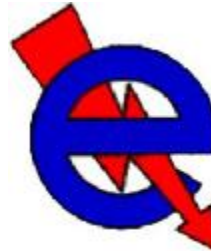




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Curriculum Vitae

Iwan Kityk

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Publications (632 publications; 5 books chapters; 6 patents and inventions, 180+ conference contributions, 4500+ citations h-index 33)

Education

1992 Habilitation
Dr Sci. (solid state electronics, USSR)
1985 Ph.D. (Dr. optics) Experimental Physics, USSR
2004 Professor, Warsaw , Poland

Employment and Professional Experience

VII.2009– present Ordinary Professor, Head of Optoelectronic Group Departments of Electrical Engineering, Technical University Czestochowa, Czestochowa, Poland
1.2008-07. Extraordinary Professor , Chemical Department, Silesian University of Technology, Gliwice, Poland
1994-2007 Professor, Institute of Physics, J.Dlugosz Univeristy Czestochowa
1992-1994 Scientific Researcher Physical Department, Lviv State University, Lviv, Ukraine

Visiting Positions

- 1996-2006 Laboratoire POMA, Université d'Angers, France (1-2 months per year)
- 1999-2001 Institute of Physics, Université du Maine, Le Mans. France (1-2 months per year)
- 1999 Institute of Physics, University of Metz, France (1 month)
- 1999-2008 Laboratoire ELIAUS, Université de Perpignan, France (1-2 months per year)
- 1999 Institute of Theoretical Physics, University of Bayreuth, Germany (1997-2004 Ecole normale Supérieure Lyon, France 2-4 months)
- 2001-2009 Laboratoire de Microscopies & d'Étude de Nanostructures, E.A. n°3799, UFR Sciences Université de Reims, B.P. 138, 21 rue Clément Ader, 51685 Reims Cedex 02, France (1 month)
- 2009 Synchrotron BESSY-II, Berlin, Germany
- 2011 Université d'Angers, France

Professional Activities

- *Author or co-author*, 635 scholarly publications in Optical, Solid State Physics and Materials Science and Engineering
- *Member*, Editorial Advisory Board of the Journal of Nano Research, Materials Journal
- *Conference Papers*
- *Organizing Committee of annual Conference ICTON.*
- *Permanent referee of American Chemical Society, American Institute of Physics, Elsevier, IOP, Taylor and Francis journals.*

Research Experience

Laser stimulated effects in the inorganic and organic condensed matters. Possibility of laser operation of the optoelectronic properties. Computer simulations of photoinduced processes.

Principal results:

1. Exploration of second-order nonlinear optical effects in the disordered media (glasses, polymers, nanocomposites) under influence of external irradiation and illumination coexisted with external acoustical fields.
2. Detection of the superconducting, ferroelectric, ferroelastic and ferromagnetic phase transformation by the photoinduced optical methods in the regime of the irradiation
3. Nanocrystallite materials sensitive to external illumination.
4. Acoustically stimulated nonlinear optical effects.
5. Coherent laser nonlinear optical treatment of solid state materials.
6. Laser technology of treatment of the nanoglasses.

Some selected publications:

1. Ya.O.Dovgii, I.V.Kityk & A.O.Matkovskii. Spectroscopic Parameters of Color Centers in Gd₃Ga₅O₁₂ Single Crystals. Phys.Solid State (USA). V.35. (1993). N 2. P.146-155.

2. I.V.Kityk. Second-Harmonic Generation in gamma-irradiated Optical Fibers. *Techn.Phys.Lett.(USA)*. V.18. (1992). N 7. P.417-419.
3. A.O.Matkovskii, D.Yu.Sugak, S.B.Ubizskii & I.V.Kityk. Spectroscopy and radiation defects of the $Gd_3Ga_5O_{12}$ single crystals. *Proc. SPIE. (USA).Opto-Electronics Review*. V.3.(1995).N 2. pp.41-53.
4. O.I.Shpotyuk, J.Kasperczyk & I.V.Kityk. Mechanism of reversible photoinduced optical effects in amorphous As_2S_3 . *Journal of Non-Crystalline Solids*. (1997). V.215, Is. 2-3, pp. 218-225.
5. B.Sahraoui, A.Kryza, & I.V.Kityk. Infrared two-photon photo-induced absorption in Y-Ba-Cu-O films. *J. Opt. A: Pure Appl. Optics*. V. 1. (1999), pp. 32-36.
6. J.Wasylak, J.Kucharski, I.V.Kityk & B.Sahraoui. Photoinduced effects in the Sb_2Se_3 - $BaCl_2$ - $PbCl_2$ glasses. *Journ of Applied Physics*. V.85. N 1. (1999), pp.425-431.
7. B.Sahraoui, I.V.Kityk, X.Nguyen Phu, P.Hudhomme, A.Gorgues. Study of the influence of hydrostatic pressure and temperature on two-photon absorption of a C60- 2-thioxo-1,3-dithiole cycloadduct. *Physical Review B*. V.59B, (1999),pp. 9229-9239.
8. I.V.Kityk & B.Sahraoui. Photo induced two-photon absorption and second harmonic generation in As_2Te_3 - $CaCl_2$ - $PbCl_2$ glasses. *Physical Review B(USA)*. V. 60B,N 1, (1999), pp.942-949.
9. K.J.Plucinski, I.V.Kityk, A.Mefleh. Elliptically-polarized light-induced second harmonic generation in SiN_xO_y . *Journ. Non-Crystalline Solids*. V.262. Pp.143-154 (2000).
10. I.V.Kityk, B.Marciniak & A.Mefleh. Photoinduced second harmonic generation in molecular crystals caused by defects. //*J. of Physics D: Applied Physics*.(2001). V. 34. N 1, pp. 1-5.
11. I.V.Kityk & B.Sahraoui. IR – induced nonlinear optical effects in chalcogenide glasses. *J.Chemical Physics*, V.114 , N 18, pp.8105-8113. (2001).
12. I.V. Kityk. Nonlinear optical phenomena in the large-sized nanocrystallites. *Journ. Non-Crystalline Solids*, V. 292, N 1-3, (2001), pp. 184-201.
13. I.V.Kityk, M.Makowska-Janusik, M.D.Fontana, M.Aillerie and A.Fahmi. Band Structure Treatment of the Influence of Non-Stoichiometric Defects on Optical Properties in $LiNbO_3$. *Journal of Applied Physics*, V. 90, N 11, pp.5542-5549, (2001).
14. P. Smok, I.V. Kityk, K.J.Plucinski and J. Berdowski. Origin of Giant Anisotropy in the New Synthesized Ba Pentaborates. *Physical Review B*, (2002).V. 65, p.205103.
15. C. Andraud, I.V. Kityk, G. Lemerrier, M. Alexandre, W. Gruhn. Magnetic-Dipole, Quadrupole-Dipole and Electron-Vibration Manifestations in Chirality. *Journal of Physics B: Atomic, Molecular and Optical Physics*. V. 35, (2002), pp. 4069-4076.
16. I.V. Kityk, J. Zmija, A. Majchrowski, J. Ebothe. Acoustically Induced Optical Second Harmonic Generation in $Pb_{4.7}Ba_{0.3}Ge_3O_{11}$ Crystals. *J. Appl. Phys.*, V.93, (2003), pp.1160-1164.
17. M.K. Balakirev, I.V. Kityk, V.A. Smirnov, L. I. Vostrikova, J. Ebothe.//Anisotropy of the optical poling of glass. *Phys. Rev.* V.A67, (2003), pp.023806.
18. J. Ebothe, I.V. Kityk, P.Roca Cabarocas, C.Godet, B.Equer. Acoustically-induced optical second harmonic generation in hydrogenated amorphous silicon films. *J.Appl.Phys D: Applied Physics (UK)*, V.36, (2003), pp.713-717.
19. G. Lemerrier, M. Alexandre, C. Andraud and I. V. Kityk. Simulation of cis–trans photoinduced transitions in bis-Schiff base molecules. *Chemical Physics* V. 298, (2004),pp. 299-306.
20. I.V. Kityk. Specific features of band structure in large-sized $Si_{2-x}C_x$ ($1.04 < x < 1.10$) nanocrystallites. *Semicond. Sci. Technol.(UK)* V.18 No 12 (2003), pp. 1001-1009.
21. I.V. Kityk. IR-induced Second Harmonic Generation in Sb_2Te_3 - BaF_2 - $PbCl_2$ Glasses. *J.Phys.Chem. B*,V.107 B, (2003), pp.10083-10087.
22. I.V. Kityk, M. Demianiuk, A. Majchrowski, J. Ebothe, P. Siemion. IR-induced second-harmonic generation in PbSe microcrystallites.//*J.Phys.:Condens.Mater*. V. 16, (2004), pp.3533-3544.
23. A.Migalska-Zalas, Z.Sofiani, B.Sahraoui, I.V.Kityk, V.Yuvshenko, J.-L.Fillaut, J.Perruchon, and T.J.J.Muller. $\chi^{(2)}$ Grating in Ru derivative Chromophores Incorporated within the PMMA Polymer Matrices. *Journal Physical Chemistry, B (USA)*, V. 108, (2004), pp. 14942-14947
24. G.Lemerrier, C.Andraud, I.V.Kityk, J.Ebothe, B.Robertson. Birefringence in guest–host Ru-containing

chromophore induced by acoustic field. *Chemical Physics Letters*, V. **400**, (2004), pp.19-22.

25. K.Danel, K.Ozga, I.V.Kityk. Circularly-light-induced electrogyration in the arylethynyl derivatives incorporated within the oligoetheracrylate photopolymer matrices. *Chemical Physics*. V. **313**/1-3, (2005), pp. 33-38.
26. A.Migalska-Zalas, B.Sahraoui, I.V.Kityk, S.Tkaczyk, V.Yuvshenko, J.-L.Fillaut, J.Perruchon, and T.J.J.Muller. Second-order optical effects in organometallic nanocomposites induced by an acoustical field. *Phys.Rev.*, **B71**, (2005), p. 035119.
27. I.V.Kityk, B.Sahraoui. Phonon-Assisted Second Harmonic generation in $As_{1-x}Bi_xTe_3$ - $CaBr_2$ - $PbBr_2$ Glasses. *Journal Physical Chemistry B.*, V.**109**, (2005), pp.3163-3168.
28. I.V.Kityk, A.Umar, M.Oyama. Acoustical circularly polarized gyration in the Au nanoparticles on the ITO // *Physica E: Low-dimensional Systems and Nanostructures*. V. 28, Is. 2(2005), pp. 178-184.
29. I.V.Kityk, J.Ebothe, I.Fuks-Janczarek, A.A.Umar, K.Kobayashi, M.Oyama, B.Sahraoui. Non linear optical properties of Au nanoparticles on ITO substrates. *Nanotechnology*, V.**16**,(2005),1687-1692.
30. I V Kityk, M Nyk, W Strek, J M Jablonski and J Misiewicz. Circularly photostimulated electrogyration in europium- and terbium-doped GaN nanocrystals embedded in a silica xerogel matrix. *J. Phys.: Condens. Matter* **17** (2005) pp.5235-5245.
31. I.V.Kityk, K.J.Plucinski, J.Ebothe, A.A.Umar and M.Oyama. Control of plasmon absorption of gold nanoparticles with a two-color excitation. *Journ.Applied Physics*, V.**98**, 084304, (2005).
32. T.M.Williams, D.Hunter, A.K.Pradhan, and I.V.Kityk. Photoinduced piezo-optical effect in Er doped ZnO films. *Applied Phys. Letters*, V. **89**, (2006), 043116.
33. J.Ebothe, I.V.Kityk, S.Benet, B.Claudet, K.J.Plucinski, and K.Ozga. Photoinduced effects in ZnO films deposited on MgO substrates. *Optics Communications*, V.**268**, (2006), pp.269-272.
34. M.Ghotbi, Z.Sun, A.Majchrowski, E.Michalski, I.V.Kityk. Efficient third harmonioc generation of microjoule picosecond pulses at 355 nm in BiB_3O_6 //*Applied Physics Letters* , V.**89**, (2006), 173124.
35. E.Gondek, I.V.Kityk, A.Danel. Molecular engineering by light emitting diode parameters on the base of methoxy-pyrazoloquinoline dyes in polysilane matrices. *Journ. of Physics D:Applied Physics*, V. **40**, (2007), pp.2747-2753.
36. M. Idrish Miah, I.V. Kityk and E. MacA. Gray. Detection and study of photo-generated spin currents in nonmagnetic semiconductor materials. *Acta Materialia*. V.**55**, (2007), pp.6392-6400.
37. K.Ozga, T.Kawaharamura, A.Ali Umar, M.Oyama, K.Nouneh, A.Slezak, S.Fujita, M.Piasecki, A.H.Reshak and I.V.Kityk. Second-order optical effects in Au nanoparticle-deposited ZnO nanocrystallite films. *Nanotechnology* , V. **19**, (2008), 185709.
38. A.H.Reshak, S.Auluck, and I.V.Kityk. Linear and nonlinear optical susceptibilities for a novel borate oxide $BaBiBO_4$: Theory and experiment. *Journ.Solid State Chemistry*, V.**181**, (2008), 789-795.
39. M.I.Miah, I.V.Kityk, E.Mac Gray, Circularly polarized light simulation of spin transport in zinc-blende semiconductors. *Optics Communication*. V. **281**, (2008), pp.5355-5359.
40. A.H.Reshak, S.Auluck, I.V.Kityk. Dispersion of Linear and Nonlinear Optical Susceptibilities in Calcium Neodymium Oxyborate $Ca_4NdO(BO_3)_3$ – LDA versus GGA. *Journ. Phys.Chem A*, V.**113**, (2009), pp.1614-1622.
41. T. Lukasiewicz, J.Kisielewski, L.Lipinska, A.Majchrowski, G.Lakshminarayana, I.V.Kityk. Acoustically induced effects in Pr^{3+} and Tm^{3+} doped calcium gadolinium oxyborate nanocomposites.//*Journal Alloys Compounds*, V.509, (2011), pp.3473-3475.
42. T.Satyanarayana, I.V.Kityk, Y.Gandhi, V.Ravikumar, W.Kuznik, M.Piasecki, M.A.Valente, N.Veeraiah. Optically induced in nano-crystallized PbO - Sb_2O_3 - B_2O_3 : Pr_2O_3 glasses. //*Journal Alloys and Compounds*, V.500, (2010), pp. 9-15.