Publication list

Name: **KATSARAKIS NIKOS**

Publications in refereed journals and proceedings of International Conferences:

A. Until 2004

1) M. Hrovat, N. Katsarakis, K. Reichmann, S. Bernik, D. Kuscer, and J. Holc, "Characterization of $LaNi_{1-x}Co_xO_3$ as a possible SOFC cathode material", Solid State Ionics **83**, 99 (1996).

2) Reichmann K., N. Katsarakis, and A. Reichmann, "Electronically Conductive Perovskite Type Materials", Inform Midem **28** (4), 205 (1998).

3) N. Katsarakis, E. Chatzitheodoridis, G. Kiriakidis, M. M. Sigalas, C. M. Soukoulis, W. Y. Leung, and G. Tuttle, "Laser-machined layer-by-layer metallic photonic band-gap structures", Appl. Phys. Lett. **74** (22), 3263 (1999).

4) G. Kiriakidis and N. Katsarakis, "Fabrication of 2-D and 3-D Photonic Band-Gap Crystals in the GHz and THz regions", Mater. Phys. Mech. **1** (1), 20 (2000).

5) G. Kiriakidis, N. Katsarakis, M. Bender, E. Gagaoudakis, and V. Cimalla, "InO_x thin films, candidates for novel chemical and optoelectronic applications", Mater. Phys. Mech. **1** (2), 83 (2000).

6) J. Androulakis, N. Katsarakis, and J. Giapintzakis, "Ferromagnetic and antiferromagnetic interactions in lanthanum cobalt oxide at low temperatures", Phys. Rev. B **64**, 174401 (2001).

7) M. Bender, N. Katsarakis, E. Gagaoudakis, E. Hourdakis, E. Douloufakis, V. Cimalla, and G. Kiriakidis, "Dependence of the photoreduction and oxidation behavior of Indium oxide films on substrate temperature and film thickness", J. Appl. Phys. **90**, 5382 (2001).

8) G. Kiriakidis, M. Bender, N. Katsarakis, E. Gagaoudakis, E. Hourdakis, E. Douloufakis, and V. Cimalla, "Ozone sensing properties of polycrystalline Indium oxide films at room temperature", Phys. Stat. Sol. (a) **185**, 27 (2001).

9) E. Gagaoudakis, M. Bender, E. Douloufakis, N. Katsarakis, E. Natsakou, V. Cimalla, and G. Kiriakidis, "The influence of deposition parameters on room temperature ozone sensing properties of InO_x films", Sensors and Actuators B **80**, 155 (2001).

10) N. Katsarakis, M. Bender, L. Singleton, G. Kiriakidis, and C. M. Soukoulis, "Two-dimensional metallic photonic band-gap crystals fabricated by LIGA", Microsystem Technologies **8**, 74 (2002).

11) M. Bender, N. Katsarakis, G. Kiriakidis, I. A. Ovid'ko, and A. B. Reizis, "Physical mechanisms of enhanced conductivity in irradiated InO_x nanocrystalline films", Mater. Phys. Mech. **5**, 11 (2002).

12) J. Androulakis, N. Katsarakis, and J. Giapintzakis, "Coexistence of ferromagnetic and glassy behavior in semiconducting $LaNi_{0.2}Co_{0.8}O_3$", J. Appl. Phys. **91**, 9952 (2002).

13) M. Bender, E. Gagaoudakis, E. Douloufakis, E. Natsakou, N. Katsarakis, G. Kiriakidis, E. Fortunato, P. Nunes, A. Marques, and R. Martins, "Production and characterization of Zinc oxide thin films for room temperature ozone sensing", Thin Solid Films **418,** 45 (2002).

14) J. Androulakis, N. Katsarakis, and J. Giapintzakis, "Realization of La_2MnVO_6: Search for half-metallic antiferromagnetism?", Solid State Commun. **124**, 77 (2002).

15) J. Androulakis, N. Katsarakis, Z. Viskadourakis, and J. Giapintzakis, "A comparative study of the magnetic and magnetotransport properties between a metallic and a semiconducting member of the $LaNi_xCo_{1-x}O_3$ solid solution", J. Appl. Phys. **93**, 5484 (2003).

16) M. Bender, E. Fortunato, P. Nunes, I. Ferreira, A. Marques, R. Martins, N. Katsarakis, V. Cimalla, and G. Kiriakidis, "Highly sensitive ZnO ozone detectors at room temperature", Jpn. J. Appl. Phys. **42**, L435-L437 (2003).

17) G. Kiriakidis, H. Ouacha, and N. Katsarakis, "InO_x nanostructured thin films: Electrical and sensing characterization", Rev. Adv. Mater. Sci. **4**, 32-40 (2003).

18) J. Androulakis, N. Katsarakis, J. Giapintzakis, N. Vouroutzis, E. Pavlidou, E. Chrissafis, E. K. Polychroniadis, and V. Perdikatsis, "$LaSrMnCoO_6$: A new cubic double perovskite oxide", Journal of Solid State Chemistry **173**, 350-354 (2003).

19) G. Kiriakidis, H. Ouacha, and N. Katsarakis, "Nano-structured metal oxide films with room temperature gas sensing properties", in *Nanostructures: Synthesis, Functional Properties and Applications*, edited by T. Tsakalakos, I. A. Ovid'ko, A. K. Vasudevan, *NATO Science Series II: Mathematics, Physics and Chemistry*, Volume **128**, p. 363-382, Kluwer Academic Publishers, Dordrecht, 2003.

20) N. Katsarakis, M. Bender, V. Cimalla, E. Gagaoudakis, and G. Kiriakidis, "Ozone sensing properties of DC-sputtered, *c*-axis oriented ZnO films at room temperature", Sensors and Actuators B **96**,76-81 (2003).

21) G. Kiriakidis, H. Ouacha, N. Katsarakis, K. Galatsis, and W. Wlodarski, "Low temperature InO_x thin films for O_3 and NO_2 gas sensing", Proc. SPIE Int. Soc. Opt. Eng. **5116**, 84 (2003).

22) N. Katsarakis, T. Koschny, M. Kafesaki, E. N. Economou, and C. M. Soukoulis, "Electric coupling to the magnetic resonance of split ring resonators", Appl. Phys. Lett. **84** (15), 2943 (2004).

23) G. Kiriakidis and N. Katsarakis, "Photon sensitive high-index metal oxides films", J. Phys.: Condens. Matter **16,** S3757-S3768 (2004).

24) N. Katsarakis, T. Koschny, M. Kafesaki, E. N. Economou, Ekmel Ozbay, and C. M. Soukoulis, "Left- and right-handed transmission peaks near the magnetic resonance frequency in composite metamaterials", Phys. Rev. B **70**, 201101(R) (2004).

25) K. Aydin, K. Guven, N. Katsarakis, C. M. Soukoulis, and E. Ozbay, "Effect of disorder on magnetic resonance band gap of split-ring resonator structures", Optics Express **12** (24), 5896 (2004).

26) R. Martins, E. Fortunato, P. Nunes, I. Ferreira, A. Marques, M. Bender, N. Katsarakis, V. Cimalla, and G. Kiriakidis, "Zinc oxide as an ozone sensor", J. Appl. Phys. **96**, 1398 (2004).

B. 2005-2012

27) N. Katsarakis, G. Konstantinidis, A. Kostopoulos, R. S. Penciu, T. F. Gundogdu, M. Kafesaki, E. N. Economou, Th. Koschny, and C. M. Soukoulis, "Magnetic response of split-ring resonators in the far-infrared frequency regime, Optics Letters **30** (11), 1348-1350 (2005).

28) M. Suchea, S. Christoulakis, M. Katharakis, N. Katsarakis, and G. Kiriakidis, "Surface characterization of ZnO Transparent Thin Films", Journal of Physics: Conference Series **10**, 47-150 (2005).

29) S. J. Ippolito, S. Kandasamy, K. Kalantar-zadeh, W. Wlodarski, K. Galatsis, G. Kiriakidis, N. Katsarakis, M. Suchea, "Highly sensitive layered ZnO/$LiNbO_3$ SAW device with InO_x selective layer for NO_2 and H_2 gas sensing", Sensors and Actuators B **111-112**, 207-212 (2005).

30) G. Kiriakidis, M. Suchea, S. Christoulakis, and N. Katsarakis, "High Performance Gas Sensing Materials Based on Nanostructured Metal Oxide Films", Rev. Adv. Mater. Sci. **10** (3), 215-223 (2005).

31) S. Christoulakis, M. Suchea, M. Katharakis, N. Katsarakis, E. Koudoumas, and G. Kiriakidis, "ZnO Nanostructured Transparent Thin Films by PLD", Rev. Adv. Mater. Sci. **10** (4), 331-334 (2005).

32) M. Suchea, S. Christoulakis, K. Moschovis, N. Katsarakis, and G. Kiriakidis, "Nanostructured ZnO and ZAO Transparent Thin Films by Sputtering-Surface Characterization", Rev. Adv. Mater. Sci. **10** (4), 335-340 (2005).

33) M. Suchea, S. Christoulakis, K. Moschovis, N. Katsarakis, and G. Kiriakidis, "ZnO transparent thin films for gas sensor applications", Thin Solid Films **515,** 551-554 (2006).

34) S. Christoulakis, M. Suchea, E. Koudoumas, M. Katharakis, N. Katsarakis, and G. Kiriakidis, "Thickness influence on surface morphology and ozone sensing properties of nanostructured ZnO transparent thin films grown by PLD", Applied Surface Science **252**, 5351-5354 (2006).

35) N. Katsarakis, I. Tsiapa, A. Kostopoulos, G. Konstantinidis, R. S. Penciu, T. F. Gundogdu, M. Kafesaki, E. N. Economou, Th. Koschny, and C. M. Soukoulis "Experimental demonstration of negative magnetic permeability in the far-infrared frequency regime", Appl. Phys. Lett. **89**, 084103 (2006).

36) M. Suchea, N. Katsarakis, S. Christoulakis, M. Katharakis, T. Kitsopoulos, and G. Kiriakidis, "Metal oxide thin films as sensing layers for ozone detection", Analytica Chimica Acta **573-574**, 9-13 (2006).

37) M. Suchea, N. Katsarakis, S. Christoulakis, S. Nikolopoulou, and G. Kiriakidis, "Low temperature indium oxide gas sensors", Sensors and Actuators B **118**, 135-141 (2006).

38) M. Kafesaki, Th. Koschny, J. Zhou, N. Katsarakis, I. Tsiapa, E. N. Economou, C. M. Soukoulis, "Electromagnetic behaviour of left-handed materials", Physica B **394**, 148-154 (2007).

39) G. Kenanakis, D. Vernardou, E. Koudoumas, and N. Katsarakis, "Ozone sensing properties of ZnO nanostructures grown by the aqueous chemical growth technique", Sensors and Actuators B **124**, 187-191 (2007).

40) M. Suchea, S Christoulakis, N. Katsarakis, T. Kitsopoulos, and G. Kiriakidis, "Comparative study of ZnO and Al-doped ZnO transparent thin films grown by DC magnetron sputtering", Thin Solid Films **515**, 6562-6566 (2007).

41) M. Kafesaki, I. Tsiapa, N. Katsarakis, Th. Koschny, C. M. Soukoulis, E. N. Economou, "Left-handed metamaterials: The fishnet structure and its variations", Phys. Rev. B **75**, 235114 (2007).

42) M. Suchea, S Christoulakis, M. Katharakis, G. Kiriakidis, N. Katsarakis, and E. Koudoumas, "Substrate temperature influence on the properties of nanostructured ZnO transparent ultrathin films grown by PLD", Applied Surface Science **253**, 8141-8145 (2007).

43) S Christoulakis, M Suchea, N. Katsarakis, and E. Koudoumas, "Europium and Samarium doped Calcium Sulfide thin films grown by PLD", Applied Surface Science **253**, 8169-8173 (2007).

44) G. Kenanakis; M. Androulidaki, E. Koudoumas, C. Savvakis, and N. Katsarakis, "Photoluminescence of ZnO nanostructures grown by the aqueous chemical growth technique", Superlattices and Microstructures **42**, 473-478 (2007).

45) D. Vernardou, G. Kenanakis, S. Kouris, E. Koudoumas, E. Kymakis, and N. Katsarakis, "pH effect on the morphology of ZnO nanostructures grown with aqueous chemical growth", Thin Solid Films **515**, 8764-8767 (2007).

46) D. Vernardou, G. Kenanakis, S. Couris, A. C. Manikas, G. A. Voyiatzis, M. E. Pemble, E. Koudoumas, and N. Katsarakis, "The effect of growth time on the morphology of ZnO nanostructures on Si (100) by the aqueous chemical growth technique", J. of Cryst. Growth **308**, 105-109 (2007).

47) N. Katsarakis, M. Kafesaki, I. Tsiapa, E. N. Economou, C. M. Soukoulis, "High transmittance left-handed materials involving symmetric split-ring resonators", Photonics and Nanostructures-Fundamentals and Applications **5**, 149-155 (2007).

48) S. Foteinopoulou, G. Kenanakis, N. Katsarakis, I. Tsiapa, M. Kafesaki, E. N. Economou, C. M. Soukoulis, "Experimental verification of backward wave propagation at photonic crystal surfaces", Appl. Phys. Lett. **91**, 214102 (2007).

49) Kafesaki M., Economou E. N., Katsarakis N., Tsiapa I., Gundogdu T., Soukoulis C. M., Koschny T., "Left-handed materials in microwave and infrared frequencies", Proceedings of 2007 9th International Conference on Transparent Optical Networks, ICTON 2007, volume 2, 4296142, page 57 (2007).

50) T. F. Gundogdu, N. Katsarakis, M. Kafesaki, R. S. Penciu, G. Konstantinidis, A. Kostopoulos, E. N. Economou, and C. M. Soukoulis, "Negative index short-slab pair and continuous wires metamaterials in the far infrared regime", Opt. Express **16**, 9173-9180 (2008).

51) D. Vernardou, G. Kenanakis, K. Vlachou, E. Koudoumas, G. Kiriakidis, A. Vairis, and N. Katsarakis, "Influence of solution concentration and temperature on the aqueous chemical growth of ZnO structures", phys. stat. sol. (c) **5,** 3348-3352 (2008).

52) G. Kenanakis, E. Stratakis, K. Vlachou, D. Vernardou, E. Koudoumas, and N. Katsarakis, „Light-induced reversible hydrophilicity of ZnO structures grown by aqueous chemical growth", Applied Surface Science **254**, 5695-5699 (2008).

53) D. Vernardou, E Stratakis, G. Kenanakis, H. M. Yates, S. Couris, M. E. Pemble, E. Koudoumas, N. Katsarakis, "One pot direct hydrothermal growth of photoactive TiO_2 films on glass", *J. Photochem. Photobiol. A* **202**, 81-85 (2009).

54) D. Vernardou, G. Kalogerakis, E. Stratakis, G. Kenanakis, E. Koudoumas and N. Katsarakis, "Photoinduced hydrophilic and photocatalytic response of chemically grown anatase TiO_2 nanostructured thin films", *Solid State Sciences* **11**, 1499-1502 (2009).

55) D. Vernardou, K. Vlachou, E. Spanakis, E. Stratakis, N. Katsarakis, E. Kymakis, E. Koudoumas, "Influence of solution chemistry on the properties of hydrothermally grown TiO_2 for advanced applications", Catalysis Today **144**, 172-176 (2009).

56) K. Iliopoulos, G. Kalogerakis, D. Vernardou, N. Katsarakis, E. Koudoumas, S. Couris, "Nonlinear optical response of titanium oxide nanostructured thin films", Thin Solid Films **518**, 1174-1176 (2009).

57) N.-H. Shen, G. Kenanakis, M. Kafesaki, N. Katsarakis, E. N. Economou, C. M. Soukoulis, "Parametric investigation and analysis of fishnet metamaterials in the microwave regime", Journal of the Optical Society of America B **26** (12) B61-B67 (2009).

58) G. Kenanakis, D. Vernardou, E. Koudoumas and N. Katsarakis, "Growth of *c*-axis oriented ZnO nanowires from aqueous solution: the decisive role of a seed layer for controlling the wires' diameter", Journal of Crystal Growth **311**, 4799-4804 (2009).

59) T. F. Gundogdu, N. Katsarakis, M. Kafesaki, G. Konstantinidis, C. M. Soukoulis, E. Ozbay, "Planar negative index materials in the far infrared regime", Conference proceedings- Lasers and Electro-optics Society Annual Meeting-LEOS, art no **5343152**, pp. 561-562.

60) D. Vernardou, E. Spanakis, K. Vlachou, G. Kalogerakis, J. Costello, E. Koudoumas, N. Katsarakis, M. E. Pemble, "A comparative study of the photoinduced properties of TiO_2/SiO_2 and $TiO_2/ZnO/SiO_2$ layers prepared by chemical routes", ECS Transactions **25**, 73-80 (2009).

61) G. Kenanakis and N. Katsarakis, „Light-induced photocatalytic degradation of stearic acid by *c*-axis oriented ZnO nanowires", Applied Catalysis A **378** (2), 227-233 (2010).

62) G. Kenanakis, Z. Giannakoudakis, D. Vernardou, C. Savvakis and N. Katsarakis, "Photocatalytic degradation of stearic acid by ZnO thin films and nanostructures deposited by different chemical routes", Catalysis Today **151** (1-2), 34-38 (2010).

63) D. Vernardou, E. Spanakis, G. Kenanakis, E. Koudoumas and N. Katsarakis, "Hydrothermal growth of V_2O_5 photoactive films at low temperatures", Materials Chemistry and Physics **124** (1), 319-322 (2010).

64) A. Reyes-Coronado, M. F. Acosta, R. I. Merino, V. M. Orera, G. Kenanakis, N. Katsarakis, M. Kafesaki, C. M. Soukoulis, "Electromagnetic response of anisotropic eutectic metamaterials in the THz range", AIP Conference Proceedings **1291,** 148-150 (2010).

65) Vernardou D., Paterakis P., Drosos H., Spanakis E., Povey I. M., Pemble M. E., Koudoumas E., Katsarakis N., "A study of the electrochemical performance of vanadium oxide thin films grown by atmospheric pressure chemical vapour deposition", Solar Energy Materials and Solar Cells **95** (10), 2842-2847 (2011).

66) Vernardou D., Drosos H., Spanakis E., Koudoumas E., Savvakis C., Katsarakis N., "Electrochemical and photocatalytic properties of WO_3 coatings grown at low temperatures", Journal of Materials Chemistry **21** (2), 513-517 (2011).

67) G. Kenanakis; M. Androulidaki, D. Vernardou, N. Katsarakis, E. Koudoumas, "Photoluminescence study of ZnO structures grown by aqueous chemical growth", Thin Solid Films **520** (4), 1353-1357 (2011).

68) Kenanakis G., Zhao R., Stavrinidis A., Konstantinidis G., Katsarakis N., Kafesaki M., Soukoulis C. M., Economou E. N., “Flexible chiral metamaterials in the terahertz regime: A comparative study of various designs”, Optical Materials Express **2** (12), 1702-1712 (2012).

69) Drosos H., Sapountzis A., Koudoumas E., Katsarakis N., Vernardou D., “Effect of deposition current density on electrodeposited vanadium oxide coatings”, Journal of the Electrochemical Society **159** (8), E145-E147 (2012).

70) Kenanakis G., Shen N.-H., Mavidis C., Katsarakis N., Kafesaki M., Soukoulis C. M., Economou E. N., “Microwave and THz sensing using slab-pair-based metamaterials”, Physica B: Condensed Matter **407** (20), 4070-4074 (2012).

71) Reyes-Coronado A., Acosta M. F., Merino R. I., Orera V. M., Kenanakis G., Katsarakis N., Kafesaki M., Mavidis Ch., Abajo J. G., Economou E. N., Soukoulis C. M., “Self-organization approach for THz polaritonic metamaterials”, Optics Express **20** (13), 14663-14682 (2012).

72) Vernardou D., Drosos H., Spanakis E., Koudoumas E., Katsarakis N., Pemble M. E., “Electrochemical properties of amorphous WO_3 coatings grown on polycarbonate by aerosol-assisted CVD”, Electrochimica Acta **65**, 185-189 (2012).

73) Kenanakis G., Vernardou D., Katsarakis N., “Light-induced self-cleaning properties of ZnO nanowires grown at low temperatures”, Applied Catalysis A: General **411-412**, 7-14 (2012).