



VOLUME 75 ISSUE 4 ISSN 0022-3697
2014 APRIL

JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS

AN
*INTERNATIONAL
JOURNAL*

EDITORS

Arun Bansil

Boston

Hai-Ping Cheng

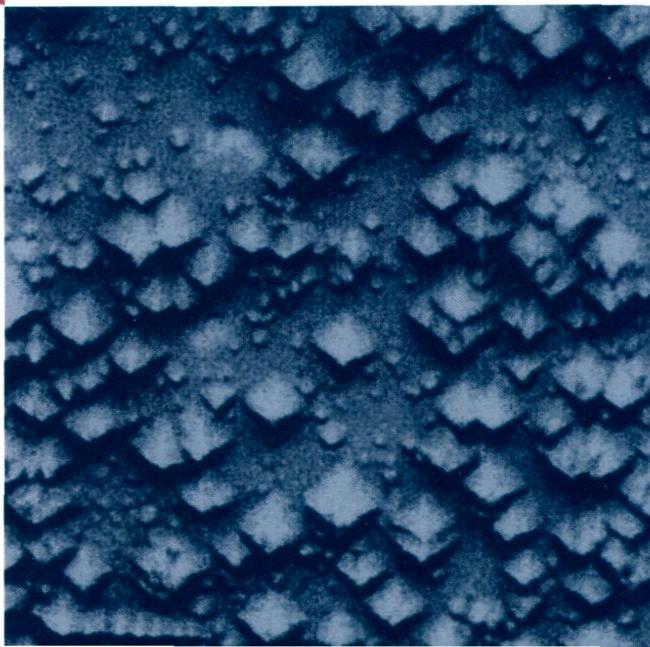
Florida

Kosmas Prassides

Durham

Masaki Azuma

Japan



Abstracted / indexed in: Cambridge Scientific Abstracts, Chemical Abstracts, Current Contents/Engineering, Computing & Technology, EIC/Intelligence, Engineering Index, INSPEC & PASCAL/CNRS Database, Materials Science Citation Index, SSSA/CISA/ECA/ISMEC, etc. Also covered in the abstract and citation database Scopus®. Full text available on ScienceDirect®

CONTENTS

S. Bağci, H. M. Tütüncü, S. Duman, E. Bulut, M. Özcar and G. P. Srivastava	463	Physical properties of the cubic spinel LiMn_2O_4
V. V. Srbabionyan, A. L. Bugaev, V. V. Pryadchenko, L. A. Avakyan, J. A. van Bokhoven and L. A. Bugaev	470	EXAFS study of size dependence of atomic structure in palladium nanoparticles
D. T. Do and S. D. Mahanti	477	Bonds, bands, and band gaps in tetrahedrally bonded ternary compounds: The role of group V lone pairs
K. Kishida and T. Watanabe	486	Photocatalytic properties of lanthanide tungstates $\text{Ln}_2\text{W}_2\text{O}_9$ ($\text{Ln}=\text{La}, \text{Pr}, \text{Nd}, \text{Sm}$, and Gd)
X. Li, G. Li, S. Wu, X. Chen and W. Zhang	491	Preparation and photocatalytic properties of platelike NaNbO_3 based photocatalysts
H. Hao, Q. He, Y. Cheng and L. Zhao	495	High-temperature electronic transport properties of $(\text{YCa})\text{BaCo}_4\text{O}_7$ compounds
A. Moridi, H. Ruan, L. Zhang and M. Liu	500	On the dependence of surface undulation on film thickness
J. Li, W. Chen, H. Yu, B. Wu, W. Huang, M. Wang, S. Huang, W. Lin, L. Zhang and S. Li	505	Contact potential barriers and characterization of Ag-doped composite TiO_2 nanotubes
M. Sinder, Z. Burshtein and J. Pelleg	512	Theory of oxidation/reduction-induced valence transformations of metal ion dopants in oxide crystals mediated by oxide-vacancy diffusion: I. Thermodynamic analysis
F. Ohashi, Y. Iwai, A. Noguchi, T. Sugiyama, M. Hattori, T. Ogura, R. Himeno, T. Kume, T. Ban and S. Nonomura	518	Thin-film formation of Si clathrates on Si wafers
Z. Chen, Y. Han, M. Zhou, C. Song, R. Huang, Y. Zhou and L. Li	523	Thermoelectric properties of Ge-doped $\text{Bi}_{85}\text{Sb}_{15}$ alloys at low temperatures
J.-Q. Wen, T. Xia, H. Zhou and J.-F. Wang	528	A density functional theory study of small bimetallic Pd_nAl ($n=1-8$) clusters
Y. H. Duan, Y. Sun, M. J. Peng and S. G. Zhou	535	Stability, elastic properties and electronic structures of $L1_2\text{-ZrAl}_3$ and $D0_{22}\text{-ZrAl}_3$ up to 40 GPa
M. Ghosh, D. Karmakar, S. Basu, S. N. Jha, D. Bhattacharyya, S. C. Gadkari and S. K. Gupta	543	Effect of size and aspect ratio on structural parameters and evidence of shape transition in zinc oxide nanostructures
A.-R. Hassan, A. El-Azab and M. Manuel	550	Electrochemical effects of isolated voids in uranium dioxide
R. Pandit, K. K. Sharma, P. Kaur, R. K. Kotnala, J. Shah and R. Kumar	558	Effect of Al^{3+} substitution on structural, cation distribution, electrical and magnetic properties of CoFe_2O_4
M. Sinder, Z. Burshtein and J. Pelleg	570	Theory of oxidation/reduction-induced valence transformations of metal ion dopants in oxide crystals mediated by oxide-vacancy diffusion: II. Kinetic analysis

Available online at www.sciencedirect.com**ScienceDirect**