

applied surface science

A journal devoted to applied physics and chemistry of surfaces and interfaces

Editor in Chief:

Henrik Rudolph, Breda, The Netherlands

Editors:

Frederico Rosei, Varennes (QC), Canada Hikaru Kobayashi, Osaka, Japan Jingguang Chen, New York, NY, USA Peter Schaaf, Ilmenau, Germany Robert L. Opila, Newark, DE, USA Sefik Suzer, Ankara, Turkey Tadahiro Komeda, Sendai-Shi, Japan Thomas K. Lippert, Villigen, Switzerland Weixin Huang, Hefei, China C.F. McConville, Coventry, UK Fátima Montemor, Lisboa, Portugal Peter Kingshott, Hawthorn, Australia X.W. Sun, Singapore, Singapore S.J. Pearton, Gainesville, USA

Volume 287, pp. 1-502

15 December 2013

Available online at www.sciencedirect.com

ScienceDirect

applied surface science

Contents		volume 287 (20	013)
Regular papers Theoretical study on optoelectronic properties of Ga _{0.75} Al _{0.25} N 0 0 1) reconstruction surfaces M. Yang, B. Chang, J. Guo, G. Hao, F. Shi, H. Wang and M. Wang	1	Effect of the functional groups of carbon on the surface and catalytic properties of Ru/C catalysts for hydrogenolysis of glycerol E. Gallegos-Suarez, M. Pérez-Cadenas, A. Guerrero-Ruiz, I. Rodriguez-Ramos and A. Arcoya	108
ncreased charge transfer of PVDF-HFP based electrolyte by addition of graphite nanofiber and its application in dye-sensitized solar cells X.G. Zhao, E.M. Jin and HB. Gu	8	Amino acid-functionalized multi-walled carbon nanotubes for improving compatibility with chiral poly(amide-ester-imide) containing L-phenylalanine and L-tyrosine linkages A. Abdolmaleki, S. Mallakpour and S. Borandeh	117
nfluence of nickel-phosphorus surface roughness on wettability and pores formation in solder joints for high power electronic applications		Kinetic study of CO oxidation over CuO/MO ₂ (M = Si, Ti and Ce) catalysts JQ. Lu, CX. Sun, N. Li, AP. Jia and MF. Luo	124
L. Vivet, AL. Joudrier, KL. Tan, JM. Morelle, A. Etcheberry and L. Chalumeau	13	Enhanced visible-light activity of F-N co-doped TiO ₂ nanocrystals via nonmetal impurity, Ti ³⁺ ions and oxygen vacancies G. Yang, T. Wang, B. Yang, Z. Yan, S. Ding and T. Xiao	135
The influence of homogeneous electrolyte composition on micro- plasma synthesis and characteristics of Fe-containing coatings on A 1050 alloy	22	Multi-band emission in a wide wavelength range from tin oxide/Au nanocomposites grown on porous anodic alumina substrate (AAO)	133
A.B. Rogov, A.I. Slonova and I.V. Mironov Effects of Y_2O_3 on the microstructures and wear resistance of 6i-Al-Y co-deposition coatings prepared on Ti-Al alloy by pack	22	M. Norek, M. Michalska-Domańska, W.J. Stępniowski, I. Ayala, A. Bombalska and B. Budner A comparison study between atomic and ionic nitrogen doped	143
rementation technique Y. Li, F. Xie, X. Wu and X. Li surface charges of oxides and wettability: Application to TiO ₂ -SiO ₂	30	carbon films prepared by ion beam assisted cathode arc deposition at various pulse frequencies B. Zhou, X. Jiang, A.V. Rogachev, R. Shen, D. Sun, D.G. Piliptsou and L. Lu	150
JC. Joud, M. Houmard and G. Berthomé Studies on influence of aluminium ions on the bioactivity of	37	Highly wear-resistant ultra-thin per-fluorinated organic monolayers on silicon(1 1 1) surfaces	159
⁸ ₂ O ₃ -SiO ₂ -P ₂ O ₅ -Na ₂ O-CaO glass system by means of spectroscopic tudies G.J. Mohini, N. Krishnamacharyulu, G. Sahaya Baskaran, P.V. Rao and N. Veeraiah Nkali activation of halloysite for adsorption and release of	46	S.P. Pujari and H. Zuilhof Conductive aluminum line formation on aluminum nitride surface by infrared nanosecond laser P.E. Kozioł, A.J. Antończak, P. Szymczyk, B. Stępak and K.M. Abramski	165
ofloxacin Q. Wang, J. Zhang and A. Wang Effect of plasma surface functionalization on preosteoblast cells	54	Change of surface morphology and structure of multi-walled carbon nanotubes film caused by proton irradiation with 170 keV E. Rui, J. Yang, X. Li and C. Liu	172
preading and adhesion on a biomimetic hydroxyapatite layer ormed on a titanium surface	63	Agl/Ag ₃ PO ₄ heterojunction composites with enhanced photocatalytic activity under visible light irradiation	1,2
S.W. Myung, Y.M. Ko and B.H. Kim nvestigation of the interfacial structure and transport properties of Fe ₃ O ₄ -SrTiO ₃ composite films	62	J. Yan, C. Wang, H. Xu, Y. Xu, X. She, J. Chen, Y. Song, H. Li and Q. Zhang Pulse electrochemical synthesis of capsule-like nanostructures of	178
C. Jin, D.X. Zheng, P. Li, W.B. Mi and H.L. Bai nterfacial durability and electrical properties of CNT or ITO/PVDF nanocomposites for self-sensor and micro actuator applications	69	Co ₃ O ₄ and investigation of their capacitive performance M. Aghazadeh, M. Hosseinifard, B. Sabour and S. Dalvand	187
JM. Park, GY. Gu, ZJ. Wang, DJ. Kwon and K.L. DeVries Effect of various structure directing agents on the physicochemical	75	Preparation and characterization of low-crystallized hydroxyapatite nanoporous plates and granules M. Uehira, M. Okada, S. Takeda and N. Matsumoto	195
properties of the silica aerogels prepared at an ambient pressure P.B. Sarawade, G.N. Shao, D.V. Quang and H.T. Kim Effect of fluorine plasma treatment with chemically reduced	84	Synthesis and surface properties of magnetite (Fe ₃ O ₄) nanoparticles infiltrated into porous silicon template	203
effect of fluorine plasma treatment with chemically reduced graphene oxide thin films as hole transport layer in organic solar cells YY. Yu, B.H. Kang, Y.D. Lee, S.B. Lee and BK. Ju OFT study on the structure of Ni/α -Al ₂ O ₃ catalysts	91	F.A. Harraz Fabrication and evaluation of temperature responsive molecularly imprinted sorbents based on surface of yeast via surface-initiated AGET ATRP	203
or I study on the structure of NI/α - NI_2O_3 catalysts M. Zhang, I. Chen, Y. Yu, and Y. Zhang	97	I Pan H Hang X Ii W 7hu M Meng X Dai I Dai and Y Yan	211





(Contents continued on BM I)

(Continued from outside back cover)

Electrodeposited hydroxyapatite coatings on the TiO ₂ nanotube in static magnetic field C. Liu, A. Tian, H. Yang, Q. Xu and X. Xue	218	Surface functionalization of bioactive glasses with natural molecules of biological significance, part II: Grafting of polyphenols extracted from grape skin	
Imparting super hydro/oleophobic properties to cotton fabric by means of molecular and nanoparticles vapor deposition methods P. Aminayi and N. Abidi	223	X. Zhang, S. Ferraris, E. Prenesti and E. Verné The effect of La ₂ O ₃ -incorporation in HfO ₂ dielectrics on Ge substrate by atomic layer deposition	341
Adsorption and desorption characteristics of imidazole-modified silica for chromium(VI) Z. Wang, C. Ye, X. Wang and J. Li	232	Ik. Oh, MK. Kim, Js. Lee, CW. Lee, C. Lansalot-Matras, W. Noh, J. Park, A. Noori, D. Thompson, S. Chu, W.J. Maeng and H. Kim	349
Well-defined flake-like polypyrrole grafted graphene nanosheets composites as electrode materials for supercapacitors with enhanced cycling stability		Influence of sputtering power on crystal quality and electrical properties of Sc-doped AlN film prepared by DC magnetron sputtering	
X. Wang, T. Wang, C. Yang, H. Li and P. Liu	242	Jc. Yang, Xq. Meng, Ct. Yang and Y. Zhang	355
Template-assisted electrodeposition of indium-antimony nanowires - Comparison of electrochemical methods K. Hnida, J. Mech and G.D. Sulka	252	(0 0 1) Facet-exposed anatase-phase TiO ₂ nanotube hybrid reduced graphene oxide composite: Synthesis, characterization and application in photocatalytic degradation X. Zhou, T. Shi, J. Wu and H. Zhou	359
Effects of deposition profiles on RF-sputtered Cu(In,Ga)Se ₂ films at low substrate temperature	257	Surface-enhanced Raman scattering substrate based on silver nanoparticle-deposited phospholipid multilayer	229
X. Huang, X. Miao, N. Yu and X. Guan Atmospheric plasma torch treatment of aluminium: Improving wettability with silanes	257	H.H. An, Y. Kim, W.B. Han, HS. Kim, S. Lee, S.C. Yi, DH. Kim and C.S. Yoon	369
B. Díaz-Benito and F. Velasco Strong aggregation adsorption of methylene blue from water using	263	Zinc release from atomic layer deposited zinc oxide thin films and its antibacterial effect on Escherichia coli	
amorphous WO ₃ nanosheets J.Y. Luo, Z. Cao, F. Chen, L. Li, Y.R. Lin, B.W. Liang, Q.G. Zeng,	270	ML. Kääriäinen, C.K. Weiss, S. Ritz, S. Pütz, D.C. Cameron, V. Mailänder and K. Landfester Experimental and theoretical study on interaction between lantha-	375
M. Zhang, X. He and C. Li Nanosized titania modified with tungsten and silver: Microstructural characterisation of a multifunctional material	270	num and nitrogen during plasma rare earth nitriding C.S. Zhang, M.F. Yan and Z. Sun	381
D.M. Tobałdi, R.C. Pullar, M. Leoni, M.P. Seabra and J.A. Labrincha Temperature dependence of Cu ₂ O formation on Cu ₃ Au(1 1 0)	276	Cobalt(II) phthalocyanine-sensitized hollow Fe ₃ O ₄ @SiO ₂ @TiO ₂ hierarchical nanostructures: Fabrication and enhanced photocatalytic properties	
surface with energetic O ₂ molecular beams M. Hashinokuchi, A. Yoshigoe, Y. Teraoka and M. Okada	282	SH. Wu, JL. Wu, SY. Jia, QW. Chang, HT. Ren and Y. Liu Self-localization of mixed organophosphonic acid and organothiol	389
Room temperature ferromagnetism and structural characterization of Fe,Ni co-doped ZnO nanocrystals P. Dhiman, K.M. Batoo, R.K. Kotnala, J. Chand and M. Singh	287	monolayers on patterned Al-Cu substrates H. Schnieders, O. Ozcan and G. Grundmeier	397
XPS structural characterization of Pd/SiO ₂ catalysts prepared by cogelation		In situ and room-temperature synthesis of ultra-long Ag nanopar- ticles-decorated Ag molybdate nanowires as high-sensitivity SERS	
G. Beketov, B. Heinrichs, JP. Pirard, S. Chenakin and N. Kruse	293	substrates Z.Y. Bao, D.Y. Lei, J. Dai and Y. Wu	404
Facile fabrication of superhydrophobic surface with nanowire structures on nickel foil X. Zhang, Y. Guo, Y. Liu, X. Yang, J. Pan and P. Zhang	299	A simple route for organic covalent grafting onto zirconium carbide particles	
Effect of atomic hydrogen bombardment on the surface conductivity of polycrystalline diamond films		R. Lucas, D. Pizon, E. Laborde, G. Trolliard, S. Foucaud and A. Maître	411
J.L. Liu, C.M. Li, J.C. Guo, R.H. Zhu, L.X. Chen, J.J. Wei, L.F. Hei, J.J. Wang, Z.H. Feng, H. Guo and F.X. Lv	304	Novel aluminosilicate hollow sphere as a catalyst support for methane decomposition to CO _x -free hydrogen production A.E. Awadallah, W. Ahmed, M.R.N. El-Din and A.A. Aboul-Enein	415
Advanced light-scattering materials: Double-textured ZnO:B films grown by LP-MOCVD M.L. Addonizio, A. Spadoni and A. Antonaia	244	Effect of particle size and distribution of the sizing agent on the carbon fibers surface and interfacial shear strength (IFSS) of its	
One step surface modification of gold nanoparticles for surface-	311	composites R.L. Zhang, Y. Liu, Y.D. Huang and L. Liu	423
enhanced Raman spectroscopy S. Hong and X. Li	318	Modeling of adsorption of toxic chromium on natural and surface modified lightweight expanded clay aggregate (LECA)	
Fabrication of protective over layer for enhanced thermal stability of zinc oxide based TCO films K. Ravichandran, P. Ravikumar and B. Sakthivel	222	E.M. Kalhori, K. Yetilmezsoy, N. Uygur, M. Zarrabi and R.M.A. Shmeis	428
Surface functionalization of bioactive glasses with natural molecules of biological significance, Part I: Gallic acid as model molecule	323	Enhancing anticoagulation and endothelial cell proliferation of titanium surface by sequential immobilization of poly(ethylene glycol) and collagen	
X. Zhang, S. Ferraris, E. Prenesti and E. Verné	329	CJ. Pan, YH. Hou, HY. Ding and YX. Dong	443

on 6061 aluminum alloy pre-treated by high-temperature oxidation D. Shen, G. Li, C. Guo, J. Zou, J. Cai, D. He, H. Ma and F. Liu	451	oxide from aqueous solutions N. Pan, J. Deng, D. Guan, Y. Jin and C. Xia	478
Remarkable activity of PdIr nanoparticles supported on the surface of carbon nanotubes pretreated via a sonochemical process for formic acid electro-oxidation J. Chen, Y. Li, S. Liu, G. Wang, J. Tian, C. Jiang, S. Zhu and R. Wang Fluoride ions as modifiers of the oxide layer produced by plasma	457	Fabrication and characterization of P-N dual acceptor doped p-type ZnO thin films Y.R. Sui, B. Yao, L. Xiao, L.L. Yang, J. Cao, X.F. Li, G.Z. Xing, J.H. Lang, X.Y. Li, S.Q. Lv, X.W. Meng, X.Y. Liu and J.H. Yang	484
electrolytic oxidation on AZ91D magnesium alloy B. Kazanski, A. Kossenko, M. Zinigrad and A. Lugovskoy The effects of zeolite molecular sieve based surface treatments on the properties of wool fabrics	461	 In situ surface treatment of nanocrystalline MFe₂O₄ (M = Co, Mg, Mn, Ni) spinel ferrites using linseed oil D. Gherca, N. Cornei, O. Mentré, H. Kabbour, S. Daviero-Minaud and A. Pui 	490
R.S. Carran, A. Ghosh and J.M. Dyer	467		
Magnetron sputtering derived (1 0 0) oriented $Pb_{0.4}Sr_{0.6}(Ti_{0.97}Mg_{0.03})$ $O_{2.97}$ thin film on inducing-layer/glass substrate with outstanding tunability		Correspondence Ferrite and austenite phase identification in duplex stainless steel using SPM techniques	
J. Fang, T. Hu, J. Chen, G. Han, W. Weng, N. Ma and P. Du	473	L.Q. Guo, M.C. Lin, L.J. Qiao and A.A. Volinsky	499