

INDEX FOR VOLUME 20, 2016

HIGH TEMPERATURE MATERIAL PROCESSES

AN INTERNATIONAL QUARTERLY OF HIGH-TECHNOLOGY PLASMA PROCESSES

TABLE OF CONTENTS FOR VOLUME 20, 2016

PAGE NUMBERS FOR ISSUES:

Issue 1: 1–92; Issue 2: 93–184; Issue 3: 185–278; Issue 4: 279–360

ISSUE 1

Processes of Deposition of Amorphous Metal/Carbon Films of Various Elemental Compositions <i>M.V. Astashynskaya, V.V. Astashynski, N.T. Kvasov, & V.V. Uglov</i>	1
Analysis of the Existing Methods of Cleaning Turbine Blade Surfaces in Gas Turbine Engines <i>O. Alhatim</i>	13
Forecasting Nonuniformity of Gas Temperature Field at the Gas Turbine Engine Combustor Outlet in the Case of Indefiniteness of Initial Conditions of Atomized Fuel Supply <i>O. Alhatim</i>	23
Discharge Processes in a Light Gas Magnetoplasma Launcher <i>V.V. Astashynski</i>	33
Effect of Thickness on the Properties of Sputtered Ti Thin Films on AA1100 for MEMS Application <i>S. Venkatesan & M. Ramu</i>	45
Mathematical Modeling of Self-Propagating High-Temperature Synthesis in Formation of a Wear-Resistant Coating by Pulse Plasma Processing of a Composite Plaster Involving SHS Reagents <i>G.F. Gromyko, N.P. Matsuka, A.Ph. Ilyuschenko, A.I. Shevtsov, V.M. Astashynski, & K.V. Buikus</i>	59
Effect of Thermal Annealing and Deposition Conditions on the Structure and Mechanical Properties of a Multilayer Nitride Coating Based on Ta <i>Ya. Kravchenko, O. Maksakova, P. Drodziel, & V. Loboda</i>	85

ISSUE 2

Influence of Titanium-Coated (B ₄ C + SiC) Particles on Electric Discharge Machining of AA7050 Hybrid Composites <i>R. Ranjith, P.K. Giridharan, & J. Devaraj</i>	93
Synthesis of Sc ₃ TaO ₇ Compound and Modeling the Mechanism of Phase Transformations on Thermal Exposure and Irradiation by Xenon Ions <i>A.E. Solovyova</i>	107

Microstructure of Amorphous Copper-Carbon Thin Films Formed by Plasma-Enhanced Chemical Vapor Deposition	115
<i>M.V. Astashynskaya, V.V. Astashynski, N.T. Kvasov, & V.V. Uglov</i>	
Influence of Annealing Temperature on the Structure and Phase Composition of T15K6 Hard Alloy with Titanium Coating after Treatment by Intense Pulsed Electron Beams	127
<i>V.V. Uglov, A.K. Kuleshov, A.A. Malashevich, Yu.F. Ivanov, & N.N. Koval</i>	
Modeling the Processes of Destruction of the Antimeteorite Protection System Elements	139
<i>V.V. Astashynski & E.E. Bildanov</i>	
Physicochemical Principles of the Technology of Formation of Polymer Composite Materials based on Polytetrafluoroethylene – A Review	157
<i>K.V. Berladir, O.A. Budnik, K.A. Dyadyura, V.A. Svidersky, Ya.O. Kravchenko</i>	

ISSUE 3

Taguchi Optimization of Process Parameters in Friction Stir Welding of the AA7010–SiC–Al₂O₃ Hybrid Composite	185
<i>P. Gopi Krishnan & K. Siva</i>	
Study and Analysis of the Macrostructure Characteristics in FCAW with the Use of a Flat Wire Electrode and by Optimizing the Process Parameter Using the Taguchi Method and Regression Analysis	197
<i>S. Karuthapandi, R. Murugan, & P.K. Palani</i>	
Development of Scientific and Technological Principles of Applying Composition Coatings Formed by High-Energy Pulses and SHS	225
<i>A.Ph. Ilyuschenko, A.I. Shevtsov, V.M. Astashynski, A.M. Kuzmitski, A.N. Chumakov, N.A. Bosak, G.F. Gromyko, A.I. Letsko, K.V. Buikus, & T.A. Ilyuschenko</i>	
Characterization and Evaluation of the Mechanical Properties of a Sputtered Ti Thin Film on AA6061 Substrate	241
<i>S. Venkatesan, M. Ramu, & M. Yuvaraja</i>	
Synthesis of Silicon Nanocrystals in Electrical Discharge in Liquid with Spectroscopic Plasma Characterization	251
<i>A.A. Nevar, V.V. Kiris, M.M. Mardanian, M.I. Nedelko, & N.V. Tarasenko</i>	
High-Entropy Titanium-Aluminum Diffusion Coatings on Nickel Alloy	267
<i>V.G. Khyzhniak, T.V. Loskutova, O.E. Datsyuk, I.S. Pohrebova, N.A. Kharchenko, T.P. Hovorun, A.I. Dehula, I.Ya. Smokovich, & Ya.O. Kravchenko</i>	

ISSUE 3

Effect of Molecules in Radiative Emission from the Thermal Plasmas of CH₄–H₂ Mixtures	279
<i>S. Ailas, B. Liani, & A.K. Ferouani</i>	
Modifications of the Silumin Structure and Properties by Electron–Ion–Plasma Saturation of the Surface with Atoms of Metals and Gases	295
<i>Yu.F. Ivanov, N.N. Koval, E.A. Petrikova, A.P. Laskovnev, V.V. Uglov, & N.N. Cherenda</i>	

Low-Temperature Plasma Source based on a Cold Hollow-Cathode Arc with Increased Service Life	309
<i>V.V. Denisov, Yu.Kh. Akhmadeev, N.N. Koval, & E.V. Ostroverkhov</i>	
Effect of Plasma State and Alloying Addition on Reduction of Fe₂O₃ by a Low-Temperature Hydrogen Plasma	317
<i>P. Rajput, B. Bhoi, R.K. Paramguru, & B.K. Mishra</i>	
Experimental Investigations on Precision Machining of Thermal Barrier Coatings and Application of the Grey Relation Approach to Determine the Optimum Process Parameters	333
<i>M. Yunus & M.S. Alsoofi</i>	
Index, Volume 20, 2016	355

INDEX FOR VOLUME 20, 2016

HIGH TEMPERATURE MATERIAL PROCESSES

AN INTERNATIONAL QUARTERLY OF HIGH-TECHNOLOGY PLASMA PROCESSES

AUTHOR INDEX FOR VOLUME 20, 2016

PAGE NUMBERS FOR ISSUES:

Issue 1: 1–92; Issue 2: 93–184; Issue 3: 185–278; Issue 4: 279–360

- | | | |
|---------------------------|-------------------------|---------------------------|
| Ailas, S., 279 | Gromyko, G.F., 59, 225 | Mardanian, M.M., 251 |
| Akhmadeev, Tu.Kh., 309 | Hovorun, T.P., 267 | Matsuka, N.P., 59 |
| Alhatim, O., 13, 23 | Ilyuschenko, A.Ph., 59, | Mishra, B.K., 317 |
| Alsoufi, M.S., 333 | 225 | Murugan, R., 197 |
| Astashynskaya, M.V., 1, | Ilyuschenko, T.A., 225 | Nedelko, M.I., 251 |
| 115 | Ivanov, Yu.F., 127, 295 | Nevar, A.A., 251 |
| Astashynski, V.M., 59, | Karuthapandi, S., 197 | Ostroverkhov, E.V., |
| 225 | Kharchenko, N.A., 267 | 309 |
| Astashynski, V.V., 1, 33, | Khyzhniak, V.G., 267 | Palani, P.K., 197 |
| 115, 139 | Kiris, V.V., 251 | Paramguru, R.K., 317 |
| Berladir, K.V., 157 | Koval, N.N., 127, 295, | Petrikova, E.A., 295 |
| Bhoi, B., 317 | 309 | Pohrebova, I.S., 267 |
| Bildanov, E.E., 139 | Kravchenko, Ya.O., 85, | Rajput, P., 317 |
| Bosak, N.A., 225 | 157, 267 | Ramu, M., 45, 241 |
| Budnik, O.A., 157 | Krishnan, P. Gopi, 185 | Ranjith, R., 93 |
| Buikus, K.V., 59, 225 | Kuleshov, A.K., 127 | Shevtsov, A.I., 59, 225 |
| Cherenda, N.N., 295 | Kuzmitski, A.M., 225 | Siva, K., 185 |
| Chumakov, A.N., 225 | Kvasov, N.T., 1, 115 | Smokovich, I.Ya., 267 |
| Datsyuk, O.E., 267 | Laskovnev, A.P., 295 | Solovyova, A.E., 107 |
| Dehula, A.I., 267 | Letsko, A.I., 225 | Svidersky, V.A., 157 |
| Denisov, V.V., 309 | Liani, B., 279 | Tarasenko, N.V., 251 |
| Devaraj, J., 93 | Loboda, V., 85 | Uglov, V.V., 1, 115, 127, |
| Drodziel, P., 85 | Loskutova, T.V., 267 | 295 |
| Dyadyura, K.A., 157 | Maksakova, O., 85 | Venkatesan, S., 45, 241 |
| Ferouani, A.K., 279 | Malashevich, A.A., | Yunus, M., 333 |
| Giridharan, P.K., 93 | 127 | Yuvaraja, M., 241 |

INDEX FOR VOLUME 20, 2016

HIGH TEMPERATURE MATERIAL PROCESSES

AN INTERNATIONAL QUARTERLY OF HIGH-TECHNOLOGY PLASMA PROCESSES

SUBJECT INDEX FOR VOLUME 20, 2016

PAGE NUMBERS FOR ISSUES:

Issue 1: 1–92; Issue 2: 93–184; Issue 3: 185–278; Issue 4: 279–360

- adhesion, 157
alloying addition, 317
amorphous hydrogenated carbon, 1
analytical study, 107
annealing, 85
ANOVA, 197, 333
arc discharge, 309
average microwave power density, 317
cathode erosion, 309
chemical-thermal treatment, 267
cleaning methods, 13
combustion, 23
combustor, 23
composite coating, 59
compression plasma jet, 225
Cu/a-C:H composite thin films, 115
destruction, 139
dynamics of mesoparticles, 139
EDM, 93
electrical discharge in liquid, 251
film/substrate system, 295
finite volume method, 59
flat wire electrode, 197
flow, 23
flux-cored arc welding, 197
friction stir welding, 185
fuel droplets, 23
gas discharge, 33
gas temperature field, 23
gas turbine engine, 13, 23
grey relation grade, 333
hard alloy, 127
hardness, 45, 241
heat resistance, 267
high temperature oxidation products, 13
high-entropy coatings, 267
high-velocity impact, 139
hybrid composite, 185
hydrogen, 279
intense pulsed electron beams, 127, 295
lapping, 333
laser cleaning, 13
laser radiation, 225
low-pressure discharge plasma, 295
low-temperature hydrogen plasma, 317
macrostructure characteristics, 197
magnetoplasma launcher, 33
material testing, 157
mechanical properties, 157
MEMS, 45
metal matrix, 93
metal/carbon composite thin films, 1
methane, 279
MHD, 33
microhardness, 267
microstructure, 115
molding, 157
molecular bands, 279
multilayer nitride coatings, 115
nanoclusters, 115
nanostructures, 85
nickel alloys, 267
nitrogen saturation, 295
numerical modeling initial conditions, 23
numerical modeling, 59, 139
optimization, 185
oxidation resistance, 127
particle detachment, 93
phase composition, 127
phase transformation, 107
plasma density, 309
plasma source, 309
plasma-enhanced chemical vapor deposition, 1, 115
polymer composites, 157
preliminary mechanoactivation, 59
processing technologies, 157
properties, 295
quasistationary flow, 33
radiation, 107
reduction of hematite, 317
regression analysis, 197
scandium oxide, 107
self-propagating high-temperature synthesis, 225
semiconductor nanoparticles, 251
SHS reagents, 59
silicon nanoparticles, 251

- silumin, 295
sputtering, 45, 241
structure, 107, 127, 295
sulfide corrosion, 13
surface finish, 333
surface grinding, 333
surface layer modification,
 127
surface roughness, 93
Taguchi design method,
 333
- Taguchi, 185, 197
tensile strength, 185
thermal barrier coatings,
 333
thermal plasma, 279
thermal processes, 59
thermal stability, 85
thermal treatment,
 157
thermal vacuum
 technology, 157
- thermodynamic stability,
 13
thin films, 45, 241
titanium interface, 93
titanium, 45, 241
titanium-aluminum
 diffusion coatings, 267
wear, 85
wear-resistant powder
 coatings, 225
X-ray diffraction, 107