

**Институт по физикохимия „Акад. Р. Каишев“**

**Приложение към таблица 3**

**СПИСЪК С ПУБЛИКАЦИИ ЗА 2012**

**1. Публикации, реферирани и индексирани в световната система за рефериране, индексиране и оценяване (в световни вторични литературни източници)**

1. S. Auer, P. Ricchiuto, D. Kashchiev, Two-step nucleation of amyloid fibrils: Omnipresent or not?, *Journal of Molecular Biology* 422 (2012) 723-730, ISSN: 00222836
2. V. Bachvarov, M. Peshova, S. Vitkova, N. Boshkov, Electrodeposition, structure and composition of ternary Zn-Ni-P alloys, *Materials Chemistry and Physics* 136 (2012) 999-1007, ISSN: 02540584
3. K. Binder, A. Milchev, Polymer brushes on flat and curved surfaces: How computer simulations can help to test theories and to interpret experiments, *Journal of Polymer Science, Part B: Polymer Physics* 50 (2012) 1515-1555, ISSN: 0887-6266
4. C. Bocker, C. Ruessel, I. Avramov, Crystal growth in non-isochemical, highly viscous liquids and percolation theory, *Chemical Physics* 406 (2012) 50-54, ISSN: 03010104
5. G. Bodurov, N. Boshkov, L. Lutov, T. Ivanova, K.A. Gesheva, Optical characterization of Zn coatings deposited on low carbon steel substrates, *Journal of Physics: Conference Series* 356 (2012) ISSN: 17426588
6. Tz. Boiadjieva, L. Mirkova, H. Kronberger, T. Steck, M. Monev, Hydrogen permeation in steel during electroplating of Zn and Zn-Cr coatings, *Journal of the Electrochemical Society* 159 (2012) D730-D736, ISSN: 00134651
7. R. Cabriolu, D. Kashchiev, S. Auer, Breakdown of nucleation theory for crystals with strongly anisotropic interactions between molecules, *Journal of Chemical Physics* 137 (2012) 1-5, ISSN: 0021-9606
8. S. Cherneva, D. Stoychev, R. Iankov, Investigation of mechanical properties of electrochemically deposited  $ZrO_2$   $Ce_2O_3$ - $CeO_2$  and  $La_2O_3$  films by means of nanoindentation, *Chemicke Listy* 106 (2012) 438-441, ISSN: 1213-7103

9. A. De Virgiliis, A. Milchev, V.G. Rostashvili, T.A. Vilgis, Structure and dynamics of a polymer melt at an attractive surface, *European Physical Journal E* 35 (2012), ISSN: 1292-8941
10. Ts. Dobrovolska, D. A. López-Sauri, L. Veleva, I. Krastev, Oscillations and spatio-temporal structures during electrodeposition of AgCd alloys, *Electrochimica Acta* 79 (2012), 162-169, ISSN: 00134686
11. J. L. A. Dubbeldam, V. G. Rostashvili, A. Milchev, T. A. Vilgis, Forced translocation of a polymer: Dynamical scaling versus molecular dynamics simulation, *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics* 85 (2012), ISSN: 1539-3755
12. J. Fisak, V. Stoyanova, K. Bartunkova, M. Tesar, A. Shoumkova, Typical insoluble particles in fog water at Mileshkova observatory (Czech Republic), *Pure and Applied Geophysics* 169 (2012) 1083-1091, ISSN: 00334553
13. J. Georgieva, E. Valova, S. Armyanov, N. Philippidis, I. Poulios, S. Sotiropoulos, Bi-component semiconductor oxide photoanodes for the photoelectrocatalytic oxidation of organic solutes and vapours: A short review with emphasis to TiO<sub>2</sub>-WO<sub>3</sub> photoanodes, *Journal of Hazardous Materials* 211-212 (2012) 30-46, ISSN: 03043894
14. J. Georgieva, TiO<sub>2</sub>/WO<sub>3</sub> photoanodes with enhanced photocatalytic activity for air treatment in a polymer electrolyte cell, *Journal of Solid State Electrochemistry* 16 (2012) 1111-1119, ISSN: 14328488
15. M. Georgieva, M. Petrova, D. Dobrev, Synthesis and investigation of chemically deposited composite coatings Cu/SiC on polyethylene terephthalate, *Comptes Rendus de L'Academie Bulgare des Sciences* 65 (2012), 1521-1526, ISSN: 13101331
16. M. Georgieva, M. Petrova, D. Dobrev, E. Velkova, D. Stoychev, Chemical deposition of composite copper-diamond coatings on non-metallic substrate: II. Influence of the hydrodynamic regime on the number of co-deposited diamond layers, *Materiale Plastice* 49 (2012), 41-47, ISSN: 00255289
17. T. Höche, C. Patzig , T. Gemming, R. Wurth, C. Rüssel, I. Avramov, Temporal evolution of diffusion barriers surrounding ZrTiO<sub>4</sub> nuclei in lithia aluminosilicate glass-ceramics, *Crystal Growth and Design* 12 (2012), 1556-1563, ISSN: 15287483
18. M. Ilieva, A. Nakova, V. Tsakova, TiO<sub>2</sub>/WO<sub>3</sub> hybrid structures produced through a sacrificial polymer layer technique for pollutant photoand photoelectrooxidation under ultraviolet and visible light illumination, *Journal of Applied Electrochemistry* 42 (2012) 121-129, ISSN: 0021891X

19. S. Ivanov, I. Mintsouli, J. Georgieva, S. Armyanov , E. Valova, G. Kokkinidis, I. Poulios, S. Sotiropoulos, Platinized titanium dioxide electrodes for methanol oxidation and photo-oxidation, *Journal of Electrochemical Science and Engineering* 2 (2012) 155-169, ISSN: 18479286
20. K. Jalili, F. Abbasi , A. Milchev, Dynamic compression of in situ grown living polymer brush: Simulation and experiment, *Macromolecules* 45 (2012) 9827-9840, ISSN: 00249297
21. N. Jordanov, L. Wondraczek, I. Gutzow, Thermodynamic properties of vitreous electrodes in a Ni/NiP glass-crystal Galvanic cell, *Journal of Non-Crystalline Solids* 358 (2012) 1239-1256, ISSN: 00223093
22. N. Jordanov, L. Wondraczek, I. Gutzow, Thermodynamic properties of amorphous solids: The electrochemical approach, *Journal of Non-Crystalline Solids* 358 (2012) 1239-1256, ISSN: 00223093
23. D. Jordanova, N. Jordanova, P. Lanos, P. Petrov, T. Tsacheva, Magnetism of outdoor and indoor settled dust and its utilization as a tool for revealing the effect of elevated particulate air pollution on cardiovascular mortality, *Geochemistry, Geophysics, Geosystems* 13 (2012), ISSN: 15252027
24. A. Karamanov, I. Avramov, L. Arrizza, R. Pascova, I. Gutzow, Variation of Avrami parameter during non-isothermal surface crystallization of glass powders with different sizes, *Journal of Non-Crystalline Solids* 358 (2012) 1486-1490, ISSN: 00223093
25. D. Kashchiev, Magic cluster sizes in nucleation of crystals, *Crystal Growth and Design* 12 (2012) 3257-3262, ISSN: 15287483
26. D. A. Koleva, A. G. Denkova, N. Boshkov, K. van Breugel, Electrochemical performance of steel in cement extract and bulk matrix properties of cement paste in the presence of Pluronic 123 micelles, *Journal of Materials Science* (2012) 1-14, ISSN: 00222461
27. N. Koprinarov, M. Konstantinova, G. Avdeev, T. Ruskov, T. Tzacheva, Preparation and protection of iron and iron compounds, *Journal of Physics: Conference Series* 356 (2012), ISSN: 17426588
28. I. Krastev, Ts. Dobrovolska, U. Lačnjevac, S. Nineva, Pattern formation during electrodeposition of indium-cobalt alloys, *Journal of Solid State Electrochemistry* 16 (2012) 3449-3456, ISSN: 14328488
29. M. Michailov, D. Kashchiev, Thermal rupture of monatomic metal nanowires, *Journal of Physics: Conference Series* 398 (2012) 1-7, ISSN: 17426588

30. M. Michailov, I. Avramov, Surface Energy, Surface Debye Temperature and Specific Heat of Nanocrystals, *Journal of Physics: Conference Series* 398 (2012), ISSN: 17426588
31. A. Milchev, K. Binder, Semiflexible polymers grafted to a solid planar substrate: Changing the structure from polymer brush to "polymer bristle", *Journal of Chemical Physics* 136 (2012), ISSN: 00219606
32. A. Milchev, K. Binder, Kinetics of polymer ejection from capsid confinement: Scaling considerations and computer experiment, *International Journal of Modern Physics C* 23 (2012), ISSN: 01291831
33. V. Milkova, K. Kamburova, R. Cameron, T. Radeva, Complexation of ferric oxide particles with pectins of ordered and random distribution of charged units, *Biomacromolecules* 13 (2012) 138-145, ISSN: 15257797
34. I. Mintsouli, J. Georgieva, E. Valova, S. Armyanov, A. Kakaroglou, A. Hubin, O. Steenhaut, J. Dille, A. Papaderakis, G. Kokkinidis, S. Sotiropoulos. Pt-Ni carbon-supported catalysts for methanol oxidation prepared by Ni electroless deposition and its galvanic replacement by Pt. *Journal of Solid State Electrochemistry* (2012) 1-9, ISSN: 14328488
35. M. Mitov, E. Chorbadzhiyska, R. Rashkov, Y. Hubenova, Novel nanostructured electrocatalysts for hydrogen evolution reaction in neutral and weak acidic solutions, *International Journal of Hydrogen Energy* 37 (2012) 16522-16526, ISSN: 03603199
36. M. Monev, A. Pfund, G. Beck, K. Petrov, R. Bretzler, U. Heuberger, A. Zielonka, Effect of current density on composition and structure of electrodeposited Au-Co alloy coatings, *Transactions of the Institute of metal finishing* 90 (2012) 305, ISSN: 0020-2967
37. C. N. Nanev, Equilibrium forms of protein crystals, *Journal of Crystal Growth* 361 (2012) 171-175, ISSN: 00220248
38. C. N. Nanev, Brittleness of protein crystals, *Crystal Research and Technology* 47 (2012) 922-927, ISSN: 02321300
39. C. N. Nanev, F.V. Hodzhaoglu, Temperature control of protein crystal nucleation, *Crystal Research and Technology* 47 (2012) 1195-1200, ISSN: 02321300
40. L. Nikolov, A new methodology for theoretical investigation of dynamic interactions in colloid systems, *Comptes Rendus de L'Academie Bulgare des Sciences* 65 (2012) 615-622, ISSN: 13101331

41. J. Paturej, L. Kuban , A. Milchev, T. A. Vilgis, Tension enhancement in branched macromolecules upon adhesion on a solid substrate, *EPL* 97 (2012), ISSN: 02955075
42. J. Paturej, H. Popova, A. Milchev, T.A. Vilgis, Thermal decomposition of a honeycomb-network sheet: A molecular dynamics simulation study, *Journal of Chemical Physics* 137, (2012), ISSN: 00219606
43. J. Paturej, H. Popova, A. Milchev, T. A. Vilgis, Force-induced breakdown of flexible polymerized membrane, *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics* 85 (2012), ISSN: 15393755
44. J. Paturej, A. Milchev, V. G. Rostashvili, T. A. Vilgis, Polymer detachment kinetics from adsorbing surface: Theory, simulation and similarity to infiltration into porous medium, *Macromolecules* 45 (2012) 4371-4380, ISSN: 00249297
45. J. Paturej, L. Kuban , A. Milchev, V. G. Rostashvili, T. A. Vilgis, Thermal degradation of adsorbed bottle-brush macromolecules: When do strong covalent bonds break easily?, *Macromolecular Symposia* 316 (2012) 112-122, ISSN: 10221360
46. M. Petrova, M. Georgieva, Ek. Dobreva, G. Avdeev, Electroless Deposition of Nanodisperse Metal Coatings on Fabrics, *Bulgarian Chemical Communications* 44 (2012) 92-98, ISSN: 08619808
47. D. D. Radev, V. Tumbalev, D. Kovacheva, D. Mehandjiev, V. Petkova, S. Vladimirova, Influence of mechanical treatment of oxalate precursors on the properties of copper oxide - nickel oxide mixture, *Comptes Rendus de L'Academie Bulgare des Sciences* 65 (2012) 1343-1348, ISSN: 13101331
48. V. S. Raghuvanshi, D. Tatchev, S. Haas, R. Harizanova, I. Gugov, C. Rüssel, A. Hoell, Structural analysis of magnetic nanocrystals embedded in silicate glasses by anomalous small-angle X-ray scattering, *Journal of Applied Crystallography* 45 (2012) 644-651, ISSN: 00218898
49. B. Rangelov, D. Goranova, V. Tonchev, R. Yakimova, Diffusion limited aggregation with modified local rules, *Comptes Rendus de L'Academie Bulgare des Sciences* 65 (2012) 913-918, ISSN: 13101331
50. D. Reith, A. Milchev , P. Virnau, K. Binder, Computer simulation studies of chain dynamics in polymer brushes, *Macromolecules* 45 (2012) 4381-4393, ISSN: 00249297

51. L. M. Schabbach, F. Andreola, L. Barbieri, I. Lancellotti, E. Karamanova, B. Ranguelov, A. Karamanov, Post-treated incinerator bottom ash as alternative raw material for ceramic manufacturing, *Journal of the European Ceramic Society* 32 (2012) 2843-2852, ISSN: 09552219
52. D. Staneva, B. Ranguelov, V. Tonchev, Hybrid models of step bunching, *Comptes Rendus de L'Academie Bulgare des Sciences* 65 (2012) 1049-1056, ISSN: 13101331
53. D. Stoychev, N. Koteva, M. Stoycheva, E. Velkova, D. Dobrev, Chemical cobalt coating of polyethyleneterephthalate, *Materiale Plastice* 49 (2012) 20-29, ISSN: 00255289
54. V. Tonchev, Classification of step bunching phenomena, *Bulgarian Chemical Communications* 44 (2012) 124-130, ISSN: 08619808
55. T. V. Tropin, J. W. P. Schmelzer, I. Gutzow, C. Schick, On the theoretical determination of the Prigogine-Defay ratio in glass transition, *Journal of Chemical Physics* 136 (2012), ISSN: 00219606
56. V. Tsakova, Alexander Milchev – A tribute on the occasion of his 70th birthday, *Journal of Solid State Electrochemistry*, (2012), ISSN: 14328488
57. V. Usov, S. Stoyanov, O. Coileain, O. Toktarbaiuly, I.V. Shvets, Antiband instability on vicinal Si (111) under the condition of diffusion-limited sublimation, *Physical Review B - Condensed Matter and Materials Physics* 86 (2012), ISSN: 10980121
58. R. Wang, S.A. Egorov , A. Milchev, K. Binder, Stretching of free chains confined in concave brush-coated nanocylinders, *Macromolecules* 45 (2012) 2580-2587, ISSN: 0024-9297
59. J. Zidek, A. Milchev, T. A. Vilgis, Dynamic Behavior of Acrylic Clusters as Quasi-Mobile Nodes in a Model of Hydrogel Network, *Journal of Chemical Physics* 137 (2012) 244908, ISSN: 0021-9606
60. K. Christova, S. Alexandrova, A. Abramov, E. Valcheva, B. Ranguelov, C. Longeaud, S. Reynolds, P. Roca i Cabarrocas, Stress characterization of thin microcrystalline films, *International Review Physics (I.R.E.PHY.)*. 6, 1 (2012) 106-112, ISSN: 1917-680
61. R. Pascova, I. Penkov, G. Avdeev, F.-P. Ludwig, J.W.P. Schmelzer, I. Gutzow, Refractory Alkali-Free Cristobalite Glass-Ceramics: Activated Reaction Sinter-Crystallization Synthesis and Properties, *International Journal of Applied Glass Science* 3 [1] (2012) 75 – 87, ISSN: 2041-1294

62. D. Guergova, E. Stoyanova, D. Stoychev, I. Avramova, P. Stefanov, "Investigation of the inhibiting effect of cerium ions on the corrosion behavior of OC404 stainless steel in sulfuric acid medium", *Open Chemical Physics Journal*, Vol.4 , No1, (2012) pp. 8-17, ISSN: 1874-4125
2. **Публикации, включени в издания с импакт фактор, IF (Web of Science) или импакт ранг SJR (SCOPUS) - те са част от горния списък.**
1. S. Auer, P. Ricchiuto, D. Kashchiev, Two-step nucleation of amyloid fibrils: Omnipresent or not?, *Journal of Molecular Biology* 422 (2012) 723-730, ISSN: 00222836
  2. V. Bachvarov, M. Peshova, S. Vitkova, N. Boshkov, Electrodeposition, structure and composition of ternary Zn-Ni-P alloys, *Materials Chemistry and Physics* 136 (2012) 999-1007, ISSN: 02540584
  3. K. Binder, A. Milchev, Polymer brushes on flat and curved surfaces: How computer simulations can help to test theories and to interpret experiments, *Journal of Polymer Science, Part B: Polymer Physics* 50 (2012) 1515-1555, ISSN: 0887-6266
  4. C. Bocker, C. Ruessel, I. Avramov, Crystal growth in non-isochemical, highly viscous liquids and percolation theory, *Chemical Physics* 406 (2012) 50-54, ISSN: 03010104
  5. G. Bodurov, N. Boshkov, L. Lutov, T. Ivanova, K.A. Gesheva, Optical characterization of Zn coatings deposited on low carbon steel substrates, *Journal of Physics: Conference Series* 356 (2012), ISSN: 17426588
  6. Tz. Boiadjieva, L. Mirkova, H. Kronberger, T. Steck, M. Monev, Hydrogen permeation in steel during electroplating of Zn and Zn-Cr coatings, *Journal of the Electrochemical Society* 159 (2012) D730-D736, ISSN: 00134651

7. R. Cabriolu, D. Kashchiev, S. Auer, Breakdown of nucleation theory for crystals with strongly anisotropic interactions between molecules, *Journal of Chemical Physics* 137 (2012) 1-5, ISSN: 0021-9606
8. S. Cherneva, D. Stoychev, R. Iankov, Investigation of mechanical properties of electrochemically deposited  $ZrO_2$   $Ce_2O_3$ - $CeO_2$  and  $La_2O_3$  films by means of nanoindentation, *Chemicke Listy* 106 (2012) 438-441, ISSN: 1213-7103
9. A. De Virgiliis, A. Milchev, V. G. Rostashvili, T. A. Vilgis, Structure and dynamics of a polymer melt at an attractive surface, *European Physical Journal E* 35 (2012), ISSN: 1292-8941
10. Ts. Dobrovolska, D. A. López-Sauri, L. Veleva, I. Krastev, Oscillations and spatio-temporal structures during electrodeposition of AgCd alloys, *Electrochimica Acta* 79 (2012) 162-169, ISSN: 00134686
11. J. L. A. Dubbeldam, V. G. Rostashvili, A. Milchev, T. A. Vilgis, Forced translocation of a polymer: Dynamical scaling versus molecular dynamics simulation, *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics* 85 (2012), ISSN: 1539-3755
12. J. Fisak, V. Stoyanova, K. Bartunkova, M. Tesar, A. Shoumkova, Typical insoluble particles in fog water at Mileshkova observatory (Czech Republic), *Pure and Applied Geophysics* 169 (2012) 1083-1091, ISSN: 00334553
13. J. Georgieva, E. Valova, S. Armyanov, N. Philippidis, I. Poulios, S. Sotiropoulos, Bi-component semiconductor oxide photoanodes for the photoelectrocatalytic oxidation of organic solutes and vapours: A short review with emphasis to  $TiO_2$ - $WO_3$  photoanodes, *Journal of Hazardous Materials* 211-212 (2012) 30-46, ISSN: 03043894
14. J. Georgieva,  $TiO_2$ / $WO_3$  photoanodes with enhanced photocatalytic activity for air treatment in a polymer electrolyte cell, *Journal of Solid State Electrochemistry* 16 (2012) 1111-1119, ISSN: 14328488
15. M. Georgieva, M. Petrova, D. Dobrev, Synthesis and investigation of chemically deposited composite coatings Cu/SiC on polyethylene terephthalate, *Comptes Rendus de L'Academie Bulgare des Sciences* 65 (2012) 1521-1526, ISSN: 13101331

16. M. Georgieva, M. Petrova, D. Dobrev, E. Velkova, D. Stoychev, Chemical deposition of composite copper-diamond coatings on non-metallic substrate: II. Influence of the hydrodynamic regime on the number of co-deposited diamond layers, *Materiale Plastice* 49 (2012) 41-47, ISSN: 00255289
17. T. Höche, C. Patzig , T. Gemming, R. Wurth, C. Rüssel, I. Avramov, Temporal evolution of diffusion barriers surrounding ZrTiO<sub>4</sub> nuclei in lithia aluminosilicate glass-ceramics, *Crystal Growth and Design* 12 (2012) 1556-1563, ISSN: 15287483
18. M. Ilieva, A. Nakova, V. Tsakova, TiO<sub>2</sub>/WO<sub>3</sub> hybrid structures produced through a sacrificial polymer layer technique for pollutant photoand photoelectrooxidation under ultraviolet and visible light illumination, *Journal of Applied Electrochemistry* 42 (2012) 121-129, ISSN: 0021891X
19. K. Jalili, F. Abbasi , A. Milchev, Dynamic compression of in situ grown living polymer brush: Simulation and experiment, *Macromolecules* 45 (2012) 9827-9840, ISSN: 00249297
20. N. Jordanov, L. Wondraczek, I. Gutzow, Thermodynamic properties of vitreous electrodes in a Ni/NiP glass-crystal Galvanic cell, *Journal of Non-Crystalline Solids* 358 (2012) 1239-1256, ISSN: 00223093
21. N. Jordanov, L. Wondraczek, I. Gutzow, Thermodynamic properties of amorphous solids: The electrochemical approach, *Journal of Non-Crystalline Solids* 358 (2012) 1239-1256, ISSN: 00223093
22. D. Jordanova, N. Jordanova, P. Lanos, P. Petrov, T. Tsacheva, Magnetism of outdoor and indoor settled dust and its utilization as a tool for revealing the effect of elevated particulate air pollution on cardiovascular mortality, *Geochemistry, Geophysics, Geosystems* 13 (2012), ISSN: 15252027
23. A. Karamanov, I. Avramov, L. Arrizza, R. Pascova, I. Gutzow, Variation of Avrami parameter during non-isothermal surface crystallization of glass powders with different sizes, *Journal of Non-Crystalline Solids* 358 (2012) 1486-1490, ISSN: 00223093
24. D. Kashchiev, Magic cluster sizes in nucleation of crystals, *Crystal Growth and Design* 12 (2012) 3257-3262, ISSN: 15287483

25. D. A. Koleva, A. G. Denkova, N. Boshkov, K. van Breugel, Electrochemical performance of steel in cement extract and bulk matrix properties of cement paste in the presence of Pluronic 123 micelles, *Journal of Materials Science* (2012) 1-14, ISSN: 00222461
26. N. Koprinarov, M. Konstantinova, G. Avdeev, T. Ruskov, T. Tzacheva, Preparation and protection of iron and iron compounds, *Journal of Physics: Conference Series* 356 (2012), ISSN: 17426588
27. I. Krastev, T. Dobrovolska, U. Lačnjevac, S. Nineva, Pattern formation during electrodeposition of indium-cobalt alloys, *Journal of Solid State Electrochemistry* 16 (2012) 3449-3456, ISSN: 14328488
28. M. Michailov, D. Kashchiev, Thermal rupture of monatomic metal nanowires, *Journal of Physics: Conference Series* 398 (2012) 1-7, ISSN: 17426588
29. M. Michailov, I. Avramov, Surface Energy, Surface Debye Temperature and Specific Heat of Nanocrystals, *Journal of Physics: Conference Series* 398 (2012), ISSN: 17426588
30. A. Milchev, K. Binder, Semiflexible polymers grafted to a solid planar substrate: Changing the structure from polymer brush to "polymer bristle", *Journal of Chemical Physics* 136 (2012), ISSN: 00219606
31. A. Milchev, K. Binder, Kinetics of polymer ejection from capsid confinement: Scaling considerations and computer experiment, *International Journal of Modern Physics C* 23 (2012), ISSN: 01291831
32. V. Milkova, K. Kamburova, R. Cameron, T. Radeva, Complexation of ferric oxide particles with pectins of ordered and random distribution of charged units, *Biomacromolecules* 13 (2012) 138-145, ISSN: 15257797
33. I. Mintsouli, J. Georgieva, E. Valova, S. Armyanov, A. Kakaroglou, A. Hubin, O. Steenhaut, J. Dille, A. Papaderakis, G. Kokkinidis, S. Sotiropoulos. Pt-Ni carbon-supported catalysts for methanol oxidation prepared by Ni electroless deposition and its galvanic replacement by Pt. *Journal of Solid State Electrochemistry* (2012) 1-9, ISSN: 14328488

34. M. Mitov, E. Chorbadzhiyska, R. Rashkov, Y. Hubenova, Novel nanostructured electrocatalysts for hydrogen evolution reaction in neutral and weak acidic solutions, *International Journal of Hydrogen Energy* 37 (2012) 16522-16526, ISSN: 03603199
35. M. Monev, A. Pfund, G. Beck, K. Petrov, R. Bretzler, U. Heuberger, A. Zielonka, Effect of current density on composition and structure of electrodeposited Au-Co alloy coatings, *Transactions of the Institute of metal finishing* 90 (2012) 305, ISSN: 0020-2967
36. C. N. Nanev, Equilibrium forms of protein crystals, *Journal of Crystal Growth* 361 (2012) 171-175, ISSN: 00220248
37. C. N. Nanev, Brittleness of protein crystals, *Crystal Research and Technology* 47 (2012) 922-927, ISSN: 02321300
38. C. N. Nanev, F. V. Hodzhaoglu, Temperature control of protein crystal nucleation, *Crystal Research and Technology* 47 (2012) 1195-1200, ISSN: 02321300
39. L. Nikolov, A new methodology for theoretical investigation of dynamic interactions in colloid systems, *Comptes Rendus de L'Academie Bulgare des Sciences* 65 (2012) 615-622, ISSN: 13101331
40. J. Paturej, L. Kuban , A. Milchev, T. A. Vilgis, Tension enhancement in branched macromolecules upon adhesion on a solid substrate, *EPL* 97 (2012), ISSN: 02955075
41. J. Paturej, H. Popova, A. Milchev, T.A. Vilgis, Thermal decomposition of a honeycomb-network sheet: A molecular dynamics simulation study, *Journal of Chemical Physics* 137, (2012), ISSN: 00219606
42. J. Paturej, H. Popova, A. Milchev, T. A. Vilgis, Force-induced breakdown of flexible polymerized membrane, *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics* 85 (2012), ISSN: 15393755
43. J. Paturej, A. Milchev, V. G. Rostiashvili, T. A. Vilgis, Polymer detachment kinetics from adsorbing surface: Theory, simulation and similarity to infiltration into porous medium, *Macromolecules* 45 (2012) 4371-4380, ISSN: 00249297

44. J. Paturej, L. Kuban , A. Milchev, V. G. Rostashvili, T. A. Vilgis, Thermal degradation of adsorbed bottle-brush macromolecules: When do strong covalent bonds break easily?, *Macromolecular Symposia* 316 (2012) 112-122, ISSN: 10221360
45. M. Petrova, M. Georgieva, Ek. Dobreva, G. Avdeev, Electroless Deposition of Nanodisperse Metal Coatings on Fabrics, *Bulgarian Chemical Communications* 44 (2012) 92-98, ISSN: 08619808
46. D. D. Radev, V. Tumbalev, D. Kovacheva, D. Mehandjiev, V. Petkova, S. Vladimirova, Influence of mechanical treatment of oxalate precursors on the properties of copper oxide - nickel oxide mixture, *Comptes Rendus de L'Academie Bulgare des Sciences* 65 (2012) 1343-1348, ISSN: 13101331
47. V. S. Raghuwanshi, D. Tatchev, S. Haas, R. Harizanova, I. Gugov, C. Rüssel, A. Hoell, Structural analysis of magnetic nanocrystals embedded in silicate glasses by anomalous small-angle X-ray scattering, *Journal of Applied Crystallography* 45 (2012) 644-651, ISSN: 00218898
48. B. Ranguelov, D. Goranova, V. Tonchev, R. Yakimova, Diffusion limited aggregation with modified local rules, *Comptes Rendus de L'Academie Bulgare des Sciences* 65 (2012) 913-918, ISSN: 13101331
49. D. Reith, A. Milchev , P. Virnau, K. Binder, Computer simulation studies of chain dynamics in polymer brushes, *Macromolecules* 45 (2012) 4381-4393, ISSN: 00249297
50. L. M. Schabbach, F. Andreola, L. Barbieri, I. Lancellotti, E. Karamanova, B. Ranguelov, A. Karamanov, Post-treated incinerator bottom ash as alternative raw material for ceramic manufacturing, *Journal of the European Ceramic Society* 32 (2012) 2843-2852, ISSN: 09552219
51. D. Staneva, B. Ranguelov, V. Tonchev, Hybrid models of step bunching, *Comptes Rendus de L'Academie Bulgare des Sciences* 65 (2012) 1049-1056, ISSN: 13101331
52. D. Stoychev, N. Koteva, M. Stoycheva, E. Velkova, D. Dobrev, Chemical cobalt coating of polyethyleneterephthalate, *Materiale Plastice* 49 (2012) 20-29, ISSN: 00255289

53. V. Tonchev, Classification of step bunching phenomena, *Bulgarian Chemical Communications* 44 (2012) 124-130, ISSN: 08619808
54. T. V. Tropin, J. W. P. Schmelzer, I. Gutzow, C. Schick, On the theoretical determination of the Prigogine-Defay ratio in glass transition, *Journal of Chemical Physics* 136 (2012), ISSN: 00219606
55. V. Tsakova, A. Milchev – A tribute on the occasion of his 70th birthday, *Journal of Solid State Electrochemistry*, (2012), ISSN: 14328488
56. V. Usov, S. Stoyanov , O. Coileain, O. Toktarbaiuly, I. V. Shvets, Antiband instability on vicinal Si (111) under the condition of diffusion-limited sublimation, *Physical Review B - Condensed Matter and Materials Physics* 86 (2012), ISSN: 10980121
57. R. Wang, S. A. Egorov , A. Milchev, K. Binder, Stretching of free chains confined in concave brush-coated nanocylinders, *Macromolecules* 45 (2012) 2580-2587, ISSN: 0024-9297
58. J. Zidek, A. Milchev, T. A. Vilgis, Dynamic Behavior of Acrylic Clusters as Quasi-Mobile Nodes in a Model of Hydrogel Network, *Journal of Chemical Physics* 137 (2012) 244908, ISSN: 0021-9606
59. M. Stubbe, A. Gyurova, J. Gimsa, Experimental verification of an equivalent circuit for characterization of electro-thermal micropumps: High pumping velocities induced by the external inductance at driving voltages below 5 V, *Electrophoresis*, accepted: DOI 10.1002/elps.201200340. ISSN: 1522-2683

**3. Публикации без рефериране и индексиране в световната система за рефериране, индексиране и оценяване (в световни вторични литературни източници)**

1. F. Andreola, L. Barbieri, I. Lancellotti, L. M. Schabbach, E. Karamanova, A. Karamanov, Building ceramic products obtained from refractory clay and post-treated MSW bottom ash, *Tiles & Bricks International* 2 (2012) 33-41, ISSN: 0037-637
2. Penkov, R. Pascova, Self-propagating synthesis of Al/TiB<sub>2</sub> Composites, Proc. Second Conference Metal Science, *Novel Materials Hydro- and Aerodynamics '2012*, Sofia, Bulgaria, ISSN: 1313-8308

3. Penkov, R. Pascova, G. Avdeev, Activated reaction sinter-crystallization synthesis of cordierite silica rich glass-ceramics, *Proc. Second Conference Metal Science, Novel Materials, Hydro- and Aerodynamics '2012*, Sofia, Bulgaria, ISSN: 1313-8308
4. Г. Н. Била, В. В. Манк, М. В. Булева, С. П. Стоилов, И. Петканчин, Перспективи использования наночастиц в пищевой промышленности и экологии, *Научни Трудове на УХТ Хранителна Наука, Техника и Технологии*, 59 (2012) pp. 496-502
5. Г. Н. Била, В. В. Манк, М. Булева, И. Петканчин, С. Стоилов, Използване Наночастици для Очистки Загрязнених Вод, Proc. VIII Internatinal Conference "Strategy of Quality in Industry and Education, June 8-15, 2012, Varna, Bulgaria, v. I., pp. 20-22, 2012
6. I. Dimitrov, Aspects of Protein Crystal Nucleation and Growth in Forced Sedimentation, *Journal of Scientific Review* 4, 1 (2012), E-ISSN: 0975-0754
7. M. Ilieva, K. Kostov, E. Stoyanova, Microstructure of stainless steel with high nitrogen content, *Engineering Sciences* , 4, 57-64 (2012) in press
8. Г. Чалькова, М. Дачева, Р. Янков, А. Балтов, Д. Стойчев, Сравнително изследване на механичните свойства на конверсионни корозионно-защитни покрития върху алуминий чрез експеримент на наноиндентация, Списание на БАН, CXXV, кн. 12, (2012) – in press

#### **4. Монографии, глави от книги**

1. E. Stoyanova, D. Stoychev (Review) Corrosion behavior of stainless steels modified by cerium oxides layers, In the Book "*Corrosion Resistance*", Ed.H.Shih, Chapter No 11, pp.239-270, ISBN 978-953-51-0467-4, Published by InTech (2012)
2. R. Iankov, S. Cherneva, M. Datcheva, D. Stoychev, Mechanical Characterization of Layers and Thin Films via Nanoindentation and Numerical Simulation (Review), In the Book "*Mechanics of Nanomaterials and Nanotechnology*", Part IV, Chapter No 2, pp.261-282, Prof. Anguel Baltov, Dr. L. Parashkevova Eds., *Thematic collection "Series in Applied Mathematics and Mechanics"*, Publisher IMech, BAS (2012)

**5. Учебници, учебни помагала, публицистика, научно-популярни произведения, художествени творби от всякакъв вид**

1. Иван Марков, „Ние, феодалните старци”, Издателство Sofia University Press, 2012
2. Alexander Milchev, “Алексей Шелудко и приносът му към областта на електрокристализацията“, Chemistry: Bulgarian Journal of Science Education, 21 (6) (2012) 920-938
3. C. N. Nanev. Professor Iwan Nikolov Stranski – The Forgotten Genius? *Chemistry* 21 (2012), 601-620 [In Bulgarian], ISSN: 0861-9255