₆, **146**, 197
 - K₂ZrGe₂O₇, **148**, 41
 - La₇Mo₇O₃₀ with perovskite-related structure, **142**, 228
 - La_{0.7}Sr_{0.3}Co_{1-z}Mn_zO_{3±y} ($0 \leq z \leq 1$), **143**, 52
 - La_δZr_{1-δ}O_{2-δ/2} ($0.49 < \delta < 0.51$) pyrochlore: displacive flexibility, **142**, 393
 - Li₂BAIO₄, **142**, 214
 - LiMn_{2-y}Cr_yO₄, **146**, 322
 - LiV₂O₅
 - $\delta \leftrightarrow \epsilon$ phase transition, XRD pattern evolution, simulation, **146**, 129
 - $\delta \rightarrow \epsilon \rightarrow \gamma$ high-temperature phase transitions, **146**, 103 - MIL-12 fluoroaluminophosphate templated with 1,3-diaminopropane: *ab initio* structure determination, **147**, 92
 - MIL-13 hydrated iron diphosphonate: *ab initio* structure determination, **147**, 122
 - α -MnO₂ with open tunnel, **144**, 136
 - Mn_{0.6}Ta_{0.4}O_{1.65} defect fluorite structure, **145**, 37
 - monoclinic hydroxyapatite, **144**, 272
 - Na₂Cs₆₀ superconducting fulleride: pressure and temperature evolution of structure, **145**, 471
 - Ni₂Mo₃N, **146**, 22
 - organic-inorganic polyaniline/V₂O₅ system: intercalate phases, **147**, 601
 - phase transitions between H_{0.13}V_{0.13}Mo_{0.87}O₃·0.26H₂O and MoO₃, **143**, 41
 - silicon clathrates, **145**, 716
 - Sr₃MO₄F ($M = Al, Ga$), **144**, 228
 - synchrotron, (Bi,Pb)_{1.64}Sr_{1.43}Ca_{1.57}Mn₂O₉, **147**, 501
 - Tl_xCr₅Se₈ ($0 \leq x \leq 1$) nonstoichiometric channel compounds at low temperature: evidence for Cr(IV) formation, **145**, 235
 - (VO)₂P₂O₇ quantum-spin chain compound, **146**, 369
 - ZrO₂
 - formed from Zr(IV) acetate solution: effect of pH, **145**, 394
 - tetragonal and cubic nanocrystals prepared from yttrium-doped zirconium, **142**, 409
- Praseodymium
- Ba_{1-x}La_xPrO₃ ($x \leq 0.075$), magnetic properties, **145**, 104
 - Ba₃Pr(BO₃)₃, synthesis, structure, and properties, **145**, 33
 - BaPrCuTe₃, synthesis and characterization, **147**, 366
 - Ba₂PrNbO₆ ordered perovskites, crystal structure and magnetic properties, **148**, 353
 - Bi_{0.775}Pr_{0.225}O_{1.5} of Bi-Sr-O type, structural and conductivity properties, **142**, 349
 - K₂Pr(NO₃)₅·2H₂O nonlinear optical materials, crystal growth, structure, and properties, **148**, 302
- Pr⁴⁺, EPR spectra
- in pyrochlore-type La₂Sn₂O₇ and La₂Zr₂O₇, **143**, 140
 - in Sr₂CeO₄, **144**, 20
- PrAg₆In₆ intermetallics, structural, magnetic, and electrical properties, **145**, 216
- Pr₂Au₃In₅, complex 3-D [Au₃In₅] polyanions in, **148**, 425
- PrBaCo₂O_{5+δ}, ordered oxygen-deficient perovskites, structural and magnetic studies, **142**, 247
- APr_{1+x}Bi_{4+x}S₈ ($A = K, Rb$) semiconductors, synthesis and characterization, **143**, 151
- Pr₃Br₃Pn and Pr₅Pn₃Br ($Pn = P, As, Sb, Bi$), syntheses and lattice dimensions, **144**, 175
- PrCaCrO₄, crystal and magnetic structures, **142**, 29
- PrCd₃P₃, preparation, **146**, 478
- PrCu_{1+x}As₂, synthesis, crystal structure, and magnetic susceptibility, **147**, 140
- PrLu_{1-y}Mg_yO₃ ($y \leq 0.075$), magnetic properties, **145**, 104
- PrOs₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279
- PrPtGe, crystal structure and magnetic properties, **142**, 400
- Pr₃Re₂O₉ and Pr₄Re₆O₁₉, preparation, crystal structure, and properties, **147**, 218
- PrRe₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279
- PrRu₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279
- PrS₂, crystal growth, phase equilibrium, and Raman spectra, **146**, 211
- Pr_{1-x}Sr_xCoO_{3-δ}, structure and magnetism, **147**, 464
- Pr_xWO₃, intergrowth tungsten bronze structures formed at 50 kbar, HRTEM study, **147**, 536
- Pr₃Zn₂As₆, crystallization with vacancy variant of HfCuSi₂-type structure, **142**, 266
- PrZn₃P₃, preparation, **146**, 478
- Precipitation
- homogeneous spontaneous, monodispersed TiO₂ ultrafine powders with rutile phase, **146**, 230
 - oxalate coprecipitation, garnet phosphor nanoparticles derived from, preparation and characterization, **144**, 437
- Pressure effects
- GaAsO₄, comparison with other α -quartz materials, **146**, 114
 - γ -Gd₂S₃ stability and optical properties, **148**, 370
 - La_{1-x}Sr_xCoO₃ metal-insulator transition and crystal structure, effect of partial oxygen pressure, **142**, 374
 - Na₂CsC₆₀ fulleride superconductor structure, **145**, 471
- Promethium
- LiPr₆O₅(BO₃)₃, detection in ternary-phase diagrams Li₂O–Ln₂O₃–B₂O₃, **146**, 189
- Proteins
- electron transfer and proton coupling in, **145**, 488
- Proton conductors
- Ba₂B'B''O₆ and Ba₃B''B'_2O₉ perovskites, molten salt synthesis and thermodynamic stability, **148**, 492
 - silica gels containing H₅GeW₉Mo₂VO₄₀·22H₂O, preparation and performance, **148**, 419
- Proton coupling
- in proteins, **145**, 488
- Proton transfer
- in solid state: mechanochemical reactions of imidazole with metallic oxides, **147**, 561
- Proton transport
- in NaOH, giant Haven ratio for, **148**, 169
- Pyrazine
- [Cu(dicyanamide)₂(pyrazine)]_n, synthesis, structural isomerism, and magnetism, **145**, 387
- Pyridine
- ligands with, one-dimensional coordination polymers containing, structures and magnetic properties, **145**, 369

- titanium hydrogenphosphate derivatives of, thermal degradation, **145**, 649
- Pyrochlores**
- $\text{Bi}_{0.5}\text{Nd}_{1.5}\text{Ru}_2\text{O}_7$, temperature-dependent structural behavior, **144**, 467
 - $\text{Ce}_2\text{Zr}_2\text{O}_{7.97}$, with fluorite composition, synthesis, **148**, 56
 - compound formed on synthesis and decomposition of sol-gel-derived $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$, Raman spectroscopy, **142**, 344
 - $\text{Gd}_2\text{GaSbO}_7$, Bi^{3+} luminescence in, quenching, **146**, 494
 - $\text{In}_3\text{Ti}_2\text{AO}_{10}$ ($A = \text{Al,Cr,Mn,Fe,Ga}$) and $\text{In}_6\text{Ti}_6\text{BO}_{22}$ ($B = \text{Mg,Mn,Co,Ni,Cu,Zn}$), synthesis and crystal structures, **147**, 438
 - $\text{La}_2\text{Sn}_2\text{O}_7$, Pr^{4+} doped in, EPR spectra, **143**, 140
 - $\text{La}_\delta\text{Zr}_{1-\delta}\text{O}_{2-\delta/2}$ ($0.49 < \delta < 0.51$), displacive flexibility, structured diffuse scattering as indicator, **142**, 393
 - $\text{La}_2\text{Zr}_2\text{O}_7$, Pr^{4+} doped in, EPR spectra, **143**, 140
 - $\text{Lu}_2\text{Ru}_2\text{O}_7$, magnetic properties, **144**, 216
 - $\text{Y}_2\text{Ru}_2\text{O}_7$, magnetic properties, **144**, 216
 - ($1 - \epsilon$) $\text{ZrO}_2 \cdot \epsilon\text{SmO}_{1.5}$ ($0.38 < \epsilon < 0.55$) system, structure and crystal chemistry as function of composition, **148**, 205
- Pyroelectric effect**
- $\text{Ba}_3\text{Ln}(\text{BO}_3)_3$ ($\text{Ln} = \text{La-Lu, Y}$), **145**, 33
- Pyrolysis**
- ultrasonic aerosol, synthesis of SnO_2 and Pt/SnO_2 for gas sensors, **144**, 86
- Q**
- Quantum-spin chain compounds**
- $(\text{VO})_2\text{P}_2\text{O}_7$, structural study, **146**, 369
- Quantum state model**
- Verwey transition in magnetite, **148**, 135
- α -Quartz materials**
- temperature and pressure behavior, comparison with piezoelectric GaAsO_4 , **146**, 114
- Quasi-one-dimensional compounds**
- $\text{BaNbS}_{3+\delta}$, resistance anomaly, **142**, 57
 - $(\text{Ca}_{1-x}\text{Y}_x)_{0.82}\text{CuO}_2$, prepared at room pressure, structural study, **145**, 511
- Quinolyl nitronyl nitroxides**
- molecular magnets, magneto-structural correlations in, **145**, 427
- R**
- Raman spectroscopy**
- As_4O_6 , **144**, 416
 - $\text{BaCe}_x\text{Zr}_{1-x}\text{O}_3$ ($0 \leq x \leq 1$) with perovskite-type structure, **142**, 220
 - $(\text{Bi,Pb})_2\text{Sr}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+4+\delta}$ ($n = 2, 3$) superconductors and iodine intercalates, **142**, 199
 - calcium malonate dihydrate, evidence of coordinated water and carboxylate groups, **143**, 174
 - CeZrO_4 prepared by reduction and successive oxidation of t' - $(\text{Ce}_{0.5}\text{Zr}_{0.5})\text{O}_2$ phase, **147**, 573
 - Co-, Mg-, and Ni-hydrotalcites, local structure, **146**, 506
 - coupled with impedance measurements *in situ*, reactivity of nanocrystalline SnO_2 and H_2S , **143**, 86
 - $M^1\text{Cr}(\text{MoO}_4)_2$ and $M^1\text{Cr}(\text{WO}_4)_2$ ($M^1 = \text{Li,Na,K,Cs}$), **148**, 468
 - $\text{Cr}_4(\text{P}_2\text{S}_6)_3$ synthesized at room temperature, **144**, 388
 - CuO nanocrystals, **147**, 516
 - electrochromic process in porous and nanocrystalline WO_3 film, micro-Raman study, **142**, 368
 - $\text{K}_2\text{SeO}_4 \cdot \text{Te(OH)}_6$, **145**, 612
 - Li_2BAIO_4 , **142**, 214
 - $\text{Li}_2\text{O-PbO-B}_2\text{O}_3$ glasses: structural role of PbO , **145**, 65
 - PrS_2 , **146**, 211
 - pyrochlore-type compound formed on synthesis and decomposition of sol-gel-derived $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3})\text{O}_3$, **142**, 344
- V**
- [$\text{V}(\text{OH}_2)_6]^{3+}$ cation: effect of mode of water coordination on electronic structure, **145**, 460
- water intercalation into anhydrous vanadyl phosphate, **148**, 197
- WO_3 powders: mechanical treatment-dependent low-temperature polymorphism, **143**, 24
- YAlO_3 orthorhombic perovskite, zone center phonons of, **146**, 287
- $\text{Zr}(\text{HPO}_4)_2 \cdot 2\text{CH}_3\text{CH}_2\text{OH}$: host-guest interactions, **145**, 1
- ZrO_2 formed from Zr(IV) acetate solution: effect of pH, **145**, 394
- Redox properties**
- calcium copper phosphates, **145**, 345
 - $\text{LaCo}_{1-x}\text{Cu}_x\text{O}_3$ and $\text{LaMn}_{1-x}\text{Cu}_x\text{O}_3$, **146**, 176
 - $[\text{NH}_3(\text{CH}_2)_6\text{NH}_3]_{10}[\text{V}_{15}\text{O}_{37}(\text{Cl})]_2[\text{V}_{15}\text{O}_{36}(\text{Cl})](\text{OH})_3(\text{H}_2\text{O})_3$ bronze with clusters textured by diaminohexane, **147**, 552
- Reduction**
- CrVO_4 to CrVO_3 , **144**, 392
 - Eu^{3+} to Eu^{2+} in $\text{Sr}_2\text{B}_5\text{O}_9\text{Cl}$ prepared in air at high temperature, mechanism, **145**, 212
- hydrothermal-reduction process, in synthesis and phase transformation of IB-VIA nonstoichiometric crystalline tellurides, **146**, 387
- Reductive recombination pathway**
- FeAs nanocrystal synthesis, **144**, 237
- Reflectivity spectra**
- Sb_2Te_3 single crystals doped with Pb , **145**, 197
- Rhenium**
- $\text{Hg}_{1-x}\text{Re}_x\text{Ba}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+2+4x+\delta}$, 1256 and 1267 type single crystals, structure and properties, **143**, 277
 - $\text{Rb}_3\text{Re}_6\text{S}_7\text{Br}_7$, synthesis via direct high-temperature route and crystal structure, **147**, 358
 - Ln_2ReO_5 ($\text{Ln} = \text{Sm,Eu,Gd}$), preparation, crystal structures, and properties, **147**, 218
 - $\text{Ln}_6\text{ReO}_{12}$ ($\text{Ln} = \text{Ho,Er,Tm,Yb,Lu}$), preparation and characterization, **148**, 220
 - $\text{Ln}_3\text{Re}_2\text{O}_9$ ($\text{Ln} = \text{Pr,Nd,Sm}$), preparation, crystal structures, and properties, **147**, 218
 - $\text{Ln}_4\text{Re}_6\text{O}_{19}$ ($\text{Ln} = \text{La-Nd}$), preparation, crystal structures, and properties, **147**, 218
 - ARe_2SiC ($A = \text{Y,Ce-Nd,Sm,Gd-Tm,Th}$), with DyFe_2SiC -type structure, characterization, **142**, 279
- Rhodium**
- $\text{Ca}_3\text{CoRhO}_6$ and $\text{Ca}_3\text{FeRhO}_6$ one-dimensional oxides, syntheses, crystal structures, and magnetic properties, **146**, 137
 - erbium rhodium stannide, competition between magnetism and superconductivity, **147**, 399
 - EuRhIn , synthesis, crystal structure, and properties, **145**, 174
 - $\text{La}_2\text{NiRhO}_6$, structural and magnetic characterization, **146**, 163
 - mediation of hydrosilylation of alkynes and alkenes on porous Si surfaces, **147**, 251
- Rietveld analysis, see also Crystal structure**
- $\text{AgM}(\text{PO}_4)_3$ ($M = \text{Mg,Zn,Ba}$), **145**, 97
 - Ba_2CdTe_3 , **148**, 464
 - BaMoO_4 , **146**, 266
 - $\text{Ba}_2\text{LnNbO}_6$ ($\text{Ln} = \text{lanthanoid elements}$) ordered perovskites, **148**, 353
 - $\text{Ba}_{6-3x}\text{Sm}_{8+2x}\text{Ti}_{18}\text{O}_{54}$ ($x = 0.3, 0.5, 0.67, 0.71$), tungsten bronze-type solid solutions with superstructure, **142**, 336
 - BiMnO_3 ferromagnetic perovskite, **145**, 639
 - $\text{Bi}_{0.775}\text{Ln}_{0.225}\text{O}_{1.5}$ ($\text{Ln} = \text{La,Pr,Nd,Sm,Eu,Gd,Tb,Dy}$) conductors of Bi-Sr-O type, **142**, 349
 - $(\text{Bi,Pb})_{1.64}\text{Sr}_{1.43}\text{Ca}_{1.57}\text{Mn}_2\text{O}_9$, **147**, 501
 - $\text{Bi}_4\text{Ta}_2\text{O}_{11}$ crystal structure, **142**, 33
 - CaAlTaO_5 and $\text{Ca}_2\text{AlTaO}_6$, **143**, 62
 - calcium copper phosphates, **145**, 345
 - $\text{Ca}_{2-x}\text{Sr}_x\text{MnO}_4$, **145**, 705
 - $(\text{Ca}_{1-x}\text{Y}_x)_{0.82}\text{CuO}_2$ quasi one-dimensional compound prepared at room pressure, **145**, 511

- CeOs₄P₁₂ and La_{1-x}Ce_xRu₄P₁₂ with skutterudite structure, **142**, 146
 cristobalite-related phases in KAlO₂-KAlSiO₄ system, **147**, 624
 Cs(IV) crystal structure, **144**, 16
 CuClCu₂TeS₃, **147**, 170
 Cu₈GeSe₆, **146**, 355
 AFeO_{2.5+x} ($0 \leq x \leq 0.5$; A = Sr,Ca) synthesized by oxidative thermal decomposition of A[Fe(CN)₅NO]⁻·4H₂O, **142**, 138
 Fe(PO₃)₃ C-type compound, **148**, 455
 FeP₃SiO₁₁, **147**, 565
 (K_{0.8}Bi_{0.13})BiO₃ superconductor, **144**, 205
 K₃La₂(NO₃)₃, **144**, 68
 KVMO₆, **146**, 197
 K₂ZrGe₂O₇, **148**, 41
 La_{1.12}Li_{0.62}Ti₂O₆, **148**, 329
 LaNi_{1-x}Ti_xO₃ ($0 \leq x \leq \frac{1}{2}$) perovskite, **148**, 479
 La₂O₃ with cubic structure, **144**, 68
 La_{1/6}Pb_{1/3}Zr₂(PO₄)_{7/6}(SiO₄)_{1/6}:Eu³⁺, **146**, 499
 La_{1-x}Sr_xCoO₃, **142**, 374
 La_{1-x}Sr_xCr_{1-x}Ti_xO₃ perovskites, **144**, 81
 La_{2-x}Sr_xNiO_{4+δ} ($0.2 \leq x \leq 1.0$), octahedral distortion and phase separation, **145**, 401
 La₂TiAlO_{6.5-x} perovskite, **146**, 437
 layered hydroxide salts with exchangeable interlayer anions, **148**, 26
 LiMn_{2-y}Cr_yO₄, **146**, 322
 MgIn_{2-x}Ga_xO₄ solid solutions, **142**, 206
 monoclinic hydroxyapatite, **144**, 272
 Nd_{0.67}Sr_{0.33}MnO₃ doped with CaF₂, **148**, 236
 Ni₂Mo₃N, **146**, 22
 A₂PdF₆ and AA'PdF₆ ($A^{2+} = \text{Ba}^{2+}, \text{Sr}^{2+}, \text{Pb}^{2+}$), **148**, 242
 Ln₄PdO₇ ($\text{Ln} = \text{La}, \text{Nd}, \text{Sm}, \text{Eu}, \text{Gd}$), **146**, 428
 ScMnO₃, **143**, 132
 silicon clathrates, **145**, 716
 Sr₂LnIrO₆ ($\text{Ln} = \text{Ce}, \text{Tb}$) perovskites, **145**, 356
 Sr₃MO₄F ($M = \text{Al}, \text{Ga}$), **144**, 228
 synthetic aragonite, **146**, 73
 $A^{2+}M^{4+}\text{Te}^{6+}\text{O}_6$ and $A_2^{1+}M^{4+}\text{Te}^{6+}\text{O}_6$, **147**, 99
 (VO)₂P₂O₇ quantum-spin chain compound, **146**, 369
 WO₃, high-temperature phases, **144**, 209
 Y₂SrCu_{0.6}Co_{1.4}O_{6.5}, **146**, 488
 ZrO₂, tetragonal and cubic nanocrystals prepared from yttrium-doped zirconium, **142**, 409
 Zr₂ON₂, absence of nitride–oxide ordering, **146**, 399
 Rodaquirite
 hydrothermal synthesis and structure, **143**, 254
 Rubidium
 RbAg₅Se₃, synthesis from supercritical ethylenediamine, **144**, 287
 RbLn_{1±x}Bi_{4±x}S₈ ($\text{Ln} = \text{La}, \text{Ce}, \text{Pr}, \text{Nd}$) semiconductors, synthesis and characterization, **143**, 151
 RbCa₂Na_{1-x}Sr_xNb₄O₁₃ ($x = 0, 0.2, 0.4$) with perovskite-like layers, synthesis, structure, and semiconducting properties, **148**, 508
 RbCu_{1.2}Ag_{3.8}Se₃, synthesis from superheated organic media, crystal structure, and optical properties, **147**, 132
 Rb⁺X-Me²⁺X₂-H₂O ($\text{Me}^{2+} = \text{Mn}, \text{Co}, \text{Ni}; \text{X}^- = \text{Cl}, \text{Br}$) double salts, **143**, 16
 RbMnSe₂, synthesis and structure, **146**, 217
 Rb₃Re₆S₇Br₇, synthesis via direct high-temperature route and crystal structure, **147**, 358
 Rb₄Sn₄Se₁₀·1.5H₂O with 36-membered pores, solvothermal synthesis and structure, **147**, 146
 Rb[(VO)(H₂O)Ga(PO₄)₂], hydrothermal synthesis and structure, **144**, 442
 Tl_{1-x}Rb_xPbCl₃ solid solutions, preparation at high pressure, **146**, 351
 Ruddlesden–Popper phases
 lithium-containing, electron-induced structural changes during HREM, **145**, 136
 Ni⁺ stabilization in, factors influencing, **148**, 499
 Ruthenium
 Ba₃CuRu₂O₉, crystal structure, comparison to Ba₂MRu₂O₉ ($M = \text{In}, \text{Co}, \text{Ni}, \text{Fe}$), **146**, 65
 (Ba_{0.875}Sm_{0.125})RuO₃, structure, bond-valence analysis, **143**, 69
 Bi_{0.5}Nd_{1.5}Ru₂O₇, temperature-dependent structural behavior, **144**, 467
 La_{1-x}Ce_xRu₄P₁₂ with skutterudite structure, electrical and magnetic properties, **142**, 146
 Lu₂Ru₂O₇ pyrochlores, magnetic properties, **144**, 216
 ARu₂SiC ($A = \text{Y}, \text{Ce}, \text{Nd}, \text{Sm}, \text{Gd}, \text{Tm}, \text{Th}$), with DyFe₂SiC-type structure, characterization, **142**, 279
 Sr₂Ru₃O₁₀, high-pressure synthesis and crystal structure, **143**, 266
 Sr₄Ru_{3.05}O₁₂ hexagonal perovskite, synthesis and crystal structure, **144**, 125
 Y₂Ru₂O₇ pyrochlores, magnetic properties, **144**, 216
 Rutile
 Al³⁺-doped, crystal growth and defect structure, **143**, 210
 monodispersed TiO₂ ultrafine powders with rutile phase, homogeneous spontaneous precipitation, **146**, 230
- S
- Samarium
 Ba₃Sm(BO₃)₃, synthesis, structure, and properties, **145**, 33
 Ba₁₇Sm₁₀Cl₆₄, crystal structure, **146**, 124
 Ba₂SmIrO₆ ordered perovskites, magnetic properties, **147**, 618
 Ba₂SmNbO₆ perovskites
 molten salt synthesis and thermodynamic stability, **148**, 492
 ordered, crystal structure and magnetic properties, **148**, 353
 Ba_{6-3x}Sm_{8+2x}Ti₁₈O₅₄ ($x = 0.3, 0.5, 0.67, 0.71$), tungsten bronze-type solid solutions with superstructure, **142**, 336
 Bi_{0.775}Sm_{0.225}O_{1.5} of Bi-Sr-O type, structural and conductivity properties, **142**, 349
 K₂Sm(NO₃)₂·2H₂O nonlinear optical materials, crystal growth, structure, and properties, **148**, 302
 LiSm₆O₅(BO₃)₃, detection in ternary-phase diagrams Li₂O-Ln₂O₃-B₂O₃, **146**, 189
 Na₂Sm₂(BO₃)₂O, crystal structure, **144**, 35
 Sm₂Au₃In₅, complex 3-D [Au₃In₅] polyanions in, **148**, 425
 SmBaCo₂O_{5+δ} ordered oxygen-deficient perovskites, structural and magnetic studies, **142**, 247
 SmBa₂Fe₃O_{8+δ}, cubic perovskite, partial ordering of oxygen in, **144**, 398
 H-SmBO₃, synthesis and characterization, **148**, 229
 SmMn₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279
 SmOs₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279
 Sm₄PdO₇, structure, thermodynamics, and magnetic properties, **146**, 428
 SmPdSi, preparation and crystal structure, **142**, 130
 SmPtGe, crystal structure and magnetic properties, **142**, 400
 Sm₂ReO₅ and Sm₃Re₂O₉, preparation, crystal structure, and properties, **147**, 218
 SmRe₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279
 SmRu₂SiC, with DyFe₂SiC-type structure, characterization, **142**, 279
 Sm₂-SmS_{1.5} system, thermodynamics, **142**, 261
 SmZn₃P₃, preparation, **146**, 478
 (Sr,Ca,Sm)₃Co₂O_{6±δ} synthesis, crystal structure, and electrical and magnetic properties, **146**, 277
 (1 - ϵ)ZrO₂· ϵ SmO_{1.5} ($0.38 < \epsilon < 0.55$) pyrochlore system, structure and crystal chemistry as function of composition, **148**, 205
- Scandium
 Sc-B-C system, subsolidus phase relations at 1700 °C and identification of Sc₃B_{0.75}C₃, Sc₂B_{1.1}C_{3.2}, Sc₂B₁₅C_{1.60}, and ScB₁₅C_{0.80}, **148**, 250

- Sc₂B_{1.1}C_{3.2}**, with graphite-like layers, synthesis and structure, **148**, 442
- ScCo_{1-x}Sb**, and other isotypic antimonides, comparison, **144**, 330
- ScMnO₃**, magnetic structure and spin reorientation transition, **143**, 132
- Scanning electron microscopy**
reduced molybdenum oxides synthesized with hydroxylamine hydrochloride in aqueous solutions, **147**, 269
- Scanning-tunneling microscopy**
*M*₃SiTe₆ and *M*Te₂ (*M* = Nb,Ta), **142**, 63
- Second harmonic generation**
inorganic nonlinear optical materials for, search for, **148**, 75
- Seebeck coefficient**
Ba_{1-x}CoO₃ (0 ≤ *x* ≤ 0.5) with one-dimensional structure, **146**, 96
mixed layered tetradymite-like compounds in GeTe–Bi₂Te₃ system, **146**, 305
- Sb₂Te₃** single crystals doped with Pb, **145**, 197
- Selenium**
BaGdAuSe₃, synthesis and characterization, **147**, 366
CdSe nanocrystals, solvothermal synthesis, **147**, 82
CdS_xSe_{1-x} nanowires, solvothermal fabrication, **147**, 637
Cs₂Cu₃Sb₂Se₅, synthesis from superheated organic media, crystal structure, and optical properties, **147**, 132
Cu₈GeSe₆, phase transition, superspace-group approach to, **146**, 355
Cu(VO)(SeO₃)₂ (A) and (B) forms, synthesis and crystal structures, **147**, 296
Ge–Se glasses rich in Se, short-range order, EXAFS study, **145**, 253
GeSe₂, structural properties at high pressures, **145**, 167
2H-WSe₂ fullerene-related structures, defect and ordered tungsten oxides encapsulated in, **144**, 100
K₂Ag_{1.2}Se_{7.11}, synthesis from supercritical ethylenediamine, **144**, 287
K₂Gd₂Sb₂Se₉ and K₂La₂Sb₂Se₉, eightfold superstructure caused by 3D ordering of Sb³⁺ 5s² lone pair, **147**, 309
K₂SeO₄·Te(OH)₆, structural and vibrational study, **145**, 612
AMnSe₂ (*A* = Li,Na,K,Rb,Cs), synthesis and structures, **146**, 217
Mo_y[Mo₆Se_{8-x}S_x], high-temperature Chevre phases, **145**, 159
Mo₆Se_{8-x}S_x, copper insertion into, electrochemical study, **147**, 199
Na₂Mn₂Se₃, synthesis and structure, **146**, 217
Nb₃Se₄, charge density wave transitions induced by In intercalation, **144**, 454
NiS_{2-x}Se_x system, correlation effects in, **147**, 68
RbAg₅Se₃, synthesis from supercritical ethylenediamine, **144**, 287
RbCu_{1.2}Ag_{3.8}Se₃, synthesis from superheated organic media, crystal structure, and optical properties, **147**, 132
α-SnSe, structural visualization by atomic force microscopy, **148**, 513
A₄Sn₄Se₁₀·*x*H₂O with 20- (*A* = Cs; *x* = 3.2) and 36-membered pores (*A* = K,Rb; *x* = 4.5,1.5), solvothermal synthesis and structure, **147**, 146
Tl_xCr₅Se₈
channel compounds with *x* = 0.2 and 1, experimental electronic structure, **145**, 247
nonstoichiometric channel compounds with 0 ≤ *x* ≤ 1, magnetic properties and low-temperature X-ray studies, **145**, 235
Zn_(1-x)Ga_{2x/3}Cr₂Se₄ spinel system, metal ion distribution and magnetic properties, **148**, 215
- Semiconductors**
ALn_{1±x}Bi_{4±x}S₈ (*A* = K,Rb; *Ln* = La,Ce,Pr,Nd), synthesis and characterization, **143**, 151
CdS_xSe_{1-x} nanowires, solvothermal fabrication, **147**, 637
γ-Gd₂S₃, stability and optical properties at high pressures, **148**, 370
metal–semiconductor transition in Bi_{0.5}Nd_{1.5}Ru₂O₇, **144**, 467
RbCa₂Na_{1-x}Sr_xNb₄O₁₃ (*x* = 0.2,0.4) with perovskite-like layers, synthesis and structure, **148**, 508
- Semiconductor-to-semiconductor transition**
quasi-one-dimensional BaNbS_{3+δ}, **142**, 57
- Silicon**
Z₃Al₂Si₃O₁₂ (*Z* = Mg,Fe,Mn,Ca) garnets, electron density study, **142**, 273
Ba₂TiOSi₂O₇, identification as inorganic nonlinear optical material, **148**, 75
Ca₃Fe₂Si₃O₁₂, electron density study, **142**, 273
Ce₃(SiS₄)₂*X* (*X* = Cl,Br,I), structure and luminescence, **147**, 259
CoSi₃P₃, electronic structure, **147**, 11
Cu₄SiP₈, electronic structure, **147**, 11
FeP₃SiO₁₁, synthesis, crystal structure, and magnetic properties, **147**, 565
FeSi₄P₄, electronic structure, **147**, 11
α-GdPdSi, preparation and crystal structure, **142**, 130
high-proton conductive silica gels containing molybdotungstovanado-germanic heteropoly acid, preparation and performance, **148**, 419
IrSi₃P₃, electronic structure, **147**, 11
KAlO₂–KAISiO₄ system, cristobalite-related phases in, synthesis and characterization, **147**, 624
K₈Nd₃Si₁₂O₃₂(OH), structure and conductivity, **148**, 406
La_{3-x}Ce_x(SiS₄)₂I (0 ≤ *x* ≤ 1) solid solution, structure and luminescence, **147**, 259
La₄Mn₃Ge_{5.2}Si_{0.8}O₂₂ with perrierite structure, synthesis and structural characterization, **147**, 247
La_{1/6}Pb_{1/3}Zr₂(PO₄)_{17/6}(SiO₄)_{1/6}·Eu³⁺, structure and luminescence, **146**, 499
Na₂Ba(TiO₂)Si₄O₁₂, identification as inorganic nonlinear optical material, **148**, 75
δ-Na₂Si₂O₅, crystal structure, **146**, 380
NdPdSi, preparation and crystal structure, **142**, 130
porous surfaces, metal-mediated reactions on, **147**, 251
AT₂SiC (*A* = rare earth elements and actinoids; *T* = Mn,Re,Ru,Os), with DyFe₂SiC-type structure, characterization, **142**, 279
silica–metal oxide sol pillared clays, preparation, adsorption properties, and effects of positive metal species, **144**, 45
silicon clathrates, synthesis and X-ray characterization, **145**, 716
M₃SiTe₆ (*M* = Nb,Ta), scanning-tunneling microscopy, X-ray photoelectron spectroscopy, and inner-shell-electron energy-loss spectroscopy, **142**, 63
SmPdSi, preparation and crystal structure, **142**, 130
α-TbPdSi, preparation and crystal structure, **142**, 130
Y₂SiO₅:Ce phosphor particles 0.5–1.4 μm in size with spherical morphology, **146**, 168
- Silver**
Ag⁺, doping of oxide ceramics by solid oxide electrochemical doping SOED2 method, **146**, 406
Ag₂BiO₃, state of bismuth in, **147**, 117
AgBr(100) surface, photographic sensitization and effect of Au and S in latent image formation, **146**, 516
Ag–I–Bi₂Sr₂Ca_{*n*-1}Cu_{*n*}O_{2*n*+4+δ}, heterostructured high-*T_c* superconductors, **147**, 328
LnAg₆In₆ intermetallics (*Ln* = La,Ce,Pr,Nd), structural, magnetic, and electrical properties, **145**, 216
Ag₂O, mechanochemical reactions with imidazole: proton transfer in solid state, **147**, 561
AgM(PO₄)₃ (*M* = Mg,Zn,Ba), crystal structure and luminescence properties of Ag in, **145**, 97
β-Ag₂S nanocrystals, preparation, **146**, 484
Ag–Te nonstoichiometric nanocrystals, synthesis and phase transformation by hydrothermal-reduction process, **146**, 387
α-AgVO₃, crystal structure and phase relation of AgVO₃, **142**, 360
BaAg₈S₅, synthesis and crystal structure, **144**, 409
Ba_{*Ln*}AgTe₃ (*Ln* = rare earth), synthesis and characterization, **147**, 366
electrosubstitution at Na–β'-Al₂O₃ interface, **143**, 111

- $K_2Ag_{12}Se_{7.11}$, synthesis from supercritical ethylenediamine, **144**, 287
 $Li_{4-x}Ag_x^+(MoO_3)(PO_4)_3P_2O_7$, structure and magnetic and ionic transport properties, **144**, 297
 $RbAg_5Se_3$, synthesis from supercritical ethylenediamine, **144**, 287
 $RbCu_{1.2}Ag_{3.8}Se_3$, synthesis from superheated organic media, crystal structure, and optical properties, **147**, 132
- Sintering
in granular composite preparation, application to superconductor/ferrite system, **145**, 317
- Skutterudites
 $R_xCo_{4-y}Fe_ySb_{12-z}$ ($R = La, Ce, Tl$; $0 < x, y, z < 1$), atomic displacement parameters and lattice thermal conductivity, **146**, 528
- Skutterudite structure
 $CeOs_4P_{12}$ and $La_{1-x}Ce_xRu_4P_{12}$ with, electrical and magnetic properties, **142**, 146
- Sodium
 $H_2O-Na_2SO_4-Na_2HPO_4$, liquid-solid equilibria, **144**, 247
interface with $\beta''-Al_2O_3$, electrosubstitution by metals and metal compounds at, **143**, 111
 $LaMnO_3$ substituted with, synthesis and properties, **146**, 88
 $Li_{4-x}Na_x^+(MoO_3)(PO_4)_3P_2O_7$, structure and magnetic and ionic transport properties, **144**, 297
 Na^+ , doping of oxide ceramics by solid oxide electrochemical doping SOED2 method, **146**, 406
 $NaAl(MoO_4)_2$, infrared activity, **145**, 751
 $Na_2Ba(TiO_2)Si_4O_{12}$, identification as inorganic nonlinear optical material, **148**, 75
 $Na_5Bi(P_2O_7)_2$, preparation and crystal structure, **143**, 104
 $Na_2Ln_2(BO_3)_2O$ ($Ln = Sm, Eu, Gd$), crystal structure, **144**, 35
 $Na_2CoP_2O_7$ tetragonal ionic conductor, crystal growth and structure, magnetic properties, and conductivity, **145**, 604
 $NaCr(MoO_4)_2$, spectroscopic properties and magnetic phase transitions, **148**, 468
 $Na_xCr_xTi_{8-x}O_{16}$, low-temperature phase with monoclinic Hollandite structure, **145**, 182
 $NaCr(WO_4)_2$, spectroscopic properties and magnetic phase transitions, **148**, 468
 Na_2CsC_60 superconducting fulleride, pressure and temperature evolution of structure, **145**, 471
 $Na_2Gd_2(BO_3)_2O:Eu^{3+}$, optical properties, **144**, 35
 Na_2GeTeO_6 , structure and order-disorder phenomena, **147**, 99
 $NaK_{29}Hg_{48}$, crystal structure, **147**, 177
 $NaMnSe_2$ and $Na_2Mn_2Se_3$, synthesis and structure, **146**, 217
 $Na_3NbO(AsO_4)_2$, synthesis and crystal structure, **144**, 53
 $NaNi_4(PO_4)_3$, structure and magnetic behavior, **144**, 169
 $NaOH$, proton transport in, giant Haven ratio for, **148**, 169
 Na_3ONO_2 , neutron diffraction study of low-temperature phases, **145**, 267
 $Na_3M_2(PO_4)_2F_3$ ($M = Al^+, V^{3+}, Cr^{3+}, Fe^{3+}, Ga^{3+}$), phase transitions, synthesis, and thermal, structural, and magnetic studies, **148**, 260
 Na_8Si_{46} and Na_xSi_{136} , synthesis and X-ray characterization, **145**, 716
 $\delta-Na_2Si_2O_5$, crystal structure, **146**, 380
 Na_2SnTeO_6 , structure and order-disorder phenomena, **147**, 99
 Na_2SO_4
conductivity and phase transitions, effects of homovalent anion doping, **146**, 6
Yb(III)-doped phase I, defect structure, **145**, 309
 Na_2TiTeO_6 , structure and order-disorder phenomena, **147**, 99
 $Na_2V_3O_7$, low-dimensional quantum magnet, crystal structure, letter to editor, **147**, 676
 $Na_9V_{14}O_{35}$, crystal structure and magnetic properties, letter to editor, **145**, 361
 $Na_3V^{4+}O(PO_4)(HPO_4)$, formation in Na/V/P/H₂O system under hydrothermal conditions at 473 K, **145**, 15
- ($NH_3CH_2CH_2NH_3)_4 \cdot (NH_3CH_2CH_2NH_2) \cdot Na \cdot [Ni_2Mo_{12}O_{30}(PO_4)(HPO_4)_4(H_2PO_4)_3] \cdot 6H_2O$, hydrothermal synthesis and structure, **146**, 533
 $RbCa_2Na_{1-x}Sr_xNb_4O_{13}$ ($x = 0.2, 0.4$) with perovskite-like layers, synthesis, structure, and semiconducting properties, **148**, 508
- Soft chemistry
heterostructured Bi-based cuprate high- T_c superconductors with unusually coordinated metal halides, **147**, 328
 $Ni_{1-x}Co_xO_2$ metastable oxides prepared by, *in situ* structural and electrochemical study, **147**, 410
- Soft X-ray absorption
 κ -ET₂Cu[N(CN)₂]Br and κ -ET₂Cu(SCN)₂ organic conductors, electronic structure study, **143**, 1
- Soft X-ray emission
 κ -ET₂Cu[N(CN)₂]Br and κ -ET₂Cu(SCN)₂ organic conductors, electronic structure study, **143**, 1
- Sol-gel synthesis
Cu/TiO₂ catalysts formed by, reducibility and titania phase concentration, copper precursor effect, **144**, 349
high-proton conductive silica gels containing molybdotungstovanado-germanic heteropoly acid, **148**, 419
 $La_{1/6}Pb_{1/3}Zr_2(PO_4)_{17/6}(SiO_4)_{1/6}:Eu^{3+}$, **146**, 499
 $LiMn_2O_4$ spinel phase formed by, characterization, **147**, 509
 $Ni_xAl_{1-x}Mn_2O_4$, for oxygen electrocatalysis in alkaline medium, **145**, 23
 $Pb(Mg_{1/3}Nb_{2/3})O_3$, pyrochlore-type compound formed by, Raman spectroscopy, **142**, 344
- Solid oxide electrochemical doping
at $Na-\beta''-Al_2O_3$ interface, **143**, 111
- Solid solutions
 $Bi_{0.5}La_{13.5}Ti_8S_{29}Cl_4O_4$, synthesis and structure, **147**, 592
 $Bi_4V_{2-x}Ni_xO_{11-1.5x}$, structural and physical properties, **143**, 9
 $In_3Ti_2AO₁₀$ ($A = Al, Cr, Mn, Fe, Ga$), synthesis and crystal structures, **147**, 438
 $In_6Ti_6B_{22}$ ($B = Mg, Mn, Co, Ni, Cu, Zn$), synthesis and crystal structures, **147**, 438
 $KAlO_2-KAlSiO_4$ system, cristobalite-related phases in, synthesis and characterization, **147**, 624
 $La_{3-x}Ce_x(Si_3N_4)I$ ($0 \leq x \leq 1$), structure and luminescence, **147**, 259
 $LaCo_{1-x}Cu_xO_3$ perovskites with large surface area, structural, magnetic, and morphological properties, **146**, 291
 $LaMn_{1-x}Cu_xO_3$ perovskites with large surface area, structural, magnetic, and morphological properties, **146**, 291
 $La_{23.1}Ti_{16.2}S_{49}Cl_8O_8$, synthesis and structure, **147**, 592
 $La_\delta Zr_{1-\delta}O_{2-\delta/2}$ ($0.49 < \delta < 0.51$) pyrochlore, displacive flexibility, structured diffuse scattering as indicator, **142**, 393
 $\beta''-(Mg,Fe)Al(PO_4)O$, Mg^{2+} and Fe^{2+} substitution in trigonal-bipyramidal-coordinated site, **142**, 51
 $MgIn_{2-x}Ga_xO_4$, crystal structures and electrical and optical properties, **142**, 206
 $TiPbCl_{3-x}Br_x$, preparation at high pressure, **146**, 351
 $Tl_{1-x}Rb_xPbCl_3$, preparation at high pressure, **146**, 351
tungsten bronze-type, $Ba_{6-3x}Sm_{8+2x}Ti_{18}O_{54}$ ($x = 0.3, 0.5, 0.67, 0.71$) with superstructure, **142**, 336
- Solubility diagrams
 $CsBr-Me^{2+}Br_2-H_2O$ ($Me^{2+} = Mn, Co, Ni$) and $NH_4Br-MnBr_2-H_2O$ double salts, **143**, 16
- Solvothermal synthesis
CdSe nanocrystals, **147**, 82
 CdS_xSe_{1-x} nanowires, **147**, 637
 $[C_9H_{20}N][Al_2(HPO_4)_2(PO_4)]$ with layer topology, **145**, 731
 $[C_6H_{21}N_4][Al_3P_4O_{16}]$, **146**, 458
 $Cs_2Cu_2Sb_2Se_5$, **147**, 132
 Cu_7Te_4 nanocrystals at low temperature, **146**, 47
 $RbCu_{1.2}Ag_{3.8}Se_3$, **147**, 132

- Sn₄P₃** nanocrystals, **146**, 110
A₄Sn₄Se₁₀·xH₂O with 20- (*A* = Cs; *x* = 3.2) and 36-membered pores (*A* = K,Rb; *x* = 4.5,1.5), **147**, 146
transition metal sulfide nanocrystals, **146**, 484
- Spanning overlap**
in γ -[(CH₃)₂(C₂H₅)₂N][Ni(dmit)₂]₂, stable 2-D metallic state with stacking motif in, **145**, 564
- Specific heat**
Nd₅Ni₆In₁₁, **142**, 180
- Spectroscopy**, *see also specific technique*
Nd³⁺ ions in CsGd₂F₇ host, **142**, 108
Yb³⁺-doped borate glass with high emission cross sections, **144**, 449
- Spinels**
GaM_{0.4}S₈ and GaV₄S₈ vacancy ordered spinels, electronic structure, *ab initio* calculations, **148**, 143
LiMn₂O₄, formed by sol-gel synthesis, characterization, **147**, 509
lithium ion electrode materials, analysis in terms of atomic orbitals, **147**, 85
LiTiS₂ and TiS₂, structures, first principles calculations, **145**, 503
(Mg_{0.22}Mn_{0.07}Fe_{0.71})_{3- δ} O₄ ferrite spinel, nonstoichiometry and thermodynamics, **145**, 276
Nb₂O₅/V₂O₅ doped spinel ferrites, mechanical properties, **148**, 376
Ni_xAl_{1-x}Mn₂O₄, preparation for oxygen electrocatalysis in alkaline medium, **145**, 23
Ni₃S₄, synthesis at ambient temperature and electron ferrimagnetism, letter to editor, **147**, 679
ZnFe₂O₄, inverse spinel formed by mechanical activation and mechano-synthesis, surface structure, **146**, 13
Zn_(1-x)Ga_{2x/3}Cr₂Se₄ system, metal ion distribution and magnetic properties, **148**, 215
- Spin-gap systems**
Na₉V₁₄O₃₅, crystal structure and magnetic properties, letter to editor, **145**, 361
- Spin glass behavior**
La₂NiRhO₆, **146**, 163
magnetism of La₂Co_xCu_{1-x}O_{4+ δ} , **145**, 587
SrSn_{1-x}Fe_xO_{3-y} system, **142**, 288
- Spin reorientation**
NdCaCrO₄, **148**, 361
Ni_xCr_{3-x}S₄ (*x* = $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$), **143**, 163
- Spin reorientation transition**
ScMnO₃, **143**, 132
- Spiroffite**
M₂Te₃O₈ (*M* = Mn,Co,Ni,Cu,Zn) with structure of, hydrothermal synthesis and characterization, **143**, 246
- s-p mixing**
role in structures of group 15 elements, **147**, 26
- Stability**, *see also Thermal stability*
Ba₂B'B''O₆ and Ba₃B''B''O₉ perovskites, **148**, 492
 γ -Gd₂S₃ at high pressures, **148**, 370
solids, empirical potentials for analysis of, **145**, 517
- Stacking faults**
in layered molecular-based magnets *AM*^{II}Fe(C₂O₄)₃ (*M*^{II} = Mn,Fe; *A* = organic cation), modeling, **147**, 3
- Stellerite**
hydrothermally synthesized, morphology, **142**, 451
- Stereochemistry**
effect of 6s² lone-pair electrons on crystal structure of Pb₄BiO₄PO₄, **142**, 80
[V(OH₂)₆]³⁺ cation, correlation with electronic structure, **145**, 460
- Stilbite**
hydrothermally synthesized, morphology, **142**, 451
- Strontrium**
(Ba,Sr)Co_{1-x}O_y hexagonal perovskite-related oxides, cation deficiency in, **142**, 419
- Ba_{1-x}Sr_xCoO₃ (0 ≤ *x* ≤ 0.5) with one-dimensional structure, synthesis and properties, **146**, 96
BaSrPdF₆, crystal structure, **148**, 242
(Ba_{0.875}Sr_{0.125})RuO₃, structure, bond-valence analysis, **143**, 69
BaSr₄U₃O₁₄, crystal structure, **146**, 144
(Bi,Pb)₂Sr₂Ca _{$n-1$} Cu _{n} O_{2n+4+ δ} (*n* = 2,3) superconductors, and iodine intercalates, thermoelectric power, **142**, 199
(Bi,Pb)_{1.64}Sr_{1.43}Ca_{1.57}Mn₂O₉, synchrotron X-ray powder diffraction, **147**, 501
Bi_x(Sr_{0.75± ε} Bi_{0.25± ε} O)_{(3+3x)/2}MO₂ (*M* = Co,Cr), synthesis, structure, and physical properties, **142**, 305
M-X-Bi₂Sr₂Ca _{$n-1$} Cu _{n} O_{2n+4+ δ} (*M* = metal; *X* = halogen; *n* = 1,2,3), heterostructured high-T_c superconductors, **147**, 328
Bi_{1-x}Sr_{3+x}CoCO_{6+ δ} , 2201-type cobaltite with nonmodulated structure, synthesis and properties, **148**, 108
Ca_{2-x}Sr_xMnO₄, crystal structure and magnetic properties, **145**, 705
LaHo_{0.75}Sr_{0.25}CuO_{3.9-x}F_y, T* phase, structural transformations in, **147**, 647
La_{0.7}Sr_{0.3}Co_{1-z}Mn_zO_{3±y} (0 ≤ *z* ≤ 1), crystal structure, **143**, 52
La_{1-x}Sr_xCoO₃, metal-insulator transition and crystal structure as function of Sr content, temperature, and oxygen partial pressure, **142**, 374
La_{1-x}Sr_xCr_{1-x}Ti_xO₃ perovskites, structural characterization, **144**, 81
La_{0.8}Sr_{0.2}Ga_{0.85}Mg_{0.15}O_{2.825}, structural study, **143**, 202
La_{2-x}Sr_xLi_{1/2}Co_{1/2}O₄ (*x* < 0.5), ordered K₂NiF₄-type structure and electronic properties of Co^{III} and Co^{IV} ions, **146**, 79
La_{1-x}Sr_xMnO_y (0.5 ≤ *x* ≤ 1.0) perovskite, synthesis and magnetic properties, **146**, 1
(La,Sr)MnO₃ perovskites prepared by fused salt electrolysis, electrical and magnetic properties, **145**, 88
La_{2-x}Sr_xNiO₄, reduction: identification of factors influencing Ni⁺ stabilization, **148**, 499
La_{2-x}Sr_xNiO_{4+ δ} (0.2 ≤ *x* ≤ 1.0), structural evolution with oxidation state: octahedral distortion and phase separation, **145**, 401
Li₂Sr_{1.5}(Nb_{3-x}Fe_x)O_{10-x}, Ruddlesden-Popper phases, electron-induced structural changes during HREM, **145**, 136
Nd_{0.5}Sr_{0.5}MnO₃, charge-ordered perovskite, giant oxygen isotope effect in, **144**, 232
Nd_{0.67}Sr_{0.33}MnO₃ doped with CaF₂, crystallography and magneto-resistance, **148**, 236
Pr_{1-x}Sr_xCoO_{3- δ} , structure and magnetism, **147**, 464
RbCa₂Na_{1-x}Sr_xNb₄O₁₃ (*x* = 0.2,0.4) with perovskite-like layers, synthesis, structure, and semiconducting properties, **148**, 508
Sr²⁺, doping of oxide ceramics by solid oxide electrochemical doping SOED2 method, **146**, 406
Sr₂Au₃In₄, structure and properties, **145**, 283
Sr₂BN₂I with isolated BN₂³⁻ units, synthesis and crystal structure, **142**, 187
Sr₂B₂O₅, crystal and electronic structures and linear optics, **144**, 30
Sr₂B₅O₉Cl prepared in air at high temperature, Eu³⁺ reduction to Eu²⁺ in, mechanism, **145**, 212
(Sr,Ca,*Ln*)₃Co₂O_{6± δ} (*Ln* = Sm,Eu,Gd,Tb,Dy,Ho,Y), synthesis, crystal structure, and electrical and magnetic properties, **146**, 277
Sr_{4-x}Ca_xFe_{6-y}Co_yO_{13+ δ} , synthesis, crystal chemistry, and electrical properties, **145**, 260
SrCeO₃, ionic and electronic defect concentrations, calculation, **143**, 115
Sr₂CeO₄, Pr⁴⁺ in, EPR study, **144**, 20
Sr₂CuB'O₆ (*B'* = W,Te), B-site-ordered perovskite-type oxides, crystal structure and magnetic properties, **147**, 291
Sr₃Cu₃(PO₄)₄, crystal structure and topology, **142**, 6
Sr[Fe(CN)₅NO]·4H₂O, oxidative thermal decomposition for synthesis of SrFeO_{2.5+x} (0 ≤ *x* ≤ 0.5), **142**, 138
Sr₂FeIrO₆, structural chemistry and electronic properties, **145**, 541
SrFeO_{2.5+x} (0 ≤ *x* ≤ 0.5), synthesis by oxidative thermal decomposition of Sr[Fe(CN)₅NO]·4H₂O, **142**, 138

- SrFe₃(PO₄)₃, hydrothermal synthesis, structure, and physical properties, **147**, 390
- SrGeTeO₆, structure and order-disorder phenomena, **147**, 99
- SrHgO₂, thermogravimetry under controlled oxygen and mercury partial pressures and related thermodynamics, **146**, 151
- Sr₂LnIrO₆ (*Ln* = Ce,Tb) perovskites, structure and magnetic properties, **145**, 356
- (Sr,K)₃Bi₂O₇, synthesis and crystal structure, **144**, 405
- Sr_{1+x}La_{1-x}FeO₄ (0 ≤ *x* ≤ 0.20), nonadiabatic hopping conduction below 300 K, **145**, 58
- Sr_{2-x}La_xFeO_{4-δ} (0 ≤ *x* ≤ 0.5), magnetic susceptibility and Mössbauer spectroscopy, **146**, 253
- A_{1-x}Sr_xMnO₃ (*A* = La,Nd,Y) perovskites, energetics, **145**, 77
- Ln*_{1-x}Sr_xMnO₃ (*Ln* = rare earth), insulator-metal transition and charge ordering, IR study, **145**, 557
- Sr₁₀((B,Mn)O₄)₆F₂ (*B* = P,V) substituted with Mn(V), color, **146**, 464
- SrNbO₃, GdFeO₃-type, transmission electron microscopy and neutron powder diffraction, **147**, 421
- SrO_{2-x} (1.98 ≥ 2 - *x* ≥ 1.90), structural properties, **147**, 478
- Sr₃MO₄F (*M* = Al,Ga), synthesis and Rietveld refinement, **144**, 228
- Sr₂Ru₃O₁₀, high-pressure synthesis and crystal structure, **143**, 266
- Sr₄Ru_{3.05}O₁₂ hexagonal perovskite, synthesis and crystal structure, **144**, 125
- SrSn_{1-x}Fe_xO_{3-y} system, nonstoichiometry and physical properties, **142**, 288
- Sr₂TaO₃N, crystal structure determination, **146**, 390
- SrTiO₃, point defect energies, pair-potentials study, **144**, 423
- Sr₅U₃O₁₄, structural and thermodynamic characterization, **146**, 144
- SrVO₃Cl, with chain and layered structures, **145**, 634
- TlSr₂CoO₅, local electronic configuration, relationship to occurrence of metallic state, **147**, 211
- TlSr₂NiO_{4+δ}, structure, high-resolution neutron diffraction study, **144**, 62
- Y₂SrCu_{0.6}Co_{1.4}O_{6.5}, double-layered, structure and weak ferromagnetism, **146**, 488
- Structure, *see also* Crystal structure; Defect structure; Electronic structure; Magnetic structure; Superstructure; Tunnel structure
- adipic acid, phase transition, **148**, 129
- β-alumina and magnetoplumbite, europium aluminum oxynitrides with, **142**, 48
- (Ba_{2-3x}Bi_{3x-1})(Fe_{2x}Bi_{1-2x})O_{2+3/2x} perovskites, **147**, 45
- BaCe_xZr_{1-x}O₃ (0 ≤ *x* ≤ 1), perovskite-type structure, Raman spectroscopy, **142**, 220
- Ba₃Mo₁₈O₂₈, polytypism and chemical intergrowth, HREM study, **142**, 89
- Ba₄Nd₂Ti₄Ta₆O₃₀ and Ba₅NdTi₃Ta₇O₃₀ bronzes, **148**, 438
- Bi-Mo mixed oxides, **142**, 294
- (Bi,Pb)_{1.64}Sr_{1.43}Ca_{1.57}Mn₂O₉, **147**, 501
- bis-dihexadecyldimethylammonium dichromate, **145**, 655
- Bi_{1-x}Sr_{3+x}CoCO_{6+δ} 2201-type cobaltite, **148**, 108
- CeCrO₄ prepared by reduction and successive oxidation of t'-(Ce_{0.5}Zr_{0.5})O₂ phase, **147**, 573
- CrS₃, amorphous structure with [Cr^{III}((S⁻¹)₂)₃]_x chains, XRD modeling study, **145**, 573
- Fe_{3-x}Mn_x□_{3δ/4}O_{4+δ} highly divided powders, **146**, 245
- Fe₂O₃(ZnO)₁₅, antiphase modulated structure, HREM study, **142**, 174
- GaMo₄S₈ and GaV₄S₈ vacancy ordered spinels, band structure, *ab initio* calculations, **148**, 143
- γ-Gd₂S₃ at high pressures, **148**, 370
- GeSe₂ at high pressures, **145**, 167
- group 15 elements, **147**, 26
- incommensurate solid inclusion compounds formed between α,ω-dihalogenoalkanes and tri-*ortho*-thymotide, **148**, 63
- intergrowth oxides: bidimensionality in *T*-, *T'*-, and *T**-type structures, **147**, 379
- internal pore, silica-metal oxide sol pillared clays, effects of positive metal species, **144**, 45
- LaCo_{1-x}Cu_xO₃ perovskite-type solid solutions with large surface area, **146**, 291
- La_{1/3-x}Li_{3x}NbO₃ (0 ≤ *x* ≤ 0.06) perovskite-related materials, modulated structure, **148**, 93
- LaMn_{1-x}Cu_xO₃ perovskite-type solid solutions with large surface area, **146**, 291
- LaNi_{1-x}Ti_xO₃ (0 ≤ *x* ≤ ½) perovskite, **148**, 479
- La_{1-x}Sr_xCr_{1-x}Ti_xO₃ perovskites, **144**, 81
- La_{2-x}Sr_xNiO_{4+δ}: (0.2 ≤ *x* ≤ 1.0), octahedral distortion and phase separation, **145**, 401
- LiMn₂O₄ fluorine-substituted: *in situ* study of 4V-range Li extraction/insertion, **144**, 361
- spinel phase formed by sol-gel synthesis, **147**, 509
- Li₂O-PbO-B₂O₃ glasses, role of PbO, **145**, 65
- lithium Ruddlesden-Popper phases, electron-induced structural changes during HREM, **145**, 136
- maps of close-packed layered compounds and DNA, **145**, 150
- Nd_{0.5}Ca_{0.5}Mn_{1-x}Cr_xO₃: determination of charge ordering process, **148**, 333
- [NH₃CH₂CH₂NH₃]_{2.5}[Al₄H(HPO₄)₄(H₂PO₄)₂(C₂O₄)₄], **143**, 74
- Ni_{1-x}Co_xO₂ metastable oxides prepared by soft chemistry, *in situ* study, **147**, 410
- NiS_{2-x}Se_x system, band structure, **147**, 68
- nuclear, (Ba_{2-3x}Bi_{3x-1})(Fe_{2x}Bi_{1-2x})O_{2+3/2x} (0.43 ≤ *x* ≤ 0.50) perovskites, **147**, 450
- phenoxy-substituted divalent metal phosphonate Langmuir-Blodgett films, **145**, 443
- Pr_xWO₃ intergrowth tungsten bronze structures formed at 50 kbar, HRTEM study, **147**, 536
- Pt/SnO₂ prepared with ultrasonic aerosol device for gas sensors, **144**, 86
- RbCa₂Na_{1-x}Sr_xNb₄O₁₃ (*x* = 0.2,0.4) with perovskite-like layers and semiconducting properties, **148**, 508
- skutterudite, CeOs₄P₁₂ and La_{1-x}Ce_xRu₄P₁₂ with, electrical and magnetic properties, **142**, 146
- SnO₂ prepared with ultrasonic aerosol device for gas sensors, **144**, 86
- α-SnSe, visualization by atomic force microscopy, **148**, 513
- A²⁺M⁴⁺Te⁶⁺O₆ and A₃⁺M⁴⁺Te⁶⁺O₆, **147**, 99
- Tl(I)Te(IV) oxide glasses, **146**, 329
- Y₂SrCu_{0.6}Co_{1.4}O_{6.5}, **146**, 488
- ZnFe₂O₄ surface, formed by mechanical activation and mechanosynthesis, **146**, 13
- Structured diffuse scattering as indicator of displacive flexibility in pyrochlore La_δZr_{1-δ}O_{2-δ/2} (0.49 < δ < 0.51), **142**, 393
- Sulfur
- β-Ag₂S nanocrystals, preparation, **146**, 484
- AuCrS₂, preparation and structure, **148**, 487
- BaAg₈S₅, synthesis and crystal structure, **144**, 409
- BaLa₂MnS₅, synthesis, crystal structure, and electrical properties, **146**, 336
- BaNbS_{3+δ}, quasi-one-dimensional, resistance anomaly in, **142**, 57
- (BEDT-TTF)₃Cl₂·(H₂O)₂ superconductor, structure at low temperatures, **145**, 496
- Bi_{0.5}La_{13.5}Ti₈S₂₉Cl₄O₄, synthesis and structure, **147**, 592
- ALn_{1±x}Bi_{4±x}S₈ (*A* = K,Rb; *Ln* = La,Ce,Pr,Nd) semiconductors, synthesis and characterization, **143**, 151
- CdS nanocrystals, preparation, **146**, 484
- CdS_xSe_{1-x} nanowires, solvothermal fabrication, **147**, 637
- Ce₃(SiS₄)₂X (*X* = Cl,Br,I), structure and luminescence, **147**, 259
- Co₅(OH)₈(C₁₂H₂₅SO₃)₂·5H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452

- $\text{Cr}_4(\text{P}_2\text{S}_6)_3$, room-temperature synthesis and characterization, **144**, 388
 CrS_3 , amorphous structure with $[\text{Cr}^{\text{III}}_2((\text{S}^-)_2)_3]_x$ chains, XRD modeling study, **145**, 573
 $\text{CuClCu}_2\text{TeS}_3$, neutron powder diffraction and electrical properties, **147**, 170
 Cu_4GeS_4 , preparation, electrical properties, and crystal and electronic structures, **145**, 204
 $(\text{CuI})_2\text{Cu}_3\text{SbS}_3$, electrical properties, **147**, 170
 $(\text{CuI})_2\text{Cu}_2\text{TeS}_3$, electrical properties, **147**, 170
 $\text{Cu}_2(\text{OH})_3(\text{C}_{12}\text{H}_{25}\text{SO}_3)\cdot\text{H}_2\text{O}$, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
 Cu_xS nanocrystals, preparation, **146**, 484
 Cu_2S nanocrystals, preparation, **146**, 484
 effect in latent image formation on $\text{AgBr}(100)$ surface, **146**, 516
 κ -ET₂Cu(SCN)₂ organic conductor, electronic structure, soft X-ray absorption and emission studies, **143**, 1
 $[(\text{EuS})_{1.5}]_{1.15}\text{NbS}_2$, mixed valence state of Eu in, **147**, 58
 $\text{Fe}_x\text{Ga}_2\text{S}_{3+x}$ close-packed layer compounds, structure maps, **145**, 150
 FeV_2S_4 , magnetic structure, powder neutron diffraction study, **144**, 372
 GaMo_6S_8 vacancy ordered spinels, electronic structure, *ab initio* calculations, **148**, 143
 GaV_4S_8 vacancy ordered spinels, electronic structure, *ab initio* calculations, **148**, 143
 $\gamma\text{-Gd}_2\text{S}_3$, stability and optical properties at high pressures, **148**, 370
 Hg-MoS_2 , synthesis and characterization, **147**, 336
 $\text{H}_2\text{O}-\text{Na}_2\text{SO}_4-\text{Na}_2\text{HPO}_4$, liquid-solid equilibria, **144**, 247
 H_2S , reactivity with nanocrystalline SnO_2 , *in situ* coupled Raman and impedance measurements, **143**, 86
2H-WS₂ fullerene-related structures, defect and ordered tungsten oxides encapsulated in, **144**, 100
 In_2S_3 spinel, lithium ion electrode materials derived from, analysis in terms of atomic orbitals, **147**, 85
 $\text{K}_{0.3}(\text{H}_2\text{O})_y\text{MoS}_2$, structural study, **144**, 430
 KHSO_4 , reaction with NH_4VO_3 at different temperatures, **145**, 128
 $\text{K}_{0.7}\text{MoS}_2$, structural study, **144**, 430
 KMPS_4 ($M = \text{Ni}, \text{Pd}$), flexibility of MPS_4^- chains in, molecular orbital calculations and atomic force microscopy measurements, **147**, 235
 $\text{La}_{3-x}\text{Ce}_x(\text{SiS}_4)_2\text{I}$ ($0 \leq x \leq 1$) solid solution, structure and luminescence, **147**, 259
 $\text{La}_{23.1}\text{Ti}_{16.2}\text{S}_{49}\text{Cl}_8\text{O}_8$, synthesis and structure, **147**, 592
 LiKSO_4 , thermal analysis and X-ray diffraction studies of phase transitions, **148**, 316
 LiTiS_2 cubic spinel structure, first principles calculation, **145**, 503
 $\alpha\text{-MnS}$ nanocrystals, preparation, **146**, 484
 $\text{Mo}_y[\text{Mo}_6\text{Se}_{8-x}\text{S}_x]$, high-temperature Chevrel phases, **145**, 159
1T-MoS₂, intercalation compounds derived from, electron diffraction study, **144**, 430
 $\text{Mo}_6\text{Se}_{8-x}\text{S}_x$, copper insertion into, electrochemical study, **147**, 199
 Na_2SO_4 conductivity and phase transitions, effects of homovalent anion doping, **146**, 6
Yb(III)-doped phase I, defect structure, **145**, 309
 Nb_3S_4 , charge density wave transitions induced by In intercalation, **144**, 454
 $\text{Ni}_x\text{Cr}_{3-x}\text{S}_4$ ($x = \frac{1}{4}, \frac{1}{2}, \frac{3}{4}$), magnetic structure and spin reorientation, **143**, 163
 $\text{Ni}_2(\text{OH})_3(\text{C}_{12}\text{H}_{25}\text{SO}_3)\cdot\text{H}_2\text{O}$, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, **145**, 452
 NiS nanocrystals, preparation, **146**, 484
 Ni_3S_4 spinel, synthesis at ambient temperature and electron ferrimagnetism, letter to editor, **147**, 679
 $\text{NiS}_{2-x}\text{Se}_x$ system, correlation effects in, **147**, 68
 $(\text{Pb}_2\text{FeS}_3)_{0.58}\text{NbS}_2$ misfit layered compound, structure and physical properties, **142**, 461
 PbS nanocrystals, preparation, **146**, 484
 $R\text{Pd}_3\text{S}_4$ ($R = \text{Ce}, \text{Gd}$), magnetic properties, **146**, 226
 PrS_2 , crystal growth, phase equilibrium, and Raman spectra, **146**, 211
 $\text{Rb}_3\text{Re}_6\text{S}_7\text{Br}_7$, synthesis via direct high-temperature route and crystal structure, **147**, 358
 $\text{SmS}_2\text{-SmS}_{1.5}$ system, thermodynamics, **142**, 261
 $\text{S}_2\text{O}_6\text{F}_2$, intercalation of hexagonal BN by, analysis: metallic nature of products, **147**, 74
1-T-TaS₂, ammoniated, intercalation and deintercalation processes for, **145**, 336
tin sulfides, mechanochemically synthesized, properties and reactivity, **144**, 1
 TiS_2 cubic spinel structure, first principles calculation, **145**, 503
 $\text{VO}_2(\text{SO}_3)_{0.5}$, magnetic susceptibility, **145**, 128
 $\text{YM(OH)}_3(\text{SO}_4)$ ($M = \text{Ni}, \text{Cu}$), synthesis and structures, **147**, 641
 ZnS nanocrystals, preparation, **146**, 484
 ZrP_2S_6 and ZrP_2S_7 , synthesis and crystal structure, **143**, 239
 ZrS_2 , ammonia intercalation into, **147**, 38
Sulfurization preparation of quasi-one-dimensional $\text{BaNbS}_{3+\delta}$ displaying resistance anomaly, **142**, 57
Supercapacitor behavior ideal, amorphous $\text{V}_2\text{O}_5 \cdot n\text{H}_2\text{O}$ in KCl aqueous solution, **148**, 81 with KCl electrolyte, **144**, 220
Superconductivity erbium rhodium stannide, competition with magnetism, **147**, 399
 $\text{NaK}_{29}\text{Hg}_{48}$, **147**, 177
Superconductors ($\text{BEDT-TTF})_3\text{Cl}_2 \cdot (\text{H}_2\text{O})_2$, structure at low temperatures, **145**, 496
 $(\text{Bi}, \text{Pb})_2\text{Sr}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+4+\delta}$ ($n = 2, 3$), and iodine intercalates, thermoelectric power, **142**, 199
 $M\text{-X-Bi}_2\text{Sr}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+4+\delta}$ ($M = \text{metal}; X = \text{halogen}; n = 1, 2, 3$), heterostructured, with high T_c , **147**, 328
BSCCO-2212, Mn-analogue $(\text{Bi}, \text{Pb})_{1.64}\text{Sr}_{1.43}\text{Ca}_{1.57}\text{Mn}_2\text{O}_9$, synchrotron X-ray powder diffraction, **147**, 501
 $\gamma\text{-}[(\text{CH}_3)_2(\text{C}_2\text{H}_5)_2\text{N}][\text{Ni}(\text{dmit})_2]_2$, stable 2-D metallic state with stacking motif in spanning overlap, **145**, 564
cuprate, vortex state in, electronic properties, **148**, 85
granular composites with ferrite, preparation with sintering process, **145**, 317
 $\text{HgBa}_2\text{CuO}_{4+\delta}$, local structural perturbations, **148**, 119
 $\text{Hg}_{1-x}\text{Re}_x\text{Ba}_2\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+2+4x+\delta}$, 1256 and 1267 type single crystals, structure and properties, **143**, 277
 $(\text{K}_{0.87}\text{Bi}_{0.13})\text{BiO}_3$, crystal structure, **144**, 205
 Na_2CsC_60 fulleride, pressure and temperature evolution of structure, **145**, 471
organic, $(\text{KH})_3\text{C}_60$, preparation by intercalation of KH into C_60 , **145**, 421
Superionic conductors Y-Zr-O-N materials, **142**, 163
Superspace determination $[(\text{EuS})_{1.5}]_{1.15}\text{NbS}_2$: detection of mixed valence state for Eu, **147**, 58
Superspace-group approach to phase transition of Cu_8GeSe_6 , **146**, 355
Superstructure $Ln_2\text{Au}_3\text{In}_5$ ($Ln = \text{Ce}, \text{Pr}, \text{Nd}, \text{Sm}$), **148**, 425
 $\text{Ba}_{6-3x}\text{Sm}_{8+2x}\text{Ti}_{18}\text{O}_{54}$ ($x = 0.3, 0.5, 0.67, 0.71$), tungsten bronze-type solid solutions with, **142**, 336
 $(\text{Ca}_{1-x}\text{Y}_x)_{0.82}\text{CuO}_2$ quasi one-dimensional compound prepared at room pressure, **145**, 511
 CeTa_{4+x} ($x \approx 0.17$), ordering of $\text{Ce}^{\text{III}}/\text{Ce}^{\text{IV}}$ and interstitial oxygens in, **144**, 240
cristobalite-related phases in $\text{KAIO}_2\text{-KAlSiO}_4$ system, **147**, 624
 $\text{K}_2\text{Gd}_2\text{Sb}_2\text{Se}_9$, eightfold, caused by 3D ordering of $\text{Sb}^{3+} 5s^2$ lone pair, **147**, 309

- $K_{0.3}(H_2O)_yMoS_2$, electron diffraction study, **144**, 430
 $K_2La_2Sb_2Se_9$, eightfold, caused by 3D ordering of Sb^{3+} $5s^2$ lone pair, **147**, 309
 $K_{0.7}MoS_2$, electron diffraction study, **144**, 430
 $La_{0.8}Sr_{0.2}Ga_{0.85}Mg_{0.15}O_{2.825}$, **143**, 202
 $1T\text{-}MoS_2$, electron diffraction study, **144**, 430
 $(Nb,W)_{12}O_{32}$ generated by *in situ* reaction in gas reaction cell microscope, **143**, 33
 $LnPtGe$ ($Ln = Ce, Pr, Nd, Sm$), **142**, 400
 YFe_2D_x compounds ($x = 1.3, 1.75, 1.9, 2.6$), neutron diffraction study, **142**, 120
- Surfaces**
 $AgBr(100)$, photographic sensitization and effect of Au and S in latent image formation, **146**, 516
modeling, empirical potentials for, **145**, 517
 TiO_2 ultrafine particles, luminescence study, **145**, 711
 $ZnFe_2O_4$, formed by mechanical activation and mechanochemical synthesis, structure, **146**, 13
- Surfactants**
use in insertion of gallium oxide into α -titanium phosphate, **147**, 664
- Synchrotron powder X-ray diffraction**
 $(Bi,Pb)_{1.64}Sr_{1.43}Ca_{1.57}Mn_2O_9$, **147**, 501
- Synthesis**, *see also* Hydrothermal synthesis; Sol-gel synthesis; Solvothermal synthesis
 $BaLnMQ_3$ (Ln = rare earth; M = coinage metal; Q = Se or Te), **147**, 366
 $BaAg_8S_5$, **144**, 409
 $(Ba_{2-3x}Bi_{3x-1})(Fe_{2x}Bi_{1-2x})O_{2+3/2x}$ perovskites, **147**, 45
 $Ba_8(BN_2)_5F$, **142**, 192
 $Ba_3Ln(BO_3)_3$ (Ln = La–Lu, Y), **145**, 33
 Ba_2CdTe_3 , **148**, 464
 $BaCu_2(PO_4)_2 \cdot H_2O$ and $Ba_2Cu(PO_4)_2 \cdot H_2O$, **142**, 6
 $BaLa_2MnS_5$, **146**, 336
 $Ba_4Nd_2Ti_4Ta_6O_{30}$ and $Ba_5NdTi_3Ta_7O_{30}$ bronzes, **148**, 438
 $Ba_2B''O_6$ and $Ba_3B''B'_2O_9$ perovskites by molten salt method, **148**, 492
 $Ba_{1-x}Sr_xCoO_3$ ($0 \leq x \leq 0.5$) with one-dimensional structure, **146**, 96
 $Ba_{4-x}Y_{3+x}F_{17+x}$ ($x \approx 0.08$) in copper ampoule, **142**, 152
 $Be(HAsO_4) \cdot H_2O$, **146**, 394
 $Be_3(PO_4)_2 \cdot 2H_2O$, **146**, 394
 $Bi_x(A_{0.75 \pm \epsilon}Bi_{0.25 \pm \epsilon}O_{(3+3x)/2})MO_2$ ($A = Ca, Sr$; $M = Co, Cr$) with double rock salt layers, **142**, 305
 $Bi_{0.5}La_{13.5}Ti_8S_{29}Cl_4O_4$, **147**, 592
 $BiMnO_3$
ferromagnetic perovskite, **145**, 639
perovskite at high pressure, **142**, 113
 $Bi_8Pb_5O_{17}$ fast ion conducting phases, **144**, 255
 $(Bi,Pb)_{1.64}Sr_{1.43}Ca_{1.57}Mn_2O_9$, **147**, 501
 $ALn_{1 \pm \epsilon}Bi_{4 \pm \epsilon}S_8$ ($A = K, Rb$; $Ln = La, Ce, Pr, Nd$) semiconductors, **143**, 151
 $Bi_{1-x}Sr_{3+x}CoCO_{6+\delta}$ 2201-type cobaltite with nonmodulated structure, **148**, 108
 $Bi_2VO_{5.5}$ ferroelectric nanocrystalline powders, **142**, 41
BN nanocrystals, **148**, 325
 $H\text{-}LnBO_3$ ($Ln = La, Nd, Sm, Eu$), **148**, 229
 $B_6O_{1-\delta}$: nucleation and growth of icosahedral clusters at high pressure, **147**, 281
 R_3Br_3Pn and R_5Pn_3Br ($R = La, Pr$; $Pn = P, As, Sb, Bi$), **144**, 175
 Ca_3CoRhO_6 one-dimensional oxide, **146**, 137
 $CaCu_3Mn_4O_{12}$ -based oxides with perovskite structure displaying giant magnetoresistance, **147**, 185
 Ca_3FeRhO_6 one-dimensional oxide, **146**, 137
calcium copper phosphates, **145**, 345
 Ca_3BMnO_6 ($B = Ni, Zn$) crystallizing in K_4CdCl_6 structure, **145**, 302
 Ca_3ZnCoO_6 crystallizing in K_4CdCl_6 structure, **145**, 302
- $CeMn_2Ge_4O_{12}$, **143**, 145
 $CeNbO_{4+x}$ ($x = 0.08, 0.25, 0.33$), **143**, 122
 $CeOs_4P_{12}$ with skutterudite structure, **142**, 146
 $Ce_2Zr_2O_{7.97}$ pyrochlore with fluorite composition, **148**, 56
 $CN_3H_6 \cdot VO(H_2O)(HPO_4)(H_2PO_4) \cdot H_2O$, **142**, 168
 $(CN_3H_6)_2 \cdot Zn_4H_5(PO_4)_5$ built up from 3-, 4-, and 8-ring units, **148**, 433
 $Co\text{-}Mg\text{-}Al$ layered double hydroxides, **142**, 382
complex lanthanide fluorides in copper ampoule, **142**, 152
cristobalite-related phases in $KAlO_2\text{-}KAlSiO_4$ system, **147**, 624
 $Cr_4(P_2S_6)_3$ at room temperature, **144**, 388
 $CsPbTa_6Cl_{18}$ and $Cs_2PbTa_6Cl_{18}$, **147**, 350
 $CsUV_3O_{11}$ with layered structure, **146**, 258
 $RECu_{1+x}As_2$ ($RE = La, Ce, Pr$), **147**, 140
 $[Cu(dicyanamide)_2(pyrazine)]_n$, **145**, 387
 Cu_4GeS_4 , **145**, 204
 $Cu_2(OH)_3NO_3$, **148**, 26
 $Cu(VO)(SeO_3)_2$ (A) and (B) forms, **147**, 296
 $EuIr_2$, $EuIrSn_2$, and $EuRhIn$, **145**, 174
FeAs nanocrystals via reductive recombination pathway, **144**, 237
 $AFeO_{2.5+x}$ ($0 \leq x \leq 0.5$; $A = Sr, Ca$) by oxidative thermal decomposition of $A[Fe(CN)_5NO] \cdot 4H_2O$, **142**, 138
 FeP_3SiO_{11} , **147**, 565
 $GdMnGe_2O_{17}$, **143**, 145
 $Hg\text{-}MoS_2$, **147**, 336
 $H_3N(CH_2)_3NH_3 \cdot Zn_2(HPO_4)_3$, **147**, 584
 $InSnBr_3$ and $InSnCl_3$ with close cation–cation contacts, **146**, 344
intercalate phases in organic–inorganic polyaniline/ V_2O_5 system, **147**, 601
 $In_3Ti_2AO_{10}$ ($A = Al, Cr, Mn, Fe, Ga$), **147**, 438
 $In_6Ti_6BO_{22}$ ($B = Mg, Mn, Co, Ni, Cu, Zn$), **147**, 438
 $K_2Ag_{12}Se_{7.11}$ from supercritical ethylenediamine, **144**, 287
 $K_2Gd_2Sb_2Se_9$ and $K_2La_2Sb_2Se_9$ with eightfold superstructure caused by 3D ordering of $5s^2$ lone pair of Sb^{3+} , **147**, 309
 $La_{0.74}Ca_{0.26}MnO_{3+d}$, conditions for, effects on effective oxygen content and properties, **144**, 461
 $La_{1-x}Ca_xMnO_{3+d}$, conditions for, effects on oxygen content and structures, **146**, 448
 $La_{1-x}Ce_xRu_4P_{12}$ with skutterudite structure, **142**, 146
 $La_2CuO_{4-x}F_x$, **142**, 440
 $LaGa_{1-x}Ni_xO_{3-\delta}$ perovskites, **142**, 325
 $La_4Mn_3Ge_{5.2}Si_{0.8}O_{22}$ with perrierite structure, **147**, 247
 $LaMnO_3$ substituted with Na, **146**, 88
 $La_7Mo_7O_{30}$ with perovskite-related structure, **142**, 228
 $La(OH)_2NO_3 \cdot H_2O$, **148**, 26
 $La_{1-x}Sr_xMnO_y$ ($0.5 \leq x \leq 1.0$) perovskite, **146**, 1
 $La_2TiAlO_{6.5-x}$ perovskite, **146**, 437
 $La_{23.1}Ti_{16.2}S_{49}Cl_8O_8$, **147**, 592
layered metal–hydroxide triangular lattices 25 Å apart, **145**, 452
 $Li_2[NiF(PO_4)]$ with ordered mixed anionic framework, **142**, 1
 $Li_3Ta_{1-x}Nb_xO_4$, flux synthesis, **145**, 110
 $Lu_2Ru_2O_7$ pyrochlorides, **144**, 216
 $P''\text{-}(Mg, Fe)Al(PO_4)O$ with Mg^{2+} and Fe^{2+} substitution in trigonal-bipyramidal-coordinated site, **142**, 51
 $MgIn_{2-x}Ga_xO_4$ solid solutions, **142**, 206
 $Mg(NH_3)_2X_2$ ($X = Cl, Br, I$), **147**, 229
 $AMnSe_2$ ($A = Li, Na, K, Rb, Cs$), **146**, 217
 $Mn_{0.6}Ta_{0.4}O_{1.65}$ defect fluorite structure, **145**, 37
monoclinic hydroxyapatite, **144**, 272
 $MoO_{3-x}(OH)_x$ bronze in aqueous solution, **147**, 269
 $Na_3Bi(P_2O_7)_2$, **143**, 104
 $Na_2Mn_2Se_3$, **146**, 217
 $Na_3NbO(AsO_4)_2$, **144**, 53
 $Na_3M_2(PO_4)_2F_3$ ($M = Al^{3+}, V^{3+}, Cr^{3+}, Fe^{3+}, Ga^{3+}$), **148**, 260
NbC and niobium carbonitride, **142**, 100

- ($\text{N}_2\text{C}_6\text{H}_{14}$)· $\text{Zn}_3(\text{HPO}_4)_4$, **147**, 584
 ($\text{N}_2\text{C}_6\text{H}_{14}$)· $\text{Zn}(\text{HPO}_4)_2 \cdot \text{H}_2\text{O}$, **147**, 584
 network phosphates with NZP structure, **145**, 227
 $[\text{NH}_3(\text{CH}_2)_4\text{NH}_3][\text{Ga}_4(\text{HPO}_4)(\text{PO}_4)_4]$, **142**, 236
 $[\text{NH}_3(\text{CH}_2)_6\text{NH}_3]_{10}[\text{V}_{15}\text{O}_{37}(\text{Cl})]_2[\text{V}_{15}\text{O}_{36}(\text{Cl})](\text{OH})_3(\text{H}_2\text{O})_3$ bronze with clusters textured by diaminohexane, **147**, 552
 NiFe_2O_4 ultrafine powders using mixed Ni and Fe tartrates, **145**, 50
 $\text{Ni}_2(\text{OH})_3\text{NO}_3$, **148**, 26
 Ni_3S_4 spinel at ambient temperature, letter to editor, **147**, 679
 one-dimensional coordination polymers containing dicyanamide and pyridine-type ligands, **145**, 369
 oxide bronzes, microwave synthesis, **148**, 100
 $\text{Pb}_3\text{Cu}_3(\text{PO}_4)_4$, **142**, 6
 $\text{Pb}_{4+x}\text{Y}_{3-x}\text{F}_{17+x}$ ($x \leq 0.2$) in copper ampoule, **142**, 152
 Pt/SnO_2 , for gas sensors, applicaton of ultrasonic aerosol device, **144**, 86
 RbAg_3Se_3 from supercritical ethylenediamine, **144**, 287
 $\text{RbCa}_2\text{Na}_{1-x}\text{Sr}_x\text{Nb}_4\text{O}_{13}$ ($x = 0.2, 0.4$) with perovskite-like layers and semiconducting properties, **148**, 508
 $\text{Rb}_3\text{Re}_2\text{S}_7\text{Br}_7$ via direct high-temperature route, **147**, 358
 $\text{Ln}_6\text{ReO}_{12}$ ($\text{Ln} = \text{Ho}, \text{Er}, \text{Tm}, \text{Yb}, \text{Lu}$), **148**, 220
 $\text{Sc}_2\text{B}_{1.1}\text{C}_{3.2}$ with graphite-like layers, **148**, 442
 silicon clathrates, **145**, 716
 SnO_2 , for gas sensors, applicaton of ultrasonic aerosol device, **144**, 86
 $\text{Sr}_2\text{BN}_2\text{I}$ with isolated BN_2^{3-} units, **142**, 187
 $(\text{Sr}, \text{Ca}, \text{Ln})_3\text{Co}_2\text{O}_{6 \pm \delta}$ ($\text{Ln} = \text{Sm}, \text{Eu}, \text{Gd}, \text{Tb}, \text{Dy}, \text{Ho}, \text{Y}$), **146**, 277
 $\text{Sr}_{4-x}\text{Ca}_x\text{Fe}_{6-y}\text{Co}_y\text{O}_{13+\delta}$, **145**, 260
 $\text{Sr}_3\text{Cu}_3(\text{PO}_4)_4$, **142**, 6
 $\text{Sr}_3\text{FeIrO}_6$, **145**, 541
 $(\text{Sr}, \text{K})_3\text{Bi}_2\text{O}_7$, **144**, 405
 $\text{Sr}_3\text{MO}_4\text{F}$ ($M = \text{Al}, \text{Ga}$), **144**, 228
 $\text{SrSn}_{1-x}\text{Fe}_x\text{O}_{3-y}$ system, **142**, 288
 TiPbCl_3 at high pressure, **146**, 351
 $\text{TiPbCl}_{3-x}\text{Br}_x$ solid solutions at high pressure, **146**, 351
 $\text{Ti}_{1-x}\text{Rb}_x\text{PbCl}_3$ solid solutions at high pressure, **146**, 351
 AVO_3Cl ($A = \text{Ba}, \text{Sr}, \text{Cd}$) with chain and layered structures, **145**, 634
 $\text{V}_2\text{O}_5 \cdot n\text{H}_2\text{O}$ gels from peroxovanadic acid solutions, ^{51}V NMR study, **148**, 16
 YbAgSn , **145**, 668
 $\text{Yb}_2\text{Pt}_2\text{Pb}$, **145**, 668
 YbZnSn , **145**, 668
 $\text{Y}_2\text{Ru}_2\text{O}_7$ pyrochlores, **144**, 216
 $(\text{Y}, \text{Tb})_3\text{Al}_5\text{O}_{12}$ garnet phosphor nanoparticles, **144**, 437
 $\text{Zn}_5(\text{OH})_8(\text{NO}_3)_2 \cdot 2\text{H}_2\text{O}$, **148**, 26
 ZrP_2S_6 and ZrP_2S_7 , **143**, 239
- T
- Tantalite columbite-tantalite minerals, cation disorder in, Mössbauer assessment, **143**, 219
 Tantalum $\text{Ba}_4\text{Nd}_2\text{Ti}_4\text{Ta}_6\text{O}_{30}$ and $\text{Ba}_5\text{NdTi}_3\text{Ta}_7\text{O}_{30}$ bronzes, synthesis and characterization, **148**, 438
 $\text{Bi}_2\text{O}_3-\text{Ta}_2\text{O}_5$, structural relationships with other bismuth-rich phases, **148**, 380
 $\text{Bi}_4\text{Ta}_2\text{O}_{11}$, crystal structure, modeling and Rietveld refinement, **142**, 33
 CaAlTaO_5 and $\text{Ca}_2\text{AlTaO}_6$, crystal structure, **143**, 62
 $\text{CaO}-\text{Al}_2\text{O}_3-\text{Ta}_2\text{O}_5$, phase diagram, **143**, 62
 CeTa_{4+x} ($x \approx 0.17$) superstructure, ordering of $\text{Ce}^{\text{III}}/\text{Ce}^{\text{IV}}$ and interstitial oxygens in, **144**, 240
 $\text{CsPbTa}_6\text{Cl}_{18}$ and $\text{Cs}_2\text{PbTa}_6\text{Cl}_{18}$, synthesis and structures, **147**, 350
 $\text{Li}_3\text{Ta}_{1-x}\text{Nb}_x\text{O}_4$ prepared by flux synthesis, ultraviolet and X-ray luminescence and phosphor characterization, **145**, 110
 $\text{Mn}_{0.6}\text{Ta}_{0.4}\text{O}_{1.65}$, defect fluorite structure, electron and X-ray powder diffraction study, **145**, 37
 Sr₂TaO₃N, crystal structure determination, **146**, 390
 $\text{1-T-Ta}_2\text{S}_2$, ammoniated, intercalation and deintercalation processes for, **145**, 336
 Ta_3SiTe_6 , scanning-tunneling microscopy, X-ray photoelectron spectroscopy, and inner-shell-electron energy-loss spectroscopy, **142**, 63
 TaTe_2 , scanning-tunneling microscopy, X-ray photoelectron spectroscopy, and inner-shell-electron energy-loss spectroscopy, **142**, 63
 $\text{U}(\text{Ta}, \text{W})_2\text{O}_8$ and $\text{U}(\text{Ta}, \text{W})_5\text{O}_{16}$, crystal structures, HREM study, **144**, 152
 Tellurium Ba_2CdTe_3 , synthesis and structure, **148**, 464
 BaGeTeO_6 , structure and order-disorder phenomena, **147**, 99
 BaLnMTe_3 ($\text{Ln} = \text{rare earth}; M = \text{coinage metal}$), synthesis and characterization, **147**, 366
 $\text{CuClCu}_2\text{TeS}_3$, neutron powder diffraction and electrical properties, **147**, 170
 $(\text{CuI})_3\text{Cu}_2\text{TeS}_3$, electrical properties, **147**, 170
 Cu_2Te_4 nanocrystals, solvothermal synthesis at low temperature, **146**, 47
 A_2CuTeO_6 ($A = \text{Ba}, \text{Sr}$), B-site-ordered perovskite-type oxides, crystal structure and magnetic properties, **147**, 291
 $\text{GdTe}_2\text{O}_5\text{Cl}$, crystal structure, **146**, 473
 $\text{GeTe}-\text{Bi}_2\text{Te}_3$ system, mixed layered tetradymite-like compounds, transport phenomena in, **146**, 305
 $\text{H}_3\text{Fe}_2(\text{TeO}_3)_4\text{Cl}$, hydrothermal synthesis and structure, **143**, 254
 $\text{K}_2\text{SeO}_4 \cdot \text{Te}(\text{OH})_6$, structural and vibrational study, **145**, 612
 $\text{Li}_2\text{GeTeO}_6$, structure and order-disorder phenomena, **147**, 99
 $\text{Na}_2\text{M}^{4+}\text{TeO}_6$ ($\text{M}^{4+} = \text{Ge}, \text{Sn}, \text{Ti}$), structure and order-disorder phenomena, **147**, 99
 $\text{NdTe}_2\text{O}_5\text{Cl}$, crystal structure, **146**, 473
 nonstoichiometric IB-VIA nanocrystals, synthesis and phase transformation by hydrothermal-reduction process, **146**, 387
 Sb_2Te_3 single crystals doped with Pb, point defects in, **145**, 197
 M_3SiTe_6 ($M = \text{Nb}, \text{Ta}$), scanning-tunneling microscopy, X-ray photoelectron spectroscopy, and inner-shell-electron energy-loss spectroscopy, **142**, 63
 SrGeTeO_6 , structure and order-disorder phenomena, **147**, 99
 MTe_2 ($M = \text{Nb}, \text{Ta}$), scanning-tunneling microscopy, X-ray photoelectron spectroscopy, and inner-shell-electron energy-loss spectroscopy, **142**, 63
 $\text{A}^{2+}\text{M}^{4+}\text{Te}^{6+}\text{O}_6$ and $\text{A}_2^{1+}\text{M}^{4+}\text{Te}^{6+}\text{O}_6$, structure and order-disorder phenomena, **147**, 99
 $\text{M}_2\text{Te}_3\text{O}_8$ ($M = \text{Mn}, \text{Co}, \text{Ni}, \text{Cu}, \text{Zn}$) with spiroffite structure, hydrothermal synthesis and characterization, **143**, 246
 Ti_2GeTe_5 , atomic displacement parameters and lattice thermal conductivity, **146**, 528
 Ti_2SnTe_5 , atomic displacement parameters and lattice thermal conductivity, **146**, 528
 Ti(I)Te(IV) oxide glasses, glass structure and optical nonlinearities, **146**, 329
 Temperature effects
 $\text{Ce}(\text{NO}_3)_3 \cdot 6\text{H}_2\text{O}$ AC conductivity spectra, **144**, 354
 GaAsO_4 , comparison with other α -quartz materials, **146**, 114
 $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$ metal-insulator transition and crystal structure, **142**, 374
 $\text{Na}_2\text{Cs}_6\text{C}_{60}$ superconducting fulleride structure, **145**, 471
 Temperature-programmed desorption
 $\alpha\text{-MnO}_2$ with open tunnel, **144**, 136
 Temperature-programmed reduction
 CrVO_4 to CrVO_3 , **144**, 392
 Cu/TiO_2 sol-gel catalysts, copper precursor effect in, **144**, 349
 Terbium
 $\text{Ba}_3\text{Tb}(\text{BO}_3)_3$, synthesis, structure, and properties, **145**, 33
 $\text{Ba}_2\text{TbNbO}_6$ ordered perovskites, crystal structure and magnetic properties, **148**, 353
 $\text{Bi}_{0.775}\text{Tb}_{0.225}\text{O}_{1.5}$ of Bi-Sr-O type, structural and conductivity properties, **142**, 349

- LiTb₆O₅(BO₃)₃**, detection in ternary-phase diagrams Li₂O–Ln₂O₃–B₂O₃, **146**, 189
- (Sr,Ca,Tb)₃Co₂O_{6±δ}**, synthesis, crystal structure, and electrical and magnetic properties, **146**, 277
- Sr₂TbIrO₆** perovskites, structure and magnetic properties, **145**, 356
- TbBaCo₂O_{5+δ}** ordered oxygen-deficient perovskites, structural and magnetic studies, **142**, 247
- TbMn₂SiC**, with DyFe₂SiC-type structure, characterization, **142**, 279
- TbOs₂SiC**, with DyFe₂SiC-type structure, characterization, **142**, 279
- α -TbPdSi, preparation and crystal structure, **142**, 130
- TbRe₂SiC**, with DyFe₂SiC-type structure, characterization, **142**, 279
- TbRu₂SiC**, with DyFe₂SiC-type structure, characterization, **142**, 279
- TbZn₃P₃**, preparation, **146**, 478
- (Y,Tb)₃Al₅O₁₂**, garnet phosphor nanoparticles, preparation and characterization, **144**, 437
- Terephthalate**
exchange reactions with layered hydroxide salts, **148**, 26
- Tetraborate**
doping of Na₂SO₄, effects on conductivity and phase transitions, **146**, 6
- Tetradymite-like compounds**
mixed layered, in GeTe–Bi₂Te₃ system, transport phenomena in, **146**, 305
- Tetraethylorthosilicate**
and aluminum hydroxonitrates, copolymerization, **147**, 304
- Tetra(*para*-phenolammonium)cyclotetraphosphate hexahydrate**
characterization, **144**, 318
- Thallium**
Tl_xCo_{4-x}Fe_ySb_{12-z} (0 < x,y,z < 1), atomic displacement parameters and lattice thermal conductivity, **146**, 528
- Tl_xCr₅Se₈
channel compounds with x = 0.2 and 1, experimental electronic structure, **145**, 247
- nonstoichiometric channel compounds with 0 ≤ x ≤ 1, magnetic properties and low-temperature X-ray studies, **145**, 235
- Tl₂GeTe₅, atomic displacement parameters and lattice thermal conductivity, **146**, 528
- TlPbCl₃, high-pressure synthesis, **146**, 351
- TlPbCl_{3-x}Br_x solid solutions, preparation at high pressure, **146**, 351
- Tl_{1-x}Rb_xPbCl₃ solid solutions, preparation at high pressure, **146**, 351
- Tl₂SnTe₅, atomic displacement parameters and lattice thermal conductivity, **146**, 528
- TlSr₂CoO₅, local electronic configuration, relationship to occurrence of metallic state, **147**, 211
- TlSr₂NiO_{4+δ}, structure, high-resolution neutron diffraction study, **144**, 62
- Tl(I)Te(IV) oxide glasses, glass structure and optical nonlinearities, **146**, 329
- Thermal analysis**
bis-dihexadecylmethyldimethylammonium dichromate, **145**, 655
calcium malonate dihydrate, evidence of coordinated water and carboxylate groups, **143**, 174
- Cs₂[B₄O₅(OH)₄]·3H₂O, **143**, 260
- differential, see Differential thermal analysis
- (1,4-HOC₆H₄NH₃)₄P₄O₁₂·6H₂O, **144**, 318
- LiKSO₄, **148**, 316
- Li₂O–PbO–B₂O₃ glasses: structural role of PbO, **145**, 65
- Na₃M₂(PO₄)₂F₃ (M = Al⁺, V³⁺, Cr³⁺, Fe³⁺, Ga³⁺), **148**, 260
- phase transitions between H_{0.13}V_{0.13}Mo_{0.87}O₃·0.26H₂O and MoO₃, **143**, 41
- Thermal conductivity**
lattice, clathrate-like thermoelectric compounds, **146**, 528
- Thermal decomposition**
Ba₂Cu(HCOO)₆ grown at room temperature, **147**, 545
- K₃La₂(NO₃)₉ and K₂La(NO₃)₅·2H₂O, **144**, 68
- modified forms of lamellar titanium hydrogenphosphate, enthalpy of interaction and activation energy for, **145**, 649
- Ni(C₂H₃O₂), formation of α , β -type hydroxides and second-stage intermediate in, **146**, 39
- NiFe₂O₄ ultrafine powders prepared with mixed Ni and Fe tartrates, **145**, 50
- oxidative, A[Fe(CN)₅NO]·4H₂O, synthesis of AFeO_{2.5+x} (0 ≤ x ≤ 0.5; A = Sr,Ca) by, **142**, 138
- Thermal expansion**
synthetic aragonite: review of elastic properties, **146**, 73
- Thermal expansion coefficients**
Bi_{0.775}Ln_{0.225}O_{1.5} (Ln = La,Pr,Nd,Sm,Eu,Gd,Tb,Dy) conductors of Bi–Sr–O type, **142**, 349
- Thermal stability**
BaBiO₃ perovskite, **146**, 439
- BaMoO₄, **146**, 266
- Bi₈Pb₅O₁₇ fast ion conducting phases, **144**, 255
- calcium hydroxyapatite, preparative enhancement, **142**, 319
- lead hydroxyapatite, **143**, 296
- silica–metal oxide sol pillared clays, effects of positive metal species, **144**, 45
- Thermodiffractionometry**
dehydration and rehydration of microporous rare-earth dicarboxylates, **145**, 580
- Thermodynamics**
Ba₂B'B'O₆ and Ba₃B*B''O₉ perovskites: stability, **148**, 492
- MHG₂O (M = Ca,Sr,Ba) under controlled oxygen and mercury partial pressures, **146**, 151
- (Mg_{0.22}Mn_{0.07})Fe_{0.71}3- δ O₄ ferrite spinel, **145**, 276
- Ln₄PdO₇ (Ln = La,Nd,Sm,Eu,Gd), **146**, 428
- SmS₂–SmS_{1.5} system, **142**, 261
- Sr₅U₃O₁₄, **146**, 144
- Thermoelectric compounds**
clathrate-like, atomic displacement parameters and lattice thermal conductivity, **146**, 528
- Thermoelectric power**
(Bi,Pb)₂Sr₂Ca_{n-1}Cu_nO_{2n+4+δ} superconductors (n = 2,3) and iodine intercalates, **142**, 199
- Thermogravimetry**
Bi₂MoO₆ γ -phase catalyst formation *in situ*, **148**, 178
- dehydration and rehydration of microporous rare-earth dicarboxylates, **145**, 580
- MHG₂O (M = Ca,Sr,Ba) under controlled oxygen and mercury partial pressures, **146**, 151
- intercalate phases in organic–inorganic polyaniline/V₂O₅ system, **147**, 601
- La_{1-x}Ca_xMnO_{3+d}, oxygen content as function of synthesis conditions, **146**, 448
- LiKSO₄, **148**, 316
- Na₃M₂(PO₄)₂F₃ (M = Al⁺, V³⁺, Cr³⁺, Fe³⁺, Ga³⁺), **148**, 260
- reduced molybdenum oxides synthesized with hydroxylamine hydrochloride in aqueous solutions, **147**, 269
- Thermopower**
Eu₂CaBa₂Cu₂Ti₃O₁₄ and LaYCaBa₂Cu_{2+x}Ti_{3-x}O_{14-y} quintuple perovskite layered cuprates at high temperature, **148**, 3
- Thin films**
La_{0.82}K_{0.08}MnO_{3-δ}, colossal magnetoresistance in, comparison with polycrystalline solid, **148**, 342
- Thorium**
ThT₂SiC (T = Mn,Re,Ru,Os), with DyFe₂SiC-type structure, characterization, **142**, 279
- Thulium**
Ba₃Tm(BO₃)₃, synthesis, structure, and properties, **145**, 33
- Ba₂TmNbO₆ ordered perovskites, crystal structure and magnetic properties, **148**, 353

- LiTm₆O₅(BO₃)₃**, detection in ternary-phase diagrams Li₂O–Ln₂O₃–B₂O₃, **146**, 189
- TmBa₂Cu₃O_{7-x}**, Gibbs free energy of formation, determination by EMF method, **144**, 118
- Tm₆ReO₁₂**, preparation and characterization, **148**, 220
- TmT₂SiC** ($T = \text{Mn,Re,Ru,Os}$), with DyFe₂SiC-type structure, characterization, **142**, 279
- Tin**
- erbium rhodium stannide, competition between magnetism and superconductivity, **147**, 399
 - EuIrSn₂**, synthesis, crystal structure, and properties, **145**, 174
 - InSnBr₃ and InSnCl₃ with close cation–cation contacts, synthesis and structure, **146**, 344
 - La₂Sn₂O₇ pyrochlore-type compounds, Pr⁴⁺ doped in, EPR spectra, **143**, 140
 - lithium ion electrode materials, analysis in terms of atomic orbitals, **147**, 85
 - Na₂SnTeO₆, structure and order–disorder phenomena, **147**, 99
 - [NH₃CH₂CH(NH₃)CH₃]_{0.5}[Sn₄P₃O₁₂]·H₂O with one-dimensional channels, synthesis and structure, **148**, 50
 - PbM³⁺Sn⁴⁺P₃O₁₂ ($M^{3+} = \text{Cr,Fe,In}$) network phosphate with NZP structure, synthesis, **145**, 227
 - Pt/SnO₂, synthesis for gas sensors, applicaton of ultrasonic aerosol device, **144**, 86
 - SnO₂
 - nanocrystals, reactivity with H₂S, *in situ* coupled Raman and impedance measurements, **143**, 86
 - synthesis for gas sensors, applicaton of ultrasonic aerosol device, **144**, 86 - Sn₄P₃ nanocrystals, solvothermal synthesis, **146**, 110
 - α -SnSe, structural visualization by atomic force microscopy, **148**, 513
 - A₄Sn₄Se₁₀·xH₂O with 20- ($A = \text{Cs}$; $x = 3.2$) and 36-membered pores ($A = \text{K,Rb}$; $x = 4.5,1.5$), solvothermal synthesis and structure, **147**, 146
 - SrSn_{1-x}Fe_xO_{3-y} system, nonstoichiometry and physical properties, **142**, 288
 - sulfides of, mechanochemically synthesized, properties and reactivity, **144**, 1
 - Tl₂SnTe₅, atomic displacement parameters and lattice thermal conductivity, **146**, 528
 - U₃TiSn₅, crystal and magnetic structure, **144**, 311
- Titanium**
- BaFe₁₁Ti₃O₂₃ and Ba₆Fe_{4.5}Ti_{1.7}O_{10.6}, characterization, **143**, 182
 - (Ba,La)_nTi_{n-δ}O_{3n} ($n \geq 4\delta$) cation-deficient perovskite-related micro-phases in La₂Ti₃O₁₂–BaTiO₃ system, HRTEM study, **145**, 678
 - Ba₄Nd₂Ti₄Ta₆O₃₀ and Ba₅NdTi₃Ta₇O₃₀ bronzes, synthesis and characterization, **148**, 438
 - Ba_{6-3x}Sm_{8+2x}Ti₁₈O₅₄ ($x = 0.3,0.5,0.67,0.71$), tungsten bronze-type solid solutions with superstructure, **142**, 336
 - BaTiO₃, cation doping with solid oxide electrochemical doping SOED2 method, **146**, 406
 - Ba₂TiOSi₂O₇, identification as inorganic nonlinear optical material, **148**, 75
 - Bi_{0.5}La_{13.5}Ti₈S₂₉Cl₄O₄, synthesis and structure, **147**, 592
 - Bi₄Ti₃O_{12-x}, ferroelectric layered compounds, intercalation of lithium and iodine in, **146**, 60
 - Co_{0.5}Ti₂(PO₄)₃, with NASICON structure, optical and magnetic properties, **143**, 224, 230
 - Cu/TiO₂ sol-gel catalysts, reducibility and titania phase concentration, copper precursor effect on, **144**, 349
 - Eu₂CaBa₂Cu₂Ti₃O₁₄, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
 - In₂O₃–TiO₂–Fe₂O₃ system, phase relations at 1100°C in air, **144**, 91
 - In₃Ti₂AO₁₀ ($A = \text{Al,Cr,Mn,Fe,Ga}$), synthesis and crystal structures, **147**, 438
 - In₆Ti₆BO₂₂ ($B = \text{Mg,Mn,Co,Ni,Cu,Zn}$), synthesis and crystal structures, **147**, 438
 - KTiOAsO₄ and KTiOPO₄, second-order nonlinear optical coefficients, **142**, 156
 - La_{1.12}Li_{0.62}Ti₂O₆, structural refinement by neutron diffraction, **148**, 329
 - LaNi_{1-x}Ti_xO₃ ($0 \leq x \leq \frac{1}{2}$) perovskite, structural, electronic, and magnetic characterization, **148**, 479
 - La_{1-x}Sr_xCr_{1-x}Ti_xO₃ perovskites, structural characterization, **144**, 81
 - La₂TiAlO_{6.5-x} perovskite, synthesis and structure, **146**, 437
 - La_{23.1}Ti_{16.2}S₄₉Cl₈O₈, synthesis and structure, **147**, 592
 - LaYCaBa₂Cu_{2+x}Ti_{3-x}O_{14-y}, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
 - Li₂La_x(Nb_{2n-3x}Ti_{3x-n})O_{3n+1} ($n = 2,3,4$), Ruddlesden–Popper phases, electron-induced structural changes during HREM, **145**, 136
 - LiTiO₂, first principles Hartree–Fock study, **142**, 428
 - LiTiS₂ cubic spinel structure, first principles calculation, **145**, 503
 - Na₂Ba(TiO₂)₂Si₄O₁₂, identification as inorganic nonlinear optical material, **148**, 75
 - Na_xCr_xTi_{8-x}O₁₆, low-temperature phase with monoclinic Hollandite structure, **145**, 182
 - Na₂TiTeO₆, structure and order–disorder phenomena, **147**, 99
 - PbM³⁺Ti⁴⁺P₃O₁₂ ($M^{3+} = \text{Cr,Fe,In}$) network phosphate with NZP structure, synthesis, **145**, 227
 - Pb(Zr_xTi_{1-x})O₃, tetragonal, tricritical behavior in, calorimetric study, **144**, 188
 - SrTiO₃, point defect energies, pair-potentials study, **144**, 423
 - TiO₂
 - Al³⁺-doped rutile, crystal growth and defect structure, **143**, 210
 - first principles Hartree–Fock study, **142**, 428
 - monodispersed ultrafine powders with rutile phase, homogeneous spontaneous precipitation, **146**, 230
 - ultrafine particles, surface state, luminescence study, **145**, 711 - TiS₂ cubic spinel structure, first principles calculation, **145**, 503
 - titanium hydrogenphosphate, lamellar compounds and modified forms, thermal degradation, **145**, 649
 - α -titanium phosphate, gallium oxide insertion using surfactant expanded phase as precursor, **147**, 664
 - U₃TiX₅ ($X = \text{Ge,Sn}$), crystal and magnetic structure, **144**, 311
 - ZrO₂–Y₂O₃–TiO₂, phase relations at 1500°C, **143**, 273
- Topology**
- BaCu₂(PO₄)₂·H₂O, Ba₂Cu(PO₄)₂·H₂O, Pb₃Cu₃(PO₄)₄, and Sr₃Cu₃(PO₄)₄, **142**, 6
- Transmission electron microscopy**, *see also* High-resolution electron microscopy
- CuO nanocrystals, **147**, 516
 - high-resolution, gas reaction cell for, *in situ* generation of (Nb,W)₁₂O₃₂ in, **143**, 33
 - phase transitions between H_{0.13}V_{0.13}Mo_{0.87}O₃·0.26H₂O and MoO₃, **143**, 41
 - reduced molybdenum oxides synthesized with hydroxylamine hydrochloride in aqueous solutions, **147**, 269
 - SnNbO₃ of GdFeO₃ type, **147**, 421
 - UCl₄ and (KCl)_x(UCl₄)_y selectively deposited inside carbon nanotubes using eutectic and noneutectic mixtures of UCl₄ with KCl, **140**, 83; *erratum*, **142**, 470
 - (Y,Tb)₃Al₅O₁₂ garnet phosphor nanoparticles, **144**, 437
- Tricritical behavior**
- in tetragonal Pb(Zr_xTi_{1-x})O₃, calorimetric study, **144**, 188
- Triethylenetetramine**
- [C₆H₂₁N₄][Al₃P₄O₁₆]_n, synthesis and structure, **146**, 458
- Tri-*ortho*-thymotide**
- and α,ω -dihalogenoalkanes, incommensurate solid inclusion compounds formed from, structure and diffraction properties, **148**, 63

Tungsten

- $\text{Bi}_2\text{O}_3\text{-WO}_3$, structural relationships with other bismuth-rich phases, **148**, 380
 $M^{\text{I}}\text{Cr}(\text{WO}_4)_2$ ($M^{\text{I}} = \text{Li}, \text{Na}, \text{K}, \text{Cs}$), spectroscopic properties and magnetic phase transitions, **148**, 468
 Cu_xWO_3 bronze, microwave preparation, **148**, 100
 $A_2\text{CuWO}_6$ ($A = \text{Ba}, \text{Sr}$), B-site-ordered perovskite-type oxides, crystal structure and magnetic properties, **147**, 291
 $\text{H}_5\text{GeW}_9\text{Mo}_2\text{VO}_{40}\cdot 22\text{H}_2\text{O}$, high proton-conductive silica gel containing, preparation and performance, **148**, 419
 $2\text{H}-\text{WX}_2$ ($X = \text{S}, \text{Se}$) fullerene-related structures, defect and ordered tungsten oxides encapsulated in, **144**, 100
 $\text{K}_x\text{P}_4\text{W}_8\text{O}_{32}$, quasi-two-dimensional bronze, electronic instabilities and localization effects, **147**, 320
 K_xWO_3 bronze, microwave preparation, **148**, 100
 $\text{La}_4\text{W}_7\text{Al}_{51}$, preparation and crystal structure, **143**, 198
 Li_xWO_3 bronze, microwave preparation, **148**, 100
 $(\text{Nb}, \text{W})_{12}\text{O}_{32}$, generation by *in situ* reaction in gas reaction cell microscope and characterization, **143**, 33
 $(\text{PO}_2)_4(\text{WO}_3)_{2m}$, quasi-two-dimensional bronze, electronic instabilities and localization effects, **147**, 320
 Pr_xWO_3 , intergrowth tungsten bronze structures formed at 50 kbar, HRTEM study, **147**, 536
 $\text{U}(\text{Ta}, \text{W})_2\text{O}_8$ and $\text{U}(\text{Ta}, \text{W})_5\text{O}_{16}$, crystal structures, HREM study, **144**, 152
 WO_3
 electrochromic composite film with polyacrylic acid, grafting mechanism, **142**, 368
 high-temperature phases, **144**, 209
 powders, low-temperature polymorphism in, dependence on mechanical treatments, **143**, 24
 WO_4^{2-} , doping of Na_2SO_4 , effects on conductivity and phase transitions, **146**, 6
 $\text{WOP}_2\text{O}_7(o)$, structure, **144**, 325
 $\text{W}_2\text{O}_3(\text{PO}_4)_2(o)$, structure, **144**, 325

Tunnel structure

- $\text{HK}_4[\text{V}_{10}\text{O}_{10}(\text{H}_2\text{O})_2(\text{OH})_4(\text{PO}_4)_7]\cdot 9\text{H}_2\text{O}$, **148**, 189
 incommensurate solid inclusion compounds formed between α, ω -dihalogenoalkanes and tri-*ortho*-thymotide, **148**, 63
 $\text{KV}_2\text{O}_4\text{PO}_4$, **145**, 643
 $(\text{NH}_3\text{CH}_2\text{CH}_2\text{NH}_3)_4\cdot (\text{NH}_3\text{CH}_2\text{CH}_2\text{NH}_2)\cdot \text{Na}\cdot [\text{Ni}_2\text{Mo}_{12}\text{O}_{30}(\text{PO}_4)_4(\text{H}_2\text{PO}_4)_3]\cdot 6\text{H}_2\text{O}$, **146**, 533

U

Ultrasonic aerosol pyrolysis

- synthesis of SnO_2 and Pt/SnO_2 for gas sensors, **144**, 86

Ultraviolet absorption spectroscopy

- TiO_2 ultrafine particles: surface state, **145**, 711

Ultraviolet luminescence

- $\text{Li}_3\text{Ta}_{1-x}\text{Nb}_x\text{O}_4$ prepared by flux synthesis, **145**, 110

Uranium

- $\text{BaSr}_4\text{U}_3\text{O}_{14}$, crystal structure, **146**, 144

- $\text{CsUV}_3\text{O}_{11}$ with layered structure, synthesis and crystal structure, **146**, 258

- $(\text{KCl})_x(\text{UCl}_4)_y$, deposition inside carbon nanotubes using eutectic and noneutectic mixtures of UCl_4 with KCl , **140**, 83; *erratum*, **142**, 470

- $\text{Sr}_5\text{U}_3\text{O}_{14}$, structural and thermodynamic characterization, **146**, 144

- UCl_4 , deposition inside carbon nanotubes using eutectic and noneutectic mixtures of UCl_4 with KCl , **140**, 83; *erratum*, **142**, 470

- UMn_2SiC , with DyFe_2SiC -type structure, characterization, **142**, 279

- UOs_2SiC , with DyFe_2SiC -type structure, characterization, **142**, 279

- $\text{U}(\text{Ta}, \text{W})_2\text{O}_8$ and $\text{U}(\text{Ta}, \text{W})_5\text{O}_{16}$, crystal structures, HREM study, **144**, 152

- U_3TiX_5 ($X = \text{Ge}, \text{Sn}$), crystal and magnetic structure, **144**, 311

V

Valence

Eu

- in $\text{EuCu}_{1.75}\text{P}_2$, Eu Mössbauer and Eu L_{III}-edge X-ray absorption spectroscopic study, **144**, 252
 mixed valence state in misfit layer compound $[(\text{EuS})_{1.5}]_{1.15}\text{NbS}_2$, **147**, 58
 Fe ions in $\text{SrSn}_{1-x}\text{Fe}_x\text{O}_{3-y}$ system, **142**, 288
 vanadium in $[\text{NH}_3(\text{CH}_2)_6\text{NH}_3]_{10}[\text{V}_{15}\text{O}_{37}(\text{Cl})]_2[\text{V}_{15}\text{O}_{36}(\text{Cl})](\text{OH})_3(\text{H}_2\text{O})_3$ bronze with clusters textured by diaminohexane, **147**, 552

Valence fluctuation model

- $M_3\text{SiTe}_6$ and $M\text{Te}_2$ ($M = \text{Nb}, \text{Ta}$), **142**, 63

Vanadium

- $\alpha\text{-AgVO}_3$, crystal structure and phase relation of AgVO_3 , **142**, 360
 $\text{Bi}_4\text{V}_{2-x}\text{Ni}_x\text{O}_{11-1.5x}$ solid solution series, structural and physical properties, **143**, 9
 $\text{Bi}_2\text{VO}_{5.5}$, ferroelectric nanocrystalline powders, mechanically activated synthesis, **142**, 41
 $\text{Bi}_4\text{V}_{2\text{O}_{10+\delta}}$ ($\delta = 0, 0.5, 1$), Sb-modified phases, structural study, **144**, 379
 $\text{CN}_3\text{H}_6\cdot \text{VO}(\text{H}_2\text{O})(\text{HPO}_4)\cdot \text{H}_2\text{O}$, synthesis, structure, and magnetism, **142**, 168
 CrVO_4 , reduction to CrVO_3 , **144**, 392
 $\text{CsUV}_3\text{O}_{11}$ with layered structure, synthesis and crystal structure, **146**, 258
 $\text{Cs}[(\text{VO})(\text{H}_2\text{O})\text{Ga}(\text{PO}_4)_2]$, hydrothermal synthesis and structure, **144**, 442
 $\text{Cu}_x\text{V}_2\text{O}_5$ bronze, microwave preparation, **148**, 100
 $\text{Cu}(\text{VO})(\text{SeO}_3)_2$ (A) and (B) forms, synthesis and crystal structures, **147**, 296
 $\beta\text{-Cu}_2\text{V}_2\text{O}_7-\alpha\text{-Zn}_2\text{V}_2\text{O}_7$ solid solution, structural characterization, **146**, 271
 $[\text{Fe}_{5-x}^{\text{III}}\text{V}_x^{\text{IV}}(\text{H}_2\text{PO}_4)_4(\text{HPO}_4)_4\text{F}_4(\text{H}_2\text{O})_{2.4}(\text{H}_{2+y}\text{N}-(\text{CH}_2)_{2-y}\text{NH}_{2+y})]$, hydrothermal synthesis, structure, and magnetic characterization, **148**, 150
 FeV_2S_4 , magnetic structure, powder neutron diffraction study, **144**, 372
 GaV_4S_8 vacancy ordered spinels, electronic structure, *ab initio* calculations, **148**, 143
 $\text{H}_5\text{GeW}_9\text{Mo}_2\text{VO}_{40}\cdot 22\text{H}_2\text{O}$, high proton-conductive silica gel containing, preparation and performance, **148**, 419
 $\text{HK}_4[\text{V}_{10}\text{O}_{10}(\text{H}_2\text{O})_2(\text{OH})_4(\text{PO}_4)_7]\cdot 9\text{H}_2\text{O}$, hydrothermal synthesis and intersecting tunnel structure, **148**, 189
 $\text{H}_{0.13}\text{V}_{0.13}\text{Mo}_{0.87}\text{O}_3\cdot 0.26\text{H}_2\text{O}$, and MoO_3 , phase transitions between, X-ray, thermal analysis, and TEM study, **143**, 41
 KVMoO_6 , crystal structure, **146**, 197
 $\text{K}_x\text{V}_2\text{O}_5$ bronze, microwave preparation, **148**, 100
 $\text{KV}_2\text{O}_4\text{PO}_4$, tunnel structure, **145**, 643
 LiV_2O_5
 $\delta \leftrightarrow \epsilon$ phase transition, atomic modeling and simulation of XRD powder pattern evolution, **146**, 129
 $\delta \rightarrow \epsilon \rightarrow \gamma$ high-temperature phase transitions, synchrotron X-ray powder diffraction analysis, **146**, 103
 $\text{Li}_x\text{V}_2\text{O}_5$ bronze, microwave preparation, **148**, 100
 $\text{Na}_2\text{V}_3\text{O}_7$, low-dimensional quantum magnet, crystal structure, letter to editor, **147**, 676
 $\text{Na}_9\text{V}_{14}\text{O}_{35}$, crystal structure and magnetic properties, letter to editor, **145**, 361
 $\text{Na}_3\text{V}^{4+}\text{O}(\text{PO}_4)(\text{HPO}_4)$, formation in $\text{Na}/\text{V}/\text{P}/\text{H}_2\text{O}$ system under hydrothermal conditions at 473 K, **145**, 15
 $\text{Na}_3\text{V}_2(\text{PO}_4)_2\text{F}_3$, phase transitions, synthesis, and thermal, structural, and magnetic studies, **148**, 260
 $\text{Nb}_2\text{O}_5/\text{V}_2\text{O}_5$ doped spinel ferrites, mechanical properties, **148**, 376
 $[\text{NH}_3(\text{CH}_2)_4\text{NH}_3]_2[\text{Ga}_{4-x}\text{V}_x(\text{HPO}_4)_2(\text{PO}_4)_3(\text{OH})_3]\cdot y\text{H}_2\text{O}$ ($x \sim 0.4$, $y \sim 6$), synthesis and characterization, **145**, 379

- [NH₃(CH₂)₆NH₃]₁₀[V₁₅O₃₇(Cl)]₂[V₁₅O₃₆(Cl)](OH)₃(H₂O)₃ bronze with clusters textured by diaminohexane, characterization, 147, 552
- NH₄VO₃, reaction with KHSO₄ at different temperatures, 145, 128
- organic-inorganic polyaniline/V₂O₅ system, intercalate phases in, synthesis and characterization, 147, 601
- PbFe_xV_{6-x}O₁₁, site preference of Fe and V in, neutron diffraction and Mössbauer spectroscopic studies at low temperature, 147, 609
- β -Pb_xV₂O₅ bronzes, bidimensional cationic ordering and thermal dependence in, 145, 186
- Rb[VO(H₂O)Ga(PO₄)₂], hydrothermal synthesis and structure, 144, 442
- A₁₀(V,Mn)O₄₆F₂ (A = Ba,Sr,Ca) substituted with Mn(V), color, 146, 464
- (B)VO₂ → (A)VO₂ phase transition by crystallographic slip, 148, 224
- AV₃Cl (A = Ba,Sr,Cd) with chain and layered structures, 145, 634
- [V(OH₂)₆]³⁺ cation, electronic structure, effect of mode of water coordination, 145, 460
- V₂O₅· n H₂O amorphous, ideal supercapacitor behavior in KCl aqueous solution, 148, 81
- gels, synthesis from peroxovanadic acid solutions, ⁵¹V NMR study, 148, 16
- σ -M_{0.25}V₂O₅·H₂O (M = Mg,Co,Ni) bronzes, crystal structures and lattice distortions, 144, 181
- α_1 -VOPO₄, water intercalation into, IR and Raman spectroscopic studies, 148, 197
- (VO)₂P₂O₇ quantum-spin chain compound, structural study, 146, 369
- VO₂(SO₃)_{0.5}, magnetic susceptibility, 145, 128
- [Zn(en)₂]₆[(VO)₁₂O₆B₁₈O₃₉(OH)₃]·13H₂O, hydrothermal synthesis and X-ray single crystal structure, 148, 450
- Vegard's rule in Ba_xPb_{1-x}(NO₃)₂, reevaluation by NMR and XRD, 145, 327
- Verwey transition in magnetite, quantum state model, 148, 135
- Voltage average intercalation voltage for LiTi₂S₄, 145, 503
- Vortex state in cuprate superconductors, electronic properties, 148, 85
- W
- Water Al₉(PO₄)₁₂(C₂₄H₉₁N₁₆)·17H₂O open framework with 12-membered ring channels, 145, 220
- Ba₂Cu(PO₄)₂·H₂O, crystal structure and topology, 142, 6
- (BEDT-TTF)₃Cl₂·(H₂O)₂ superconductor, structure at low temperatures, 145, 496
- Be(HAsO₄)·H₂O, synthesis and structure, 146, 394
- Be₃(PO₄)₂·2H₂O, synthesis and structure, 146, 394
- calcium malonate dihydrate, vibrational and thermal evidence of coordinated water and carboxylate groups, 143, 174
- Ce(NO₃)₃·6H₂O, AC conductivity dependence on temperature and frequency, 144, 354
- [C₂N₂H₁₀]²⁺[Fe(HPO₄)₂(OH)]²⁻·H₂O, hydrothermal synthesis and crystal structure, 142, 455
- CN₃H₆·VO(H₂O)(HPO₄)(H₂PO₄)·H₂O, synthesis, structure, and magnetism, 142, 168
- Co₃Al₃(PO₄)₆Co(diyethyltriamine)₂·(H₂O)₃, hydrothermal synthesis and characterization, 146, 157
- Co₅(OH)₈(C₁₂H₂₅SO₃)₂·5H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, 145, 452
- Cs₂[B₄O₅(OH)₄]·3H₂O, crystal structure and thermal behavior, 143, 260
- Cs[VO(H₂O)Ga(PO₄)₂], hydrothermal synthesis and structure, 144, 442
- Cu₂(OH)₃(C₁₂H₂₅SO₃)·H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, 145, 452
- [Et₃NH]₂[Mn(CH₃CN)₄(H₂O)₂][Mn₁₀O₄(2,2'-biphenoxide)₄Br₁₂], slow magnetic relaxation at very low temperature, 145, 484
- [Eu(H₂O)]₂[O₂C(CH₂)₃CO₂]₃·4H₂O, luminescence spectroscopy and crystal field simulation, 148, 347
- A [Fe(CN)₅NO]·4H₂O, oxidative thermal decomposition for synthesis of AFeO_{2.5+x} ($0 \leq x \leq 0.5$; A = Sr,Ca), 142, 138
- [Fe₂(H₂O)₂(O₃P-CH₂-PO₃H₂)₂](H₂O)₂, hydrothermal synthesis, powder structural determination, and magnetic study, 147, 122
- [Fe₂(OH₂)PO₄(C₂O₄)_{0.5}], hydrothermal synthesis, structure, and magnetic susceptibility, letter to editor, 146, 538
- Fe₄(PO₄)₂(C₂O₄)(H₂O)₂, synthesis and crystal structure, 143, 58
- [Fe_{5-x}V_x^{IV}(H₂PO₄)₄F₄(H₂O)₂·4(H_{2+y}N-(CH₂)₂-NH_{2+y})], hydrothermal synthesis, structure, and magnetic characterization, 148, 150
- H₅GeW₉Mo₂VO₄₀·22H₂O, high proton-conductive silica gel containing, preparation and performance, 148, 419
- HK₄[V₁₀O₁₀(H₂O)₂(OH)₄(PO₄)₇]·9H₂O, hydrothermal synthesis and intersecting tunnel structure, 148, 189
- $Me^+X-Me^{2+}X_2-H_2O$ (Me^+ = K,NH₄,Rb,Cs; Me^{2+} = Mn,Co,Ni; X^- = Cl,Br) double salts, 143, 16
- (1,4-HOC₆H₄NH₃)₄P₄O₁₂·6H₂O, characterization, 144, 318
- H₂O-Na₂SO₄-Na₂HPO₄, liquid-solid equilibria, 144, 247
- H_{0.13}V_{0.13}Mo_{0.87}O₃·0.26H₂O, and MoO₃, phase transitions between, X-ray, thermal analysis, and TEM study, 143, 41
- hydrated zirconium, yttrium-doped, transformation into tetragonal and cubic nanocrystalline zirconia, 142, 409
- intercalation into anhydrous vanadyl phosphate, IR and Raman spectroscopic studies, 148, 197
- KFe₃(OH)₂(PO₄)₂·2H₂O, hydrothermal synthesis and crystal structure, 142, 455
- K_{0.3}(H₂O)₂MoS₂, structural study, 144, 430
- K₂La(No₃)₅·2H₂O, thermal decomposition, 144, 68
- K₂Ln(No₃)₅·2H₂O (Ln = La,Ce,Pr,Nd,Sm) nonlinear optical materials, crystal growth, structure, and properties, 148, 302
- La(OH)₂NO₃·H₂O, with exchangeable interlayer anions, synthesis and characterization, 148, 26
- microporous rare-earth dicarboxylates, dehydration and rehydration, study by thermogravimetry, thermodiffractometry, and optical spectroscopy, 145, 580
- MnO₂· n H₂O in KCl electrolyte, supercapacitor behavior, 144, 220
- (N₂C₆H₁₄)·Zn(HPO₄)₂·H₂O, synthesis and structure, 147, 584
- [NH₃CH₂CH(NH₃)CH₃]_{0.5}[Sn₄P₃O₁₂]₂·H₂O with one-dimensional channels, synthesis and structure, 148, 50
- (NH₃CH₂CH₂NH₃)₄·(NH₃CH₂CH₂NH₂)·Na·[Ni₂Mo₁₂O₃₀(PO₄)₄(HPO₄)₂(H₂PO₄)₃]·6H₂O, hydrothermal synthesis and structure, 146, 533
- [NH₃(CH₂)₄NH₃]₂[Ga₄(HPO₄)₂(PO₄)₃(OH)₃]· y H₂O ($y \sim 5.4$), and vanadium-gallium phosphate analogue, synthesis and characterization, 145, 379
- [NH₃(CH₂)₆NH₃]₁₀[V₁₅O₃₇(Cl)]₂[V₁₅O₃₆(Cl)](OH)₃(H₂O)₃ bronze with clusters textured by diaminohexane, characterization, 147, 552
- NH₃(CH₂)₆NH₃·Zn₃(HPO₄)₄H₂O, synthesis and structure, 147, 154
- NH₄Fe₃(H₂PO₄)₆(HPO₄)₂·4H₂O, structure and magnetic properties, 144, 163
- Ni₂(OH)₃(C₁₂H₂₅SO₃)·H₂O, 3D long-range magnetic ordering in layered triangular lattices 25 Å apart, 145, 452
- in proteins: electron transfer and proton coupling, 145, 488
- Rb₂Re₆S₇Br₇·4H₂O, crystal structure, 147, 358
- Rb[VO(H₂O)Ga(PO₄)₂], hydrothermal synthesis and structure, 144, 442
- A_4 Sn₄Se₁₀· x H₂O with 20- (A = Cs; x = 3.2) and 36-membered pores (A = K,Rb; x = 4.5,1.5), solvothermal synthesis and structure, 147, 146
- [TMA]₂[Fe(H₂O)₆]Mo₈O₂₆, hydrothermal synthesis and structure, 143, 77

- $[\text{V}(\text{OH}_2)_6]^{3+}$ cation, electronic structure, effect of mode of water coordination, **145**, 460
- $\text{V}_2\text{O}_5 \cdot n\text{H}_2\text{O}$
amorphous, ideal supercapacitor behavior in KCl aqueous solution, **148**, 81
gels, synthesis from peroxovanadic acid solutions, ^{51}V NMR study, **148**, 16
 σ - $M_{0.25}\text{V}_2\text{O}_5 \cdot \text{H}_2\text{O}$ ($M = \text{Mg}, \text{Co}, \text{Ni}$) bronzes, crystal structures and lattice distortions, **144**, 181
- $[\text{Zn}^{2+}\text{Cr}^{3+}(\text{OH}^-)_6][\text{Cl}^-, 2\text{H}_2\text{O}]$, concomitant intercalation and decomplexation of ferrocene sulfonates in, **144**, 143
- $[\text{Zn}(\text{en})_2]_6[(\text{VO})_2\text{O}_6\text{B}_{18}\text{O}_{39}(\text{OH})_3] \cdot 13\text{H}_2\text{O}$, hydrothermal synthesis and X-ray single crystal structure, **148**, 450
- $\text{Zn}_5(\text{OH})_8(\text{NO}_3)_2 \cdot 2\text{H}_2\text{O}$, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
- $\text{Zr}_2(\text{O}_3\text{P}-\text{CH}_2\text{CH}_2-\text{bipyridinium}-\text{CH}_2\text{CH}_2-\text{PO}_3)\text{X}_6 \cdot 2\text{H}_2\text{O}$, reactivity toward organic and inorganic monophosphonates, **147**, 520
- Weak ferromagnetism
 $\text{KMnHP}_3\text{O}_{10}$, **145**, 479
 $\text{Y}_2\text{SrCu}_{0.6}\text{Co}_{1.4}\text{O}_{6.5}$, **146**, 488
- Wilkinson's catalyst
induction of hydrosilylation of alkynes and alkenes on porous Si surfaces, **147**, 251
- X**
- XANES, *see* X-ray absorption near-edge structure
- Xenon
 XeF_2 , fluorination of La_2CuO_4 , **142**, 440
- X-ray absorption fine structure
lead hydroxyapatite, **143**, 296
- X-ray absorption near-edge structure
(Bi,Pb) $_{2-x}$ $\text{Sr}_x\text{Ca}_{n-1}\text{Cu}_n\text{O}_{2n+4+\delta}$ ($n = 2, 3$) superconductors and iodine intercalates, **142**, 199
 $\text{La}_{2-x}\text{Sr}_x\text{Li}_{1/2}\text{Co}_{1/2}\text{O}_4$ ($x < 0.5$), **146**, 79
- X-ray absorption spectroscopy
 Bi_2MoO_6 γ -phase catalyst formation, XRD/XAS study *in situ*, **148**, 178
 Eu L_{III} -edge, Eu valence in $\text{EuCu}_{1.75}\text{P}_2$, **144**, 252
 Hg-MoS_2 , **147**, 336
- X-ray diffraction, *see also* Powder X-ray diffraction
 $Z_3\text{Al}_2\text{Si}_3\text{O}_{12}$ ($Z = \text{Mg}, \text{Fe}, \text{Mn}, \text{Ca}$), **142**, 273
 Ba_2CdTe_3 , **148**, 464
 $\text{BaFe}_2\text{P}_2\text{O}_7\text{F}_2$, **148**, 286
 $\text{Ba}_x\text{Pb}_{1-x}(\text{NO}_3)_2$, reevaluation of Vegard's rule, **145**, 327
 BiMnO_3 perovskite at high temperature, **142**, 113
 Bi_2MoO_6 γ -phase catalyst formation, XRD/XAS study *in situ*, **148**, 178
 $\text{Ca}_3\text{Fe}_2\text{Si}_3\text{O}_{12}$ garnets, **142**, 273
 $[\text{C}_9\text{H}_{20}\text{N}][\text{Al}_2(\text{HPO}_4)_2(\text{PO}_4)]$ with layer topology, **145**, 731
 $\text{Cr}_4(\text{P}_2\text{S}_6)_3$ synthesized at room temperature, **144**, 388
 Cr_3 amorphous structure with $[\text{Cr}_2^{\text{III}}(\text{S}^{-1})_2]_x$ chains, modeling study, **145**, 573
- CuO nanocrystals, **147**, 516
 $A\text{FeO}_{2.5+x}$ ($0 \leq x \leq 0.5$; $A = \text{Sr}, \text{Ca}$) synthesized by oxidative thermal decomposition of $A[\text{Fe}(\text{CN})_5\text{NO}] \cdot 4\text{H}_2\text{O}$, **142**, 138
- GaAsO_4 piezoelectric compound, structure refinement between 15 and 1073 K, **146**, 114
- incommensurate solid inclusion compounds formed between α, ω -dihalogenoalkanes and tri-*ortho*-thymotide, **148**, 63
- LiKSO_4 , **148**, 316
- magnesium oxides, **144**, 25
- mechanochemical reactions of imidazole with metallic oxides: proton transfer in solid state, **147**, 561
- $[\text{NH}_3(\text{CH}_2)_4\text{NH}_3][\text{Ga}_4(\text{HPO}_4)_4]$, **142**, 236
- phenoxy-substituted divalent metal phosphonate Langmuir–Blodgett films, **145**, 443
- reduced molybdenum oxides synthesized with hydroxylamine hydrochloride in aqueous solutions, **147**, 269
- $\text{SrFe}_3(\text{PO}_4)_3$, **147**, 390
- $(\text{Y}, \text{Tb})_3\text{Al}_5\text{O}_{12}$ garnet phosphor nanoparticles, **144**, 437
- X-ray luminescence
 $\text{Li}_3\text{Ta}_{1-x}\text{Nb}_x\text{O}_4$ prepared by flux synthesis, **145**, 110
- X-ray photoelectron spectroscopy
 CuO nanocrystals, **147**, 516
- LiMn_2O_4 , state of Mn atoms during mechanochemical synthesis, **146**, 184
- phenoxy-substituted divalent metal phosphonate Langmuir–Blodgett films, **145**, 443
- $M_3\text{SiTe}_6$ and $M\text{Te}_2$ ($M = \text{Nb}, \text{Ta}$), **142**, 63
- $\text{Ti}_x\text{Cr}_5\text{Se}_8$ ($x = 0.2, 1$) channel compounds: evidence for Cr(IV) formation, **145**, 247
- ZnFe_2O_4 formed by mechanical activation and mechanosynthesis, **146**, 13
- Y**
- Ytterbium
 $\text{Ba}_3\text{Yb}(\text{BO}_3)_3$, synthesis, structure, and properties, **145**, 33
- BaYbCuTe_3 , synthesis and characterization, **147**, 366
- $\text{Ba}_2\text{YbIrO}_6$ ordered perovskites, magnetic properties, **147**, 618
- $\text{Ba}_2\text{YbNbO}_6$ ordered perovskites, crystal structure and magnetic properties, **148**, 353
- Na_2SO_4 phase I doped with, defect structure, **145**, 309
- $\text{YbBa}_2\text{Cu}_3\text{O}_{7-x}$, Gibbs free energy of formation, determination by EMF method, **144**, 118
- Yb^{3+} -doped borate glass with high emission cross sections, **144**, 449
- $\text{Yb}_6\text{ReO}_{12}$, preparation and characterization, **148**, 220
- Yttrium
 $\text{Ba}_3\text{Y}(\text{BO}_3)_3$, synthesis, structure, and properties, **145**, 33
- $\text{Ba}_{4-x}\text{Y}_{3+x}\text{F}_{17+x}$ ($x \approx 0.08$), synthesis in copper ampoule, **142**, 152
- Ba_2YNbO_6 perovskites
molten salt synthesis and thermodynamic stability, **148**, 492
ordered, crystal structure and magnetic properties, **148**, 353
- BaYLnMTe_3 ($M = \text{Cu}, \text{Ag}$), synthesis and characterization, **147**, 366
- $(\text{Ca}_{1-x}\text{Y}_x)_{0.82}\text{CuO}_2$, quasi one-dimensional compound prepared at room pressure, structural study, **145**, 511
- hydrated zirconium doped with, transformation into tetragonal and cubic nanocrystalline zirconia, **142**, 409
- $\text{LaYCaBa}_2\text{Cu}_{2+x}\text{Ti}_{3-x}\text{O}_{14-y}$, quintuple perovskite layered cuprates, high-temperature electrical properties and defect analysis, **148**, 3
- $\text{Pb}_{4+x}\text{Y}_{3 \pm x}\text{F}_{17+x}$ ($x \leq 0.2$), synthesis in copper ampoule, **142**, 152
- $(\text{Sr}, \text{Ca}, \text{Y})_3\text{Co}_2\text{O}_{6 \pm \delta}$, synthesis, crystal structure, and electrical and magnetic properties, **146**, 277
- YAlO_3 orthorhombic perovskite, zone center phonons of, **146**, 287
- $\text{YBa}_2\text{Cu}_3\text{O}_y$, cation doping with solid oxide electrochemical doping SOED2 method, **146**, 406
- YFe_2D_x compounds ($x = 1.3, 1.75, 1.9, 2.6$), structures and phase transitions, neutron diffraction study, **142**, 120
- $\text{Y}_{1-x}\text{A}'_x\text{MnO}_3$ ($\text{A}' = \text{Sr}, \text{La}$) perovskites, energetics, **145**, 77
- YMn_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
- $\text{YM(OH)}_3(\text{SO}_4)$ ($M = \text{Ni}, \text{Cu}$), synthesis and structures, **147**, 641
- $\text{YO}_{0.5}\text{SiC}$, with DyFe₂SiC-type structure, characterization, **142**, 279
- YRe_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
- $\text{Y}_2\text{Ru}_2\text{O}_7$ pyrochlores, magnetic properties, **144**, 216
- YRu_2SiC , with DyFe₂SiC-type structure, characterization, **142**, 279
- $\text{Y}_2\text{SiO}_5:\text{Ce}$ phosphor particles 0.5–1.4 μm in size with spherical morphology, **146**, 168
- $\text{Y}_2\text{SrCu}_{0.6}\text{Co}_{1.4}\text{O}_{6.5}$, double-layered, structure and weak ferromagnetism, **146**, 488

- (Y,Tb)₃Al₅O₁₂, garnet phosphor nanoparticles, preparation and characterization, **144**, 437
- YZn₃P₃, preparation, **146**, 478
- Y-Zr-O-N materials, electrical conductivity, **142**, 163
- ZrO₂-Y₂O₃-TiO₂, phase relations at 1500°C, **143**, 273
- Z
- Zeolites
- stilbite-type, hydrothermally synthesized, morphology, **142**, 451
- Zinc
- AgZn(PO₃)₃, crystal structure and luminescence properties of Ag in, **145**, 97
 - Ca₃ZnCoO₆ and Ca₃ZnMnO₆ crystallizing in K₄CdCl₆ structure, synthesis, structure, and magnetic properties, **145**, 302
 - (CN₃H₆)₂·Zn₄H₅(PO₄)₅ built up from 3-, 4-, and 8-ring units, synthesis and crystal structure, **148**, 433
 - β -Cu₂V₂O₇- α -Zn₂V₂O₇ solid solution, structural characterization, **146**, 271
 - Fe₂O₃(ZnO)₁₅, antiphase modulated structure, HREM study, **142**, 174
 - H₃N(CH₂)₃NH₃·Zn₂(HPO₄)₃, synthesis and structure, **147**, 584
 - In_xTi₆ZnO₂₂, synthesis and crystal structures, **147**, 438
 - MoZn_{20.44}, preparation and crystal structure, **143**, 95
 - Mo₁₂ZnP₈X₆₂ isotypic clusters, Mo(V) phosphate structures built from, **145**, 291
 - NbZn₃ and NbZn₁₆, preparation and crystal structure, **143**, 95
 - (N₂C₄H₁₄)·Zn₃(HPO₄)₄, synthesis and structure, **147**, 584
 - (N₂C₆H₁₄)·Zn(HPO₄)₂·H₂O, synthesis and structure, **147**, 584
 - open-framework zinc phosphates synthesized in presence of structure-directing organic amines, **147**, 154
 - Pr₃Zn₂As₆, crystallization with vacancy variant of HfCuSi₂-type structure, **142**, 266
 - [Zn₂²⁺Cr³⁺(OH⁻)₆][Cl⁻.2H₂O], concomitant intercalation and decomplexation of ferrocene sulfonates in, **144**, 143
 - [Zn(en)₂]₆[(VO)₁₂O₆B₁₈O₃₉(OH)₃]·13H₂O, hydrothermal synthesis and X-ray single crystal structure, **148**, 450
 - ZnFe₂O₄ formed by mechanical activation and mechanochemical synthesis, surface structure, **146**, 13
 - Zn_(1-x)Ga_{2x/3}Cr₂Se₄ spinel system, metal ion distribution and magnetic properties, **148**, 215
 - ZnO, mechanochemical reactions with imidazole: proton transfer in solid state, **147**, 561
 - Zn₅(OH)₈(NO₃)₂·2H₂O, with exchangeable interlayer anions, synthesis and characterization, **148**, 26
 - RZn₃P₃ (R = Y,La-Nd,Sr,Gd-Er), preparation, **146**, 478
 - ZnS nanocrystals, preparation, **146**, 484
 - Zn₂Te₃O₈, with spiroffite structure, hydrothermal synthesis and characterization, **143**, 246
- Zirconium
- BaCe_xZr_{1-x}O₃ (0 ≤ x ≤ 1) with perovskite-type structure, Raman spectroscopy, **142**, 220
 - CeZrO₄ prepared by reduction and successive oxidation of t'- (Ce_{0.5}Zr_{0.5})O₂ phase, vibrational spectroscopic and XRD studies, **147**, 573
 - Ce₂Zr₂O_{7.97}, pyrochlore with fluorite composition, synthesis, **148**, 56
 - hydrated, yttrium-doped, transformation into tetragonal and cubic nanocrystalline zirconia, **142**, 409
 - K₂ZrGe₂O₇, synthesis, characterization, and X-ray powder structure, **148**, 41
 - La_{1/6}Pb_{1/3}Zr₂(PO₄)_{17/6}(SiO₄)_{1/6}·Eu³⁺, structure and luminescence, **146**, 499
 - La_δZr_{1-δ}O_{2-δ/2} (0.49 < δ < 0.51) pyrochlore, displacive flexibility, structured diffuse scattering as indicator, **142**, 393
 - La₂Zr₂O₇ pyrochlore-type compounds, Pr⁴⁺ doped in, EPR spectra, **143**, 140
 - PbM³⁺Zr⁴⁺P₃O₁₂ (M³⁺ = Cr,Fe,In) network phosphate with NZP structure, synthesis, **145**, 227
 - Pb(Zr_xTi_{1-x})O₃, tetragonal, tricritical behavior in, calorimetric study, **144**, 188
 - Y-Zr-O-N materials, electrical conductivity, **142**, 163
 - Zr⁴⁺, effects on structure, thermal stability, and acidity of silica-metoxide sol pillared clays, **144**, 45
 - Zr₆Cr₆₀P₃₉, defective intermetallics with empty triangular metalloid channels, crystal chemistry, **144**, 277
 - ZrFe_{1-x}Sb, and other isotypic antimonides, comparison, **144**, 330
 - Zr(HPO₄)₂·2CH₃CH₂OH, host-guest interactions, vibrational spectroscopic study and molecular simulations, **145**, 1
 - ZrNiSb, and other isotypic antimonides, comparison, **144**, 330
 - ZrO₂
 - composites with Co_{1-x}O, interdiffusion-induced phase changes, **145**, 739
 - formed from Zr(IV) acetate solution, effect of pH, X-ray powder diffraction and Raman spectroscopic study, **145**, 394
 - tetragonal, bond valence analysis, **146**, 363
 - tetragonal and cubic nanocrystals, preparation from yttrium-doped zirconium, **142**, 409 - Zr₂ON₂, structure, neutron powder diffraction study: absence of nitride-oxide ordering, **146**, 399
 - Zr₂(O₃P-CH₂CH₂-bipyridinium-CH₂CH₂-PO₃)X₆·2H₂O, reactivity toward organic and inorganic monophosphonates, **147**, 520
 - (1 - ε)ZrO₂·εSmO_{1.5} (0.38 < ε < 0.55) pyrochlore system, structure and crystal chemistry as function of composition, **148**, 205
 - ZrO₂-Y₂O₃-TiO₂, phase relations at 1500°C, **143**, 273
 - ZrP₂S₆ and ZrP₂S₇, synthesis and crystal structure, **143**, 239
 - ZrS₂, ammonia intercalation into, **147**, 38
 - Zirconium viologen diphosphonate
 - reactivity toward organic and inorganic monophosphonates, **147**, 520