



Volume 264 1 January 2013

ISSN 0169-4332

# applied surface science

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

Editors:

J. Chen, Newark, DE, USA  
H. Kobayashi, Osaka, Japan  
R.L. Opila, Newark, DE, USA  
H. Rudolph, Utrecht, The Netherlands  
P. Schaaf, Ilmenau, Germany  
S. Suzer, Ankara, Turkey  
F. Rosei, Varennes (QC), Canada

Volume 264, pp. 1–904

1 January 2013

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

**SciVerse ScienceDirect**

# applied surface science

Contents

Volume 264 (2013)

## Regular papers

- Hybrid structure for efficiency enhancement of photodetectors  
M. Malekmohammad, M. Soltanolkotabi, R. Asadi, M.H. Naderi,  
A. Erfanian, M. Zahedinejad, S. Bagheri and M. Khaje 1
- Influence of annealing atmosphere on room temperature ferro-  
magnetism of Mn-doped ZnO nanoparticles  
Q.Q. Gao, Q.X. Yu, K. Yuan, X.N. Fu, B. Chen, C.X. Zhu and H. Zhu 7
- Polycrystalline silicon thin films by aluminum induced crystalliza-  
tion of amorphous silicon  
T. Wang, H. Yan, M. Zhang, X. Song, Q. Pan, T. He, Z. Hu, H. Jia  
and Y. Mai 11
- Low temperature method for synthesis of ZnS quantum dots and  
its luminescence characterization studies  
K. Senthilkumar, T. Kalaivani, S. Kanagesan and V. Balasubramanian 17
- Low temperature SiN<sub>x</sub>:H films deposited by inductively coupled  
plasma for solar cell applications  
H.P. Zhou, D.Y. Wei, L.X. Xu, Y.N. Guo, S.Q. Xiao, S.Y. Huang and  
S. Xu 21
- Comparison of *in situ* and *ex situ* bioconjugation of Au nanoparticles  
generated by laser ablation  
S. Mutisya, L. Franzel, B.O. Barnstein, T.W. Faber, J.J. Ryan and  
M.F. Bertino 27
- Surface-enhanced Raman spectroscopy (SERS) using Ag nanoparti-  
cle films produced by pulsed laser deposition  
C.A. Smyth, I. Mirza, J.G. Lunney and E.M. McCabe 31
- Reverse atom transfer radical polymerization (RATRP) for anti-  
clotting PU-LaCl<sub>3</sub>-g-P(MPC) films  
C. Lu, N. Zhou, Y. Xiao, Y. Tang, S. Jin, Y. Wu and J. Shen 36
- Tribological behavior of electron beam D6ac weldment  
S.-C. Wu, K.-H. Tseng, H.-C. Wen, M.-J. Wu and C.-P. Chou 45
- Refining femtosecond laser induced periodical surface structures  
with liquid assist  
L.S. Jiao, E.Y.K. Ng and H.Y. Zheng 52
- Control of the graphene growth rate on capped SiC surface under  
strong Si confinement  
C. Çelebi, C. Yanik, A.G. Demirkol and İl Kaya 56
- UV-assisted surface modification of PET fiber for adhesion  
improvement  
X.-D. Liu, D.-K. Sheng, X.-M. Gao, T.-B. Li and Y.-M. Yang 61
- Effect of microstructure on the zinc phosphate conversion coatings  
on magnesium alloy AZ91  
N. Van Phuon, S. Moon, D. Chang and K.H. Lee 70
- Determination of irradiation parameters for laser-induced periodic  
surface structures  
J. Eichstädt, G.R.B.E. Römer and A.J. Huis in 't Veld 79
- Effect of LaB<sub>6</sub> on the thermal shock property of MoSi<sub>2</sub>-SiC coating  
for carbon/carbon composites  
T. Li, H. Li and X. Shi 88
- Preparation and characterization of boron-doped titania nano-  
materials with antibacterial activity  
X. Xue, Y. Wang and H. Yang 94
- Microstructure properties of tempered D6ac steel  
D. Lian 100
- Effect of surfactant concentration on characteristics of mesoporous  
bioactive glass prepared by evaporation induced self-assembly  
process  
C.-C. Shih, C.-S. Chien, J.-C. Kung, J.-C. Chen, S.-S. Chang, P.-S. Lu  
and C.-J. Shih 105
- Photocatalytic activity and reusability study of nanocrystalline  
TiO<sub>2</sub> films prepared by sputtering technique  
B. Barrocas, O.C. Monteiro, M.E.M. Jorge and S. Sérgio 111
- Structural analysis of heat-treated birch (*Betula papyrifera*) surface  
during artificial weathering  
X. Huang, D. Kocaefe, Y. Kocaefe, Y. Boluk and C. Krause 117
- Nano-SiC/SiC anti-oxidant coating on the surface of graphite  
H. Jafari, N. Ehsani, S.A. Khalifeh-Soltani and M. Jalaly 128
- Effect of post-sulfurization on the composition, structure and opti-  
cal properties of Cu<sub>2</sub>ZnSnS<sub>4</sub> thin films deposited by sputtering from  
a single quaternary target  
J. He, L. Sun, K. Zhang, W. Wang, J. Jiang, Y. Chen, P. Yang and  
J. Chu 133
- The study of visible light active bismuth modified nitrogen doped  
titanium dioxide photocatalysts: Role of bismuth  
S. Bagwasi, Y. Niu, M. Nasir, B. Tian and J. Zhang 139
- Material removal mechanism during porous silica cluster impact on  
crystal silicon substrate studied by molecular dynamics simulation  
R. Chen, R. Jiang, H. Lei and M. Liang 148
- Synthesis and enhanced photoelectrocatalytic activity of p-n junc-  
tion Co<sub>3</sub>O<sub>4</sub>/TiO<sub>2</sub> nanotube arrays  
G. Dai, S. Liu, Y. Liang and T. Luo 157
- Growth of flower-like ZnO on ZnO nanorod arrays created on zinc  
substrate through low-temperature hydrothermal synthesis  
R. Shi, P. Yang, X. Dong, Q. Ma and A. Zhang 162
- Durable antimicrobial finishing of cellulose with QSA silicone by  
supercritical adsorption  
Y. Chen, M. Niu, S. Yuan and H. Teng 171
- Study on feasibility of producing an amorphous surface layer of  
Fe<sub>49</sub>Cr<sub>18</sub>Mo<sub>7</sub>B<sub>16</sub>C<sub>4</sub>Nb<sub>3</sub> by pulsed Nd:YAG laser surface melting  
R. Mojaver, F. Mojtahedi, H.R. Shahverdi and M.J. Torkamany 176
- Effect of post annealing on structural, optical and dielectric prop-  
erties of MgTiO<sub>3</sub> thin films deposited by RF magnetron sputtering  
T. Santhosh Kumar, R.K. Bhuyan and D. Pamu 184
- A new way to synthesize carbon nanofiber film on bulk titanium  
via hybrid surface mechanical attrition treatment  
X.F. Yang and J. Lu 191
- Significant effect of substrate temperature on the phase structure,  
optical and electrical properties of RF sputtered CIGS films  
Z. Yu, Y. Yan, S. Li, Y. Zhang, C. Yan, L. Liu, Y. Zhang and Y. Zhao 197
- Electronic structure of chromium-containing amorphous hydrogen-  
ated carbon thin films studied by X-ray absorption spectroscopy  
H.-Y. Cheng, J.-W. Chiou, J.-M. Ting, J.-M. Chen, J.-F. Lee and  
Y. Tzeng 202

(Contents continued on BM I)



(Continued from outside back cover)

- The microstructure and mechanical properties of multilayer diamond-like carbon films with different modulation ratios  
Z. Xu, Y.J. Zheng, F. Jiang, Y.X. Leng, H. Sun and N. Huang 207
- Effect of deposition variables on properties of CBD ZnS thin films prepared in chemical bath of  $ZnSO_4/SC(NH_2)_2/Na_3C_3H_5O_7/NH_4OH$   
W.-L. Liu, C.-S. Yang, S.-H. Hsieh, W.-J. Chen and C.-L. Fern 213
- Dependence of core-level XPS spectra on iron silicide phase  
N. Ohtsu, M. Oku, K. Satoh and K. Wagatsuma 219
- Structural and electrical characterization of  $La_{0.72}Ca_{0.28}MnO_3$  ceramic and thin films  
J. Ma, M. Theingi, H. Zhang, X. Ding and Q. Chen 225
- Laser-induced colour marking—Sensitivity scaling for a stainless steel  
A.J. Antończak, D. Kocoń, M. Nowak, P. Koziol and K.M. Abramski 229
- X-ray absorption spectroscopy and photoluminescence study of rare earth ions doped strontium sulphide phosphors  
A. Vij, S. Gautam, V. Kumar, R. Brajpuria, R. Kumar, N. Singh and K.H. Chae 237
- Synthesis of a sugar-organometallic compound 1,1'-difurfurylferrocene and its microwave preparation of carbon/iron oxide nanocomposite  
S. Zhao, D.C. Cooper, H. Xu, P. Zhu and J.W. Suggs 242
- Dissociation and reconstruction of  $O_2$  on Al (1 1 1) studied by First-principles  
J.X. Guo, L.J. Wei, D.Y. Ge, L. Guan, Y.L. Wang and B.T. Liu 247
- Fabrication of one-dimensional mesoporous  $\alpha-Fe_2O_3$  nanostructure via self-sacrificial template and its enhanced Cr(VI) adsorption capacity  
Z. Jia, Q. Wang, D. Ren and R. Zhu 255
- Effects of acid treatment on structure, properties and biocompatibility of carbon nanotubes  
C. Dong, A.S. Campell, R. Eldawud, G. Perhinschi, Y. Rojanasakul and C.Z. Dinu 261
- Crystallization characteristics of Mg-doped  $Ge_2Sb_2Te_5$  films for phase change memory applications  
J. Fu, X. Shen, Q. Nie, G. Wang, L. Wu, S. Dai, T. Xu and R.P. Wang 269
- Laser-induced surface alloying in nanosized Ni/Ti multilayer structures  
S. Petrović, B. Radak, D. Peruško, P. Pelicon, J. Kovač, M. Mitrić, B. Gaković and M. Trtica 273
- Fabrication of nanoscale alumina on NiAl(1 0 0) with a scanning tunneling microscope  
C.W. Lin, C.T. Wang and M.F. Luo 280
- Different plasma-based strategies to improve the interaction of anionic dyes with polyester fabrics surface  
T. Salem, D. Pleul, M. Nitschke, M. Müller and F. Simon 286
- High-resolution photoelectron spectroscopy analysis of sulfidation of brass at the rubber/brass interface  
K. Ozawa, T. Kakubo, K. Shimizu, N. Amino, K. Mase and T. Komatsu 297
- Platinum-nickel catalyst: The effect of promoters in *cis*-oleic acid adsorption  
S. Simonetti, M. Martirena, S. Ulacco and G. Brizuela 305
- High temperature oxidation behavior of AISI 304L stainless steel—Effect of surface working operations  
S. Ghosh, M.K. Kumar and V. Kain 312
- Density functional theory study of the effects of alloying additions on sulfur adsorption on nickel surfaces  
O.I. Malyi, Z. Chen, V.V. Kulish, K. Bai and P. Wu 320
- Graphene sheets synthesized by ionic-liquid-assisted electrolysis for application in water purification  
C.-F. Chang, Q.D. Truong and J.-R. Chen 329
- Influence of activated carbon characteristics on toluene and hexane adsorption: Application of surface response methodology  
M.T. Izquierdo, A.M. de Yuso, R. Valenciano, B. Rubio and M.R. Pino 335
- Hydrophobic/hydrophilic switching on zinc oxide micro-textured surface  
M.T.Z. Myint, N.S. Kumar, G.L. Hornyak and J. Dutta 344
- Study of spatial homogeneity and nitridation of an Al nanopattern template with spectroscopic photoemission and low energy electron microscopy  
B. Qi, S. Ólafsson, A.A. Zakharov, M. Göthelid, B. Agnarsson and H.P. Gislason 349
- Copper phthalocyanine growth on hydrogen-terminated Si(1 0 0) surfaces: Contrasted molecular arrangements revealed by X-ray photoelectron studies  
B.B. Hamada, A. Akreimi, I. Arbi, S. Menzli, J.-M. Themlin, L. Porte and C. Chefi 358
- Spontaneous and dense assemblies of nanoparticles within microchannels by the bubble deposition method  
C. Costa-Coquelard, J. Azevedo, F. Ardiaca and J.-J. Benattar 364
- Incorporation of dithioamide as a complexing agent into cellulose for the removal and pre-concentration of Cu(II) and Cd(II) ions from natural water samples  
A.O. Jorgetto, R.I.V. Silva, M.M. Longo, M.J. Saeki, P.M. Padilha, M.A.U. Martines, B.P. Rocha and G.R. Castro 368
- Hydrothermal in situ preparation of  $TiO_2$  particles onto poly(lactic acid) electrospun nanofibres  
K.K. Gupta, P.K. Mishra, P. Srivastava, M. Gangwar, G. Nath and P. Maiti 375
- Facile synthesis of large-scale Ag nanosheet-assembled films with sub-10 nm gaps as highly active and homogeneous SERS substrates  
Z. Li, G. Meng, T. Liang, Z. Zhang and X. Zhu 383
- Electrochemically deposited cobalt/platinum (Co/Pt) film into porous silicon: Structural investigation and magnetic properties  
F.A. Harraz, A.M. Salem, B.A. Mohamed, A. Kandil and I.A. Ibrahim 391
- Transmission electron microscopy and Raman characterization of copper (I) oxide microspheres composed of nanoparticles  
W. Wang, Y. Tu, L. Wang, Y. Liang and H. Shi 399
- UV laser direct texturing for high efficiency multicrystalline silicon solar cell  
K.-R. Kim, T.-H. Kim, H.-A. Park, S.-Y. Kim, S.-H. Cho, J. Yi and B.-D. Choi 404
- Electrochemical behavior of anodized AA6063-T6 alloys affected by matrix structures  
Y.-S. Huang, T.-S. Shih and C.-E. Wu 410
- Temperature dependent capacity contribution of thermally treated anode current collectors in lithium ion batteries  
T.K. Kim, X. Li and C. Wang 419
- First-principles investigation of  $H_2O$  on  $HfO_2$  (1 1 0) surface  
L. Li, X. Huang, Y.-F. Zhang, X. Guo and W.-K. Chen 424
- Effect of the surface oxygen groups on methane adsorption on coals  
S. Hao, J. Wen, X. Yu and W. Chu 433
- Preparation and characterization of fully separated gold nanowire arrays  
J. Siegel, J. Heitz, A. Řezníčková and V. Švorčík 443

Transparent and conductive electrodes combining AZO and ATO thin films for enhanced light scattering and electrical performance C. Guillén, J. Montero and J. Herrero	448	Atomistic simulation for the $\gamma'$ -phase volume fraction dependence of the interfacial behavior of Ni-base superalloy X. Yang, W. Hu and X. Zhang	563
Improved mechanical properties of solution-cast silicone film reinforced with electrospun polyurethane nanofiber containing carbon nanotubes L.D. Tijing, C.-H. Park, S.-J. Kang, A. Amarjargal, T.-H. Kim, H.R. Pant, H.J. Kim, D.H. Lee and C.S. Kim	453	Structural stability and electronic properties of LaO- and NiO <sub>2</sub> -terminated LaNiO <sub>3</sub> (0 0 1) surface L. Guan, J. Zuo, G. Jia, Q. Liu, W. Wei, J. Guo, X. Dai, B. Liu, Y. Wang and G. Fu	570
Effect of rapid thermal annealing on the compositional ratio and interface of Cu(In,Ga)Se <sub>2</sub> solar cells by XPS D.S. Chen, J. Yang, F. Xu, P.H. Zhou, H.W. Du, J.W. Shi, Z.S. Yu, Y.H. Zhang, B. Bartholomeusz and Z.Q. Ma	459	Bulk and surface structure characterization of nanoscopic silver doped lanthanum chromites P.A. Desai, P.N. Joshi, K.R. Patil and A.A. Athawale	574
Study of the aluminum doping of zinc oxide films prepared by atomic layer deposition at low temperature P. Genevée, F. Donsanti, G. Renou and D. Lincot	464	High photocatalytic performance of BiOI/Bi <sub>2</sub> WO <sub>6</sub> toward toluene and Reactive Brilliant Red H. Li, Y. Cui and W. Hong	581
Water effect on the surface morphology of TiO <sub>2</sub> thin film modified by polyethylene glycol S.-H. Wang, K.-H. Wang, Y.-M. Dai and J.-M. Jehng	470	A simple approach for surface hardening of polystyrene H. Tsuruta, Y. Ikinaga, Y. Fujii and K. Tanaka	589
Enhanced photoelectrochemical and photocatalytic performance of single-crystalline anatase TiO <sub>2</sub> (1 0 1) nanobelts arrays originating from nanotubes arrays Q. Chen, H. Liu, Y. Xin, X. Cheng and J. Li	476	Effect of MWNT electroless Ag plating on field emission properties of MWNT/Ag nanocomposite cathodes Y. Ye and T. Guo	593
Structural and mechanical properties of the coral and nacre and the potentiality of their use as bone substitutes S. Hamza, N. Slimane, Z. Azari and G. Pluvinage	485	Polyvinyl alcohol functionalized cobalt ferrite nanoparticles for biomedical applications A.B. Salunkhe, V.M. Khot, N.D. Thorat, M.R. Phadatare, C.I. Sathish, D.S. Dhawale and S.H. Pawar	598
Surface properties of pillared acid-activated bentonite as catalyst for selective production of linear alkylbenzene H. Faghihian and M.H. Mohammadi	492	Nanoporous alumina formed by self-organized two-step anodization of Ni <sub>3</sub> Al intermetallic alloy in citric acid W.J. Stepniowski, G. Cieślak, M. Norek, K. Karczewski, M. Michalska-Domańska, D. Zasada, W. Polkowski, P. Jóźwik and Z. Bojar	605
Structure and conformation of poly(ethylene glycol) in confined space of montmorillonite S. Zhu, J. Chen, H. Li and Y. Cao	500	Femtosecond-laser-induced nanostructure formed on nitrided stainless steel N. Yasumaru, E. Sentoku, K. Miyazaki and J. Kiuchi	611
Adsorption behavior of glycidoxypropyl-trimethoxy-silane on titanium alloy Ti-6.5Al-1Mo-1V-2Zr J.-h. Liu, Z.-w. Zhan, M. Yu and S.-m. Li	507	Study of defect creation in self assembled ZnO nanostructures with electrically charged nanoparticles C. Dwivedi and V. Dutta	616
Tribological characteristics of electroless Ni-P-MoS <sub>2</sub> composite coatings at elevated temperatures Z. Li, J. Wang, J. Lu and J. Meng	516	Formation of nanostructured emitter for silicon solar cells using catalytic silver nanoparticles D. Li, L. Wang, D. Li, N. Zhou, Z. Feng, X. Zhong and D. Yang	621
Effects of CdZnTe buffer layer thickness on properties of HgCdTe thin film grown by pulsed laser deposition M. Liu, D. Bi, B.Y. Man, D.M. Kong and X.Y. Xu	522	Effects of pulse bias on structure and properties of silicon/nitrogen-incorporated diamond-like carbon films prepared by plasma-enhanced chemical vapor deposition H. Nakazawa, S. Miura, R. Kamata, S. Okuno, M. Suemitsu and T. Abe	625
Fabrication of biomimetic hydrophobic films with corrosion resistance on magnesium alloy by immersion process Y. Liu, G. Lu, J. Liu, Z. Han and Z. Liu	527	Influence of pulsed electron beam treatment on microstructure and properties of TA15 titanium alloy Y.-k. Gao	633
Influence of the sputtering reactive gas on the oxide and oxynitride LaTiON deposition by RF magnetron sputtering Y. Lu, C. Le Paven-Thivet, R. Benzerga, L. Le Gendre, A. Sharaiha, F. Tessier and F. Cheviré	533	Synthesis and characterization of asymmetric polymer/inorganic nanocomposites with pH/temperature sensitivity X. Zhang, C. Gao, M. Liu, Y. Huang, X. Yu and E. Ding	636
Infrared transmissive and rain-erosion resistant performances of GeC/GaP double-layer thin films on ZnS substrates Y.-P. Li, N. Wang, X.-S. Che, H.-B. Chen and Z.-T. Liu	538	Surface imprinting on nano-TiO <sub>2</sub> as sacrificial material for the preparation of hollow chlorogenic acid imprinted polymer and its recognition behavior H. Li, G. Li, Z. Li, C. Lu, Y. Li and X. Tan	644
Effect of critical plasma spray parameter on complex permittivity and microstructure by plasma spraying Cr/Al <sub>2</sub> O <sub>3</sub> coatings D. Zhao, F. Luo, W. Zhou and D. Zhu	545	Fabrication of micro-pin array with high aspect ratio on stainless steel using nanosecond laser beam machining S.W. Lee, H.S. Shin and C.N. Chu	653
Onset of shadowing-dominated growth of Ag films in glancing angle deposition: Kinetic Monte Carlo simulation S. Chen, J. Liang, Y. Mo, D. Luo and S. Jiang	552	Elucidation of the reaction mechanism during the removal of copper oxide by halogen surfactant at the surface of copper plate S. Yokoyama, H. Takahashi, T. Itoh, K. Motomiya and K. Tohji	664
Research on manganese oxide catalysts surface pretreated with non-thermal plasma for NO catalytic oxidation capacity enhancement K. Li, X. Tang, H. Yi, P. Ning, Y. Xiang, J. Wang, C. Wang and X. Peng	557		

- Surface modification of TiO<sub>2</sub> nanoparticles via photocatalytically induced reaction: Influence of functionality of silane coupling agent  
R. Tomovska, V. Daniloska and J.M. Asua 670
- Plasma focus assisted damage studies on tungsten  
M. Bhuyan, S.R. Mohanty, C.V.S. Rao, P.A. Rayjada and P.M. Raole 674
- An XPS study of bromine in methanol etching and hydrogen peroxide passivation treatments for cadmium zinc telluride radiation detectors  
S. Babar, P.J. Sellin, J.F. Watts and M.A. Baker 681
- Self-assembly growth of ZnO-based axial and radial junctions via a two-step method  
Y. Chang, Y. Lu, M. Wang, Y. Long and R. Ye 687
- Examining the ground layer of St. Anthony from Padua 19th century oil painting by Raman spectroscopy, scanning electron microscopy and X-ray diffraction  
Ľ. Vančo, M. Kadlečíková, J. Breza, Ľ. Čaplovič and M. Gregor 692
- Carbon nitride nanotube as a sensor for alkali and alkaline earth cations  
J. Beheshtian, M.T. Baei, Z. Bagheri and A.A. Peyghan 699
- Effect of nanosilica on characteristics of carbonizates of phenol-formaldehyde resin – Fe(acac)<sub>3</sub>  
V.M. Gun'ko, V.M. Bogatyrov, O.I. Oranska, M.V. Galaburda, E.V. Polshin, I.V. Urubkov, R. Leboda, J. Skubiszewska-Zięba and B. Charnas 707
- Nanowelding configuration between carbon nanotubes in axial direction  
J. Cui, L. Yang and Y. Wang 713
- Utilization of tin and titanium incorporated rice husk silica nanocomposite as photocatalyst and adsorbent for the removal of methylene blue in aqueous medium  
F. Adam, J.N. Appaturi, Z. Khanam, R. Thankappan and M.A.M. Nawi 718
- Effects of surface impurities on epitaxial graphene growth  
V. del Campo, R. Henríquez and P. Häberle 727
- Characterization and kinetic investigation of electroless deposition of pure cobalt thin films on silicon substrates  
S.L. Cheng, T.L. Hsu, T. Lee, S.W. Lee, J.C. Hu and L.T. Chen 732
- Synthesis, phase to phase deposition and characterization of rutile nanocrystalline titanium dioxide (TiO<sub>2</sub>) thin films  
S.K. Gupta, J. Singh, K. Anbalagan, P. Kothari, R.R. Bhatia, P.K. Mishra, V. Manjuladevi, R.K. Gupta and J. Akhtar 737
- Production of ceramic layers on aluminum alloys by plasma electrolytic oxidation in alkaline silicate electrolytes  
A. Lugovskoy, M. Zinigrad, A. Kossenko and B. Kazanski 743
- Self-assembling of strain-induced Y<sub>2</sub>O<sub>3</sub> nanostructures grown on LaAlO<sub>3</sub> by photo-assisted MOCVD  
W. Li, S. Li, G. Li, B. Zhang and P. Chou 748
- Investigation into conductivity of silver-coated cenosphere composites prepared by a modified electroless process  
X.G. Cao and H.Y. Zhang 756
- Differences in etching characteristics of TMAH and KOH on preparing inverted pyramids for silicon solar cells  
Y. Fan, P. Han, P. Liang, Y. Xing, Z. Ye and S. Hu 761
- Effect of surface modification on the porous silicon infiltrated with biomolecules  
B. Lawrence, N. Alagumanikumar, N. Prithivikumar, N. Jeyakumar, V. Ramadas and B. Natarajan 767
- Study on lotus-type porous copper electroplated with a Ni coating on inner surface of pores  
H. Du, G. Song, H. Nakajima, Y. Zhao, J. Xiao and T. Xiong 772
- Tuning the optical properties of gold nanostructures fabricated on flexible substrates  
R. Nikov, N. Nedyalkov, P.A. Atanasov, M. Terakawa, H. Shimizu and M. Obara 779
- Improved interfacial and electrical properties of atomic layer deposition HfO<sub>2</sub> films on Ge with La<sub>2</sub>O<sub>3</sub> passivation  
X.-F. Li, X.-J. Liu, Y.-Q. Cao, A.-D. Li, H. Li and D. Wu 783
- Preparation of stable aqueous dispersion of graphene nanosheets and their electrochemical capacitive properties  
Y. Jin, M. Jia, M. Zhang and Q. Wen 787
- Effect of surface area of substrates aiming the optimization of carbon nanotube production from ferrocene  
A.G. Osorio and C.P. Bergmann 794
- Preparation and properties of homogeneous-reinforced polyvinylidene fluoride hollow fiber membrane  
X. Zhang, C. Xiao, X. Hu and Q. Bai 801
- Surface electronic properties of polycrystalline bulk and thin film In<sub>2</sub>O<sub>3</sub>(ZnO)<sub>k</sub> compounds  
E.M. Hopper, Q. Zhu, J. Gassmann, A. Klein and T.O. Mason 811
- Preparation and characterization of HA microflowers coating on AZ31 magnesium alloy by micro-arc oxidation and a solution treatment  
H. Tang, D. Yu, Y. Luo and F. Wang 816
- Hard and relaxed α-SiN<sub>x</sub>H<sub>y</sub> films prepared by PECVD: Structure analysis and formation mechanism  
X. Xu, Q. He, T. Fan, Y. Jiang, L. Huang, T. Ao and C. Ma 823
- Properties of competitively adsorbed BSA and fibrinogen from their mixture on mixed and hybrid surfaces  
L.M. Pandey and S.K. Pattanayek 832
- Preparation of a boron nitride single layer on a polycrystalline Rh surface  
J. Kiss, K. Révész, G. Klivényi and F. Solymosi 838
- Origin of the visible-light photoactivity of NH<sub>3</sub>-treated TiO<sub>2</sub>: Effect of nitrogen doping and oxygen vacancies  
Y. Chen, X. Cao, B. Lin and B. Gao 845
- Oxidative pit formation in pristine, hydrogenated and dehydrogenated graphene  
J.D. Jones, C.F. Morris, G.F. Verbeck and J.M. Perez 853
- Grafting process of ethyltrimethoxysilane and polyphosphoric acid on calcium carbonate surface  
J. Kiehl, C. Ben-Azzouz, D. Dentel, M. Derivaz, J.L. Bischoff, C. Delaite and S. Bistac 864
- Fabrication of the superhydrophobic surface on aluminum alloy by anodizing and polymeric coating  
W. Liu, Y. Luo, L. Sun, R. Wu, H. Jiang and Y. Liu 872
- Synthesis and characterization of in situ TiC–TiB<sub>2</sub> composite coatings by reactive plasma spraying on a magnesium alloy  
B. Zou, S. Tao, W. Huang, Z.S. Khan, X. Fan, L. Gu, Y. Wang, J. Xu, X. Cai, H. Ma and X. Cao 879
- Surface modification of calcium-copper hydroxyapatites using polyaspartic acid  
M. Othmani, A. Aissa, H. Bachoua and M. Debbabi 886
- Effect of laser operating mode in paint removal with a fiber laser  
Y.K. Madhukar, S. Mullick, D.K. Shukla, S. Kumar and A.K. Nath 892

**Corrigendum**

Corrigendum to 'Effect of surface modification on carbon fiber and its reinforced phenolic matrix composite' [Appl. Surf. Sci. 259 (2012) 288–293]

H. Yuan, C. Wang, S. Zhang and X. Lin

902

**Erratum**

Erratum to "Study of methanol oxidation of hydrothermally synthesized PtRuMo on multi wall carbon nanotubes" [Appl. Surf. Sci. 257 (2011) 8433–8437]

N. Kakati, J. Maiti, J.Y. Oh and Y.S. Yoon

903