

**Справка
относно научни трудове публикувани в периода
2004 г. – 2011 г.**

I. Книги

1. R.Kassing, P.Petkov, W.Kulisch, P.Popov, *Functional properties of nanostructured materials*, Ed.Springer, Springer Science+Bussines Media B.V., 2005
2. J.P.Reithmaier, P.Petkov,W.Kulisch,P.Popov, *Nanostructured Materials for Advanced Technological Applications*, Ed.Springer, Springer Science+Bussines Media B.V., 2009
3. J.P.Reithmaier, P.Petkov, P.Paunovic,W.Kulisch, P.Popov , *Nanotechnological Basis for Advanced Sensors*, Ed.Springer, Springer Science+Bussines Media B.V., 2011

II. Научни публикации в списания с IF

1. T.Petkova,P.Petkov,S.VassilevY.Nedeva, *Surf.&Interf. Anal.*, **36** 880 (2004).
“Structural investigations of ternary chalcogenide glasses”
2. V.Vassilev,C.Popov,S.Boycheva,P.Petkov,L.Aljihmani,K.Kolev,B.Monchev, *Mat.Lett.*,**58** 3802 (2004).
“Deposition, morphology and stress investigation of amorphous As₂Se₃-Ag₄SSe-SnTe thin films”
3. S.Boycheva,V.Vassilev,P.Petkov,Y.Nedeva, *Mat.Lett.*, **59** 1521 (2005).
“Optical characteristics of thermally evaporated GeSe₂-Sb₂Se₃-ZnSe thin films”
4. V.Vassilev, C.Popov,S.Boycheva,P.Petkov,L.Aljihmani,B.Monchev,K.Kolev, *JNCS*, **351** 299 (2005).
“Optical characterization of As₂Se₃-Ag₄Sse-SnTe amorphous thin films”
5. B.Monchev,P.Petkov, T.Petkova, C.Popov, *J.Optoel.Adv.Mat.*, **7** 1293 (2005).
“Optical properties of thin Ge-S-AgI films”
6. P.Petkov,V.Vassilev,T.PetkovaB.Monchev,L.Alghimani, *J.Optoel.Adv.Mat.*, **7** 1965 (2005).
“Optical properties of ternary chalcogenide SnTe containing thin films”
7. C.Popov,S.Boycheva,P.Petkov,Y.Nedeva,B.Monchev,S.Parvanov, *TSF*, **496** 718 (2006).
“Stress formation in amorphous Ge-Se and Ge-Se-Ga(Tl,B) thin films”
8. P.Petkov, S.Parvanov, T.Petkova, , *J.Optoel.Adv.Mat.*, **8** 785 (2006).
“Electron transport in amorphous (GeSe₅)_{1-x}B_x films ”
9. T.Hineva, T.Petkova, P.Petkov, J.P.Rethmaier, I.Mihailescu, *J.Optoel.Adv.Mat.*, **9** 326 (2007).
“Optical study of thin As₂Se₃-AgI films”
10. T.Petkova, P.Petkov, P.Jovari, I.Kaban, W.Hoyer, A.Schoeps, A.Webb, B.Beuneu, *J.Non-Cryst.Sol.*, **353** 2045 (2007)
“Structural studies on AsSe-AgI (Ag, I) glasses”
11. B.Monchev, T.Petkova, P.Petkov, C.Popov, J.P. Reithmaier, *Phys.Chem.Sol.* **68** 936 (2007).
“Some features of chalcogenide thin Ge-S-AgI films”
12. B.Monchev, D.Filenko, N.Nikolov, C.Popov,P.Petkov, I.Rangelow, *Appl.Phys.*, **A87** 31 (2007).
“Investigation of the sorption properties of thin Ge-S-AgI films deposited on cantilever-based gas sensor”
13. I.Kaban, W.Hoyer, T.Petkova, P.Petkov, B.Beuneu, A.Schops, M.Webb, *J.Optoel.Adv.Mat.*, **9** 2750 (2007).
“Local atomic order in As₃₄Se₅₁Ag₁₅ and As₃₄Se₅₁I₁₅ glasses”
14. B.Monchev, T.Petkova, P.Petkov,S.Vassilev, *J Mat.Sci.*, **42** 9836 (2007).
“Novel chalcohalide glasses from the Ge-S-AgI system and some physicochemical features”
15. T.Petkova, P.Petkov, C.Popov, B.Monchev, Y.Nedeva, *J.Optoel.Adv.Mat.*, **9** 3167 (2007).
“Thin Chal-AgI films as gas sensors”
16. P.Petkov, P.Ilchev, V.Ilcheva, T.Petkova, *J.Optoel.Adv.Mat.*, **9** 3093 (2007).
“Physoco-chemical properties of Ge-Te-Ga glasses”
17. B.Monchev, P.Petkov, V.Boev, T.Petkova, *Mat. Sci. Forum*, **567&568** 201 (2007).

“Optical recording and compositional features of novel amorphous Ge-S-AgI layers”

18. I.Kaban,W.Hoyer,T.Petkova,P.Petkov,B.Beuneu A.Schoeps, A.Webb, *J.Ovonic Res.*, **3** 67 (2007).
“Local atomic order in As₃₄Se₅₁Ag₁₅ glass”
19. V.Ilcheva, V.Boev, D.Roussev,P.Petkov, T.Petkova, P.Sharlandjiev, D.Nazarova, *J.Physics*, **113** 012018 (2008).
“Photoidiced changes in As-Se-Ag amorphous films”
20. K.Kolev, T.Petkova, C.Popov, P.Petkov, *J.Physics* , **113** 012024 (2008).
“Mechanical behaviors of thin As-S-AgI films for sensor applications”
21. T.Hineva, T.Petkova, P.Petkov, V.Mikli, C.N.Mihailescu, I.N.Mihailescu, *J.Physics* , **113** 012028 (2008).
“Influence of the preparation method on the As-Se-AgI thin films behaviors”
22. P.Ilchev, P. Petkov, P.Sharlandjiev,A.Koserkova, V.Ilcheva, *J.Physics* , **113** 012031 (2008).
“Photoinduced changesin amorphous gallium doped GeTe₄ chalcogenides”
23. T. Petkova,C. Popov,T. Hineva, P. Petkov, G.Socol, E. Axente, C.N. Mihailescu, I.N. Mihailescu J.P.Reithmaier,*Appl.Surf.Sci.*, **225** 5318 (2009).
“Characterization of pulsed laser deposited chalcogenide thin layers”
24. V.Ilcheva , Petkova, P.Petkov, V.Boev, G. Socol, F. Sima, C. Ristoscu, C.N. Mihailescu, I.N. Mihailescu, C.Popov, J.P. Reithmaier, *Appl.Surf.Sci.*, **255** 9691 (2009).
“Spectroscopic study of (As-Se)_{100-x}Ag_x thin films”
25. P. Petkov, V.Ilcheva,D. Wamwangi, M. Wuttig, P.Ilchev,T. Petkova, *J.Optoel.Adv.Mat.*, **11** 1261 (2009)
“Phase transition of gallium containing telluride thin films”
26. K.Kolev, T.Petkova, P.Petkov,Y.Nedeva, *J.Optoel.Adv.Mat.*, **11** 1244 (2009)
“DC conductivity measurements of (As₂S₃)_{1-x}(AgI)_x thin films”
27. T.Hineva,A.Szekers,P.Petkov,M.Anastasescu,K.Salamon, *J.Optoel.Adv.Mat.*, **11** 1265 (2009)
“Vacuum thermal evaporated As-Se-AgI films : studies by spectroscopic ellipsometry and atomomic – force microscopy”
28. T.Petkova, B.Monchev, O.Kostadinova, P.Petkov, S.Yannopoulos, *J.Non-Cryst.Sol.*, **355** 2063 (2009)
“Vibrational modes and structure of Ge-rich Ge-SpAgI glasses”
29. K.Kolev, C.Popov, P.Petkov, T.Petkova, I.N. Mihailescu, J.P.Reithmaier, *Sensor&Actuators*, **143** 395 (2009)
“Complex (As₂S₃)_{100-x}(AgI)_x chalcogenide glasses for gas sensors”
30. P.Petkov, A.Stoilova, Y.Nedeva, E.Petkov, *Surf.& Inter. Anal.*, **42** 1235 (2009)
“Optical behaviors of thin In containing chalcogenide films”
31. P.Petkov,P.Ilchev,V.Ilcheva,T.Petkova, *Am.J.Phys.*, **1203** 932 (2009)
“Thermal study of Ge-Ga-Te system”
32. A.Stoilova,P.Petkov,Y.Nedeva,T.Petkova, *Am.J.Phys* **1203** 1109 (2009)
“Kinetics of evaporation and condensation in Ge-Se-In films”
33. T.Petkova, C.Popov,P.Petkov,V.Ilcheva, I.Mihailescu,G.Sokol,C.Ristoscu, J.P.Reithmaier, *J.Optoel.Adv.Mat.*, **12** 650 (2010)
“Stress study of thin As-Se-Ag films obtained by vacuum thermal evaporation and pulsed laser deposition ”
34. I Kaban, P J’ov’ari, T Petkova, P Petkov, A Stoilova, WHoyer, B Beuneu, *J. Phys.: Condens. Matter* **22** (2010) 404205 (7pp) doi:10.1088/0953-8984/22/40/404205
“Structure of GeSe4–In and GeSe5–In glasses”
- 35.T. Kavetskyy, M. Hyla, J. Borc, P. Petkov, K. Kolev, T. Petkova, J. Filipecki, *Solid State Ionics*, **183** 16 (2011)

“Free-volume defects and microstructure in ion-conducting Ag/AgI-As₂S₃ glasses as revealed from positron annihilation and microhardness measurements”

36. O. Kostadinova, A. Chrissanthopoulos, T. Petkova, P. Petkov, S. N. Yannopoulos, *J.Solid State Chemistry*, **184** 447 (2011)

“Structure and vibrational modes of AgI-doped AsSe glasses: Raman scattering and *ab initio* calculations”

37. P.Petkov, C.Popov, T.Petkova, E.Petkov, J.P.Reithmaier, “Mechanical stability of (GeTe₄)_{100-x}Ga_x and (GeTe₅)_{100-x}Ga_x phase change thin films”, *J.Optoel.Adv.Mat.*, **13** 366 (2011)

38. V. Ilcheva, V.Boev, T.Petkova, E. Petkov, P.Petkov, G.Socol, F.Sima, C.Ristoscu, C.N.Mihailescu, I.N.Mihailescu, *Appl.Physics A*, DOI10.1007/s00339-011-6461-6 (2011)

“Optical studies of (AsSe)_{100-x} Sb_x thin films”

III. Научни публикации в специализирани сборници с редактор

39. S.Parvanov,T.Petkova,P.Petkov, *Proc.Vth ICCG*, Saarbruecken 04, **1** (2004) 167.

“Bulk-limited conductivity in amorphous thin (GeSe₅)_{1-x}B_x films”

40. P.Petkov, “Functional Properties of Nanostructured Materials, Springer Ed., 2005, Berlin.

“Electrode limited currents in the ternary chalcogenide glasses”

41. P.Petkov,T.Petkova, Y.Nedeva, Proc. VIIth Nanoscience&Technology, Heron Press, **5** (2005) 107.

“Space charge limited currents in thin gallium containing chalcogenide films”

42. P. Petkov, C.Popov, T.Petkova, Y.Nedeva, Proc. VIth ICCG, Dresden 06, **1** (2006) 331.

“Mechanical stress in thin glassy Ge-Te-Ga films”

43. B.Monchev, P.Petkov,C.Popov, T.Petkova, Proc. Nanohard 06, **1** (2006) 79.

“Investigation of Composition and Mechanical Stress of Silver-Containing Glassy Films”

44. P.Petkov, V.Vassilev, J.Tech.Uni.Gabrovo, **33** 50 (2006)

“Microwave properties of the MgTiO₃-CaTiO₃-Ba(Mg_{1/3}Nb_{2/3})O₃ system”

45. P.Petkov,Y.Nedeva,E.Lilov, Proc. VIIIth Nanoscience&Technology, Heron Press, **7** (2007) 93.

“Direct current conductivity in thin glassy (GeSe₄)_{1-x}Ga_x films”

46. A.Stoilova, Y.Nedeva,P.Petkov, S.Vassilev, *Proc. VIth AMITECH 07*, Gabrovo, **1** (2007) 168.

“Compactness in relation to the mean co-ordination number in glassy (AsTe)_{1-x}(AgI)_x system”

47. T.Petkova, K.Kolev, P.Petkov, Proc. VIIth ICCG, 15-19 June, Eindhoven, Netherland, **1** (2008) 289.

“Optical properties of thin glassy As-S-AgI layers”

48. B.Monchev,T.Petkova,P.Petkov,J. Philip, *Nanostructured Materials for Advanced Technological Applications*, Ed.Springer, Springer Science+Bussines Media B.V., 2009, p.353.

“Thermal behaviors of novel (GeS₂)_{1-x}(AgI)_x glasses”

49. A.Stoilova,Y.Nedeva, P.Petkov,V.Ilcheva, *Proc. VIth AMITECH 08*, Gabrovo, **3** (2008) 368.

“Influence of Ag ot the some physico-chemical properties of the bulk As-Te-Ag glasses”

50. V. Ilcheva, P. Petkov, T. Petkova, D. Roussev, V. Boev, *Nanostructured Materials for Advanced Technological Applications*, Ed.Springer, Springer Science+Bussines Media B.V., 2009, p.335.

“Physico-chemical characterization of nanostructured As-Se-Ag glassy materials”

51. P. Ilchev,P. Petkov, D.Wamwangi, M.Wuttig, *Nanostructured Materials for Advanced Technological Applications*, Ed.Springer, Springer Science+Bussines Media B.V., 2009, p.429.

“Structure and crystallization behaviour of (GeTe₅)_{100-x}Ga_x nanosized thin films for phase-change applications”

- 52.** T.Petkova,V.Ilcheva,C.Popov,J.P.Rethmaier,G.Sokol,E.Axente,I.N.Mihaleescu,P.Petkov,T.Hineva
Nanostructured Materials for Advanced Technological Applications, Ed.Springer, Springer
Science+Bussines Media B.V., 2009, p.329.
 “Study of AsSe₃-AgI thin films prepared by PLD and VTE methods”
- 53.** P.Petkov, *Nanostructured Materials for Advanced Technological Applications*, Ed.Springer, Springer
Science+Bussines Media B.V., 2009, p.315.
 “Ternary chalcogenides – properties and applications”
- 54.** B.Monchev, T.Petkova, P.Petkov, I.Kanazirski, *Proc. “Advanced & Inovations in SOFCs”*, Katarino, September 13-17, Katarino, 1 (2009) 147.
 “Conductivity studies of Ge-S-AgI glasses”
- 55.** A.Stoilova,E.Petkov,V.Boev,P.Petkov, *Proc. “Advanced & Inovations in SOFCs”*, Katarino, September 13-17, Katarino, 1 (2009) 131.
 “Effect of In incorporation and thermal treatment on the optical properties of amorphous thin Ge-Se films”
- 56.** V.Ilcheva,T.Petkova,P.Petkov,V.Boev, *Proc. “Advanced & Inovations in SOFCs”*, Katarino, September 13-17, Katarino, 1 (2009) 139.
 “Optical characterization of As-Se-Ag thin films”
- 57.** B. Monchev, T. Petkova, P. Petkov, *Journal of the University of Chemical Technology and Metallurgy*, **45**, (2010) 265.
 “IR-spectral investigations pf chalcogenide glasses from the Ge-S-AgI system”
- 58.** O. Kostadinova, T. Petkova, A. Chrissanthopoulos, P.Petkov and S. N. Yannopoulos, *NATO Science for Peace and Security Series B: Physics and Biophysics*, p.217.
 “Structure of AgI-AsSe glasses by Raman scattering and *ab initio* calculations”
- 59.** B. Monchev, T. Petkova, C. Popov, P. Petkov, *NATO Science for Peace and Security Series B: Physics and Biophysics*, p.423
 “Gas Sensor Based on Chalcohalide AgI-Containing Glasses”
- 60.** V. Ilcheva, V.Boev, T.Petkova, P.Petkov, E.Petkov, G.Socol, I.N.Mihaleescu, *NATO Science for Peace and Security Series B: Physics and Biophysics*, p.211
 “Thin As-Se-Sb films as potential medium for optics and sensor application”
- 61.** T. Kavetsky, K. Kolev, V. Boev, P. Petkov, T. Petkova, *NATO Science for Peace and Security Series B: Physics and Biophysics*, p.103
 “Nanovoids in glasses and polymers probed by positron annihilation lifetime spectroscopy”
- 62.** P. Petkov, E. Petkov, *NATO Science for Peace and Security Series B: Physics and Biophysics*, p.181
 “Optical properties of thin Ge-Se-In chalcogenide films for sensoe applications Sensor based on thin chalcogenide films, ”
- 63.** K.Kolev, T.Petkova, P.Petkov, C.Popov, F.Muktepavela, , *NATO Science for Peace and Security Series B: Physics and Biophysics*, p.203
 “Surface development of (As₂S₃)_{1-x}(AgI)_x thin films for Gas sensor applications”
- 64.** A.Zaidan, A.Supardi, VI.Ivanova,P.Petkov, Proc. 3rd Int.Conf. on Basic & Applied Sci., 21-25 September, Surabaya, Indonesia, 1 (2011) xxx.
 “Ab initio study of structural and electronic properties of amorphous Ge-Te-In material”