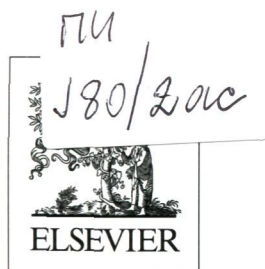


Volume 604

15 August 2014
ISSN 0925-8388



Journal of ALLOYS AND COMPOUNDS

**An Interdisciplinary Journal
of Materials Science and
Solid-State Chemistry and Physics**

EDITOR-IN-CHIEF

L. SCHULTZ

EDITORS

K.H.J. BUSCHOW

J. CHAN

L.P. COOK

D.G. ESKIN

H. FAN

J.-M. GRENECHE

V.G. HARRIS

M. HENINI

H. KLEINKE

H.G. PAN

V. PECHARSKY

M. RICHTER

H. SAKAGUCHI



ELSEVIER

Contents lists available at ScienceDirect

Journal of Alloys and Compounds

journal homepage: www.elsevier.com/locate/jalcom

Contents

Abstracting Services Abstracted/indexed in: Cambridge Scientific Abstracts, Ceramics Abstracts, Chemical Abstracts, Current Contents, Engineering Index, FIZ Karlsruhe, Metals Abstracts, PASCAL/CNRS, Physics Abstracts, Physikalische Berichte, Research Alert, Science Citation Index. Also covered in the abstract and citation database SCOPUS.[®] Full text available on ScienceDirect.[®]

The effect of the sol–gel autocombustion synthesis conditions on the Mn–Zn ferrite magnetic properties I. Szczygieł, K. Winiarska, A. Bieńko, K. Suracka and D. Gaworska-Koniarek (Wrocław, Poland)	1
Crystallization kinetics of high iron concentration amorphous alloys under high magnetic fields R. Onodera, S. Kimura, K. Watanabe, Y. Yokoyama, A. Makino (Sendai, Japan) and K. Koyama (Kagoshima, Japan)	8
Structure and electrical properties of quaternary Cr–Si–Ni–W films prepared by ion beam sputter deposition X.Y. Wang, J.X. Ma, C.G. Li (Tianjin, China) and J.Q. Shao (Bengbu, China)	12
Luminescence and magnetic behaviour of almond like (Na _{0.5} La _{0.5})MoO ₄ ·RE ³⁺ (RE = Eu, Tb, Dy) nanostructures R. Krishnan, J. Thirumalai (Chennai, India), S. Thomas (Kottayam, India) and M. Gowri (Chennai, India)	20
Structures, phase transformations, and dielectric properties of Bi ₂ (Zn _{1–x} Mg _x) _{2/3} Nb _{4/3} O ₇ pyrochlore ceramics as temperature stable LTCC material L. Li, Y. Jin, H. Dong, S. Yu and D. Xu (Tianjin, China)	31
Investigation on the corrosion behaviour and microstructure of 2024-T3 Al alloy treated via plasma electrolytic oxidation H. Fadaee and M. Javidi (Shiraz, Iran)	36
Influence of substrate temperature on high-frequency soft magnetic properties of [Fe ₈₀ Ni ₂₀ -O/NiZn–ferrite] _n multilayer thin films R. Xu, L.S. Wang, X.L. Liu, M. Lei, H.Z. Guo, Y. Chen (Xiamen, PR China), J.B. Wang (Lanzhou, PR China) and D.L. Peng (Xiamen, PR China)	43
Elevated temperature cyclic performance of LiAl _x Mn _{2–x} O ₄ microspheres synthesized via co-precipitation route X. Yi, X. Wang, B. Ju, Q. Wei, X. Yang, G. Zou, H. Shu and L. Hu (Xiangtan, China)	50
Study on pure and Nd-doped BiFeO ₃ thin films prepared by chemical solution deposition method X. Xue, G. Tan, W. Liu and H. Hao (Xi'an, PR China)	57
The effect of anodization parameters on the formation of nanoporous TiO ₂ layers and their photocatalytic activities M. Erol (Buca, Turkey), T. Dikici (Buca, Cigli, Turkey), M. Toparli and E. Celik (Buca, Turkey)	66
Dielectric and electrical properties of gadolinium-modified lead-zirconate-titanate system S.C. Panigrahi (Bhubaneswar, Bhadrak, India), P.R. Das, B.N. Parida, R. Padhee and R.N.P. Choudhary (Bhubaneswar, India)	73
Dynamics of Mn ³⁺ in off-stoichiometric LiMn _{1.5} Ni _{0.5} O ₄ F.M. Vitucci, O. Palumbo, A. Paolone, R. Cantelli (Roma, Italy), S. Brutti (Potenza, Italy) and S. Panero (Roma, Italy)	83
Facile hydrothermal fabrication of nitrogen-doped graphene/Fe ₂ O ₃ composites as high performance electrode materials for supercapacitor P. Zhao, W. Li, G. Wang, B. Yu, X. Li, J. Bai and Z. Ren (Xi'an, China)	87
Preparation and structural evolution of Mo/SiO _x protective coating on CoSb ₃ -based filled skutterudite thermoelectric material X. Xia, X. Huang, X. Li, M. Gu, P. Qiu, J. Liao, Y. Tang, S. Bai and L. Chen (Shanghai, China)	94
Line broadening and crystallographic sites for Eu ³⁺ in disordered double borate Ca ₃ Gd ₂ (BO ₃) ₄ H.J. Seo (Busan, Republic of Korea)	100
Ferromagnetic ordering and metallic-like conductivity in sputtered SnN _x films B. Zhou, W. Zhou and P. Wu (Tianjin, People's Republic of China)	106
Comparison of annealing on microstructure and anisotropy of magnesium alloy AZ31 sheets processed by three different routes X.P. Chen, L.X. Wang, R. Xiao, X.Y. Zhong, G.J. Huang and Q. Liu (Chongqing, China)	112
Strong smearing and disappearance of phase transitions into polar phases due to inhomogeneous lattice strains induced by A-site doping in Bi _{1–x} A _x FeO ₃ (A: La, Sm, Gd) M. Khodabakhsh, C. Sen, H. Khassaf, M.A. Gulgun and I.B. Misirlioglu (Istanbul, Turkey)	117
Enhanced cycle stability of micro-sized Si/C anode material with low carbon content fabricated via spray drying and in situ carbonization D. Wang, M. Gao, H. Pan, Y. Liu, J. Wang, S. Li and H. Ge (Hangzhou, PR China)	130

Magnetic field induced strain and damping behavior of Ni–Mn–Ga particles/epoxy resin composite B. Tian, F. Chen, Y. Tong, L. Li (Harbin, China) and Y. Zheng (Harbin, Beijing, China)	137
Impurity and interdiffusion coefficients of the Cr–X (X = Co, Fe, Mo, Nb, Ni, Pd, Pt, Ta) binary systems Q. Zhang and J.-C. Zhao (Columbus, USA)	142
Transition metal-doped yttria stabilized zirconia for low temperature processing of planar anode-supported solid oxide fuel cell T. Dey, A. Das Sharma, A. Dutta and R.N. Basu (Kolkata, India)	151
Role of Nb in glass formation of Fe–Cr–Mo–C–B–Nb BMGs F. Zhai, E. Pineda (Castelldefels, Spain), M. J. Duarte (Düsseldorf, Germany) and D. Crespo (Castelldefels, Spain)	157
Annealing-free synthesis of C–N co-doped TiO ₂ hierarchical spheres by using amine agents via microwave-assisted solvothermal method and their photocatalytic activities Y.-C. Wu and L.-S. Ju (Tainan, Taiwan).	164
Mechanical and thermodynamic properties of α -UH ₃ under pressure C. Zhang, H. Jiang (Yantai, China), H.-L. Shi (Beijing, China), G.-H. Zhong (Shenzhen, China) and Y.-H. Su (Yantai, China).	171
Uniaxially aligned ceramic nanofibers obtained by chemical mechanical processing R. Tararam (Araraquara, Brazil), C.R. Foschini (Bauru, Brazil), F.B. Destro, A.Z. Simões (Guaratinguetá, Brazil), E. Longo and J.A. Varela (Araraquara, Brazil).	175
Aqueous synthesis and characterization of bovine hemoglobin-conjugated cadmium sulfide nanocrystals G. Yang (Zhengzhou, PR China), D. Qin, X. Du, L. Zhang, G. Zhao, Q. Zhang and J. Wu (Pingdingshan, PR China)	181
Design and synthesis of porous nano-sized Sn@C/graphene electrode material with 3D carbon network for high-performance lithium-ion batteries P. Lian, J. Wang (Kunming, China), D. Cai, G. Liu (Guangzhou, China), Y. Wang (Kunming, China) and H. Wang (Guangzhou, China).	188
Thermoelectric properties of WSi ₂ –Si _x Ge _{1-x} composites F.W. Dynys, A. Sayir (Cleveland, United States), J. Mackey (Akron, United States) and A. Sehirlioglu (Cleveland, United States).	196
Self-propagating high temperature synthesis, structural morphology and magnetic interactions in rare earth Ho ³⁺ doped CoFe ₂ O ₄ nanoparticles K.S. Lohar, A.M. Pachpinde, M.M. Langade, R.H. Kadam (Osmanabad, India) and S.E. Shirsath (Nagano, Japan)	204
Microstructures and room temperature fracture toughness of Nb/Nb ₅ Si ₃ composites alloyed with W, Mo and W–Mo fabricated by spark plasma sintering B. Xiong, C. Cai and Z. Wang (Nanchang, PR China)	211
Diversified Li _{1.2} Ni _{0.2} Mn _{0.6} O ₂ nanoparticles from birnessite towards application specificity and enhancement in lithium-ion batteries H. Wang, X. Li, Q. Zhou, H. Ming, J. Adkins, L. Jin, Z. Jia, Y. Fu and J. Zheng (Suzhou, PR China)	217
Boron-doped TiO ₂ anode materials for high-rate lithium ion batteries J.-H. Jeong, D.-w. Jung, E.W. Shin and E.-S. Oh (Nam-gu, Republic of Korea).	226
Surface analysis of Ga-doped 3D urchin-like ZnO structure and density functional theory investigation of the quenching in photoluminescence property L. Yu, X. Fan, M. Lei, J. Wei, Y.h. Jin and W. Yan (China).	233
Characterization and electrochemical performances of MoO ₂ modified LiFePO ₄ /C cathode materials synthesized by in situ synthesis method J. He, H. Wang (Mianyang, PR China), C. Gu (Shijiazhuang, PR China) and S. Liu (Mianyang, PR China)	239
Chemical composition of the Ni-containing intermetallic phases in the multicomponent Al alloys M. Warmuzek (Kraków, Poland)	245
Structural and optical characterization of CdTe quantum dots thin films M.M. El-Nahass (Roxy, Egypt), G.M. Youssef (Abbassia, Egypt) and S.Z. Noby (Dokki, Egypt).	253
Fabrication of mixed α/β -SiAlON powders via salt-assisted combustion synthesis J. Niu (Sapporo, Japan), K. Harada (Numazu, Japan), S. Suzuki (Sapporo, Japan), I. Nakatsugawa (Numazu, Japan), N. Okinaka and T. Akiyama (Sapporo, Japan)	260
Laser assisted Fe-based bulk amorphous coating: Thermal effects and corrosion S. Katakam (Denton, USA), V. Kumar (India), S. Santhanakrishnan, R. Rajamure, P. Samimi and N.B. Dahotre (Denton, USA)	266
Enthalpy of mixing of hafnium in liquid iron by high-temperature calorimetry P.G. Agraval, L.A. Dreval and M.A. Turchanin (Kramatorsk, Ukraine)	273
Thermoelectric power studies of Co–Cr nano ferrites M. Raghasudha (Mahabubnagar, India), D. Ravinder and P. Veerasomaiah (Hyderabad, India)	276
Effects of Ni concentration on structural, magnetic and optical properties of Ni-doped ZnO nanoparticles Y. Liu (Siping, Zhenjiang, China)(West Lafayette, United States), H. Liu (Siping, Zhenjiang, China), Z. Chen, N. Kadasala, C. Mao (West Lafayette, United States), Y. Wang, Y. Zhang, H. Liu, Y. Liu, J. Yang (Siping, China) and Y. Yan (Zhenjiang, China).	281
FePt nanoalloys anchored reduced graphene oxide as high-performance electrocatalysts for formic acid and methanol oxidation J. Guo, Y. Sun, X. Zhang, L. Tang and H. Liu (Qingdao, China).	286
X-ray diffraction characterization of electrodeposited Ni–Al composite coatings prepared at different current densities F. Cai, C. Jiang and X. Wu (Shanghai, PR China)	292

Pressure-induced structural phase transition in bulk $Zn_{0.98}Mn_{0.02}O$ by angular dispersive X-ray diffraction C.-M. Lin, K.-L. Lin (Hsinchu, Taiwan), Y.-K. Chern (Taichung, Taiwan), C.-H. Hsu, H.-S. Sheu, Y.-F. Liao (Hsinchu, Taiwan), Y.-W. Suen (Taichung, Taiwan), S.-R. Jian (Kaohsiung, Taiwan) and J.-Y. Juang (Hsinchu, Taiwan)	298
Synthesis of β -SiC nanowires by ball milled nanoparticles of silicon and carbon P. Kang, B. Zhang, G. Wu, H. Gou, G. Chen, L. Jiang (Harbin, China) and S. Mula (Roorkee, India)	304
Photocatalytic degradation of Lissamine Green B dye by using nanostructured sol-gel TiO_2 films L. Ćurković, D. Ljubas, S. Šegota and I. Bačić (Zagreb, Croatia)	309
Improved hydrogen storage performances of MgH_2 - $NaAlH_4$ system catalyzed by TiO_2 nanoparticles Rafi-ud-din (Nilore, Pakistan), Q. Xuanhui (Beijing, China), G.H. Zahid, Z. Asghar, M. Shahzad, M. Iqbal and E. Ahmad (Nilore, Pakistan).	317
Thermodynamic characteristics of a new phase $Bi_{12.5}Ho_{1.5}ReO_{24.5}$ by solution calorimetry N.I. Matskevich (Novosibirsk, Russia), T. Wolf, P. Adelmann (Karlsruhe, Germany) and A.N. Bryzgalova (Novosibirsk, Russia)	325
The oxygen octahedral distortion induced magnetic enhancement in multiferroic $Bi_{1-x}Yb_xFe_{0.95}Co_{0.05}O_3$ powders L. Chen, Y. He, J. Zhang, Z. Mao, Y.-J. Zhao and X. Chen (Guangzhou, China).	327
Damping behavior of $Al_xCoCrFeNi$ high-entropy alloys by a dynamic mechanical analyzer S.G. Ma (Taiyuan, China), P.K. Liaw (Knoxville, USA), M.C. Gao (Albany, USA), J.W. Qiao, Z.H. Wang (Taiyuan, China) and Y. Zhang (Beijing, China)	331
Structural aspects that enhance oxygen mobility in $La_{9-2x/3}Mn_{0.5}RE_x□_{0.5-x/3}(SiO_4)_6O_2$ with RE = Ca, Sr and Ba A. Inoubli, M. Kahlaoui, S. Chefi (Zarzouna, Tunisia), I. Sobrados (Madrid, Spain), A. Madani (Zarzouna, Tunisia), (Makkah, Saudi Arabia), J. Sanz (Madrid, Spain) and A. Ben Haj Amara (Zarzouna, Tunisia)	340
The photoluminescent property and optical transition analysis of host sensitized $Ca_{0.5}Sr_{0.5}MoO_4:Dy^{3+}$ phosphor Z. Yang, C. Hou, G. Duan (Baoding, China), F. Yang (Baoding, Zhangjiakou, China), P. Liu, C. Wang, L. Liu and G. Dong (Baoding, China)	346
Effect of alkali-earth modifier ion on electrical, dielectric and spectroscopic properties of Fe_2O_3 doped Na_2SO_4 - MO - P_2O_5 glass system L. Pavić, A. Moguš-Milanković (Zagreb, Croatia), P. Raghava Rao (Nuzvid, Nagarjuna Nagar, India), A. Šantić (Zagreb, Croatia), V. Ravi Kumar (Nuzvid, India) and N. Veeraiah (Nagarjuna Nagar, India)	352
Thermochemistry of the Cu_2Se - In_2Se_3 system M. Ider (Usak, Turkey), R. Pankajavalli (Kalpakkam, India), W. Zhuang, J.Y. Shen (Beijing, China) and T.J. Anderson (Gainesville, United States)	363
Influence of multiwalled carbon nanotube addition on the magnetic and reflection-loss characteristics of Mn-Sn-Ti substituted strontium ferrite nanoparticles M. Jamalian, A. Ghasemi and E. Paimozd (Shahin Shahr, Iran)	373
Anisotropic magnetic, transport and thermodynamic properties of novel tetragonal Ce_2RhGa_{12} compound S. Nallamuthu, T.P. Rashid (Tiruchirappalli, India), V. Krishnakumar (Salem, India), C. Besnard (Geneva, Switzerland), H. Hagemann (Geneva, Switzerland), M. Reiffers (Presov, Slovakia) and R. Nagalakshmi (Tiruchirappalli, India).	379
Keywords.	III