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Education

Belarussian State University	Dr. Sc.	1992
Physical Institute Acad. Sci., USSR	PhD	1980
Belarussian State University	MS	1975

Professional Experience

Associate Professor	College of Staten Island	2003 - Present
Senior Researcher	University of Bochum, Germany	1999 - 2002
Senior Researcher	University of Hagen, Germany	1995 - 1998
Visiting Professor (DFG)	University of Hagen, Germany	1994 - 1995
Alexander von Humboldt Research Fellow	University of Hagen, Germany	1992 - 1994
Laboratory leader	Belarussian State University, Belarus	1987 - 1992
Researcher	Belarussian State University, Belarus	1980 - 1987

Research Interests

Nanotechnology with focused ion beams: electronic properties of carbon nanowires direct written with nano-scaled ion beams on carbonaceous substrates. Micro- and nano-scale light emitting diodes on diamond with the aim to develop single molecule and single photon electrically driven light sources operating at room temperature. Development of high pressure high temperature diamond anvil cells with internally heated anvils for hydrothermal and shear stress experiments.

Selected Publications

- *Highly Effective p-Type Doping of Diamond by MeV-Ion Implantation of Boron*, Diamond and Related Materials T. Vogel, J. Meijer, A. M. Zaitsev, Vol. 13, June 2004.
- *Extending the Pressure and Temperature Limits of Hydrothermal Diamond Anvil Cell*, M. Burhard, A. M. Zaitsev, W. V. Maresch, Review of Scientific Instruments, 2003, Vol. 74, No. 3, p. 1263-1266.
- *Photoluminescence Spectra of Xenon-Implanted Natural Diamonds*", V. A. Martinovich, A. V. Turukhin, A. M. Zaitsev, A. A. Gorokhovskiy, J. of Luminescence, 102/103 (2003) 785-790.

- *Electrical Properties of Diamond Irradiated with Fine Focus Ion Beam*, I. A. Dobrinets, A. M. Zaitsev, T. Etzel, J. Butler, A. D. Wieck, *J. of Wide Bandgap Materials*, (2002)
- *Optical Properties of Diamond: A Data Handbook*, A. M. Zaitsev, Monograph, Springer Verlag, Berlin, (2001), pp. 502.
- *Hydrogen Related Vibrational and Electronic Transitions in Diamond*, A. M. Zaitsev, in *Diamond: Properties, Growth and Applications*", Eds. M. H. Nazare and A. J. Neves, UNSPEC Publications, IEE, UK, (2001), p. 155-162 (**invited**).
- *Diamond pressure and temperature sensors for high-pressure high-temperature applications*, A. M. Zaitsev, M. Burchard, J. Meijer, A. Stephan, B. Burchard, W. R. Fahrner, W. Maresch, *Physica Status Solidi*, a 185 (2001), p. 59-64.
- *Vibronic Spectra of Impurity-Related Optical Centers in Diamond*, A. M. Zaitsev, *Phys. Rev. B*, 61 (2000), p. 12909-12922.

Selected Patents

- *Electronic Indenter for Measurements of Mechanical and Thermal Properties of Solids*, M. Burchard, A. M. Zaitsev, B. Burchard, J. Mejer, A. V. Denisenko, W. R. Fahrner, W. Maresch, European patent # WO 01/71303 A2, September 2001.
- *Diamond Optoelectronic Sensor* K. Hoppe, A. V. Denisenko, A. M. Zaitsev, A. A. Melnikov, B. Stanski, V. S. Varichenko, W. R. Fahrner, European Patent DE 195 03 093 A1, 1996.
- *Diamond Diode Structure*, B. Burchard, A. V. Denisenko, W. R. Fahrner, A. A. Melnikov, V. S. Varichenko, A. M. Zaitsev, American Patent Application, 1995.
- *Method of Doping of Solids*, V. S. Varichenko, A. Ju. Didyk, A. M. Zaitsev, A. A. Melnikov, V. A. Skuratov, V. F. Stelmakh, V. D. Shestakov, V. V. Tkachev, Patent USSR, No. 1603858, 1990.
- *Method of Nitrogen Doping of Diamond*, V. S. Varichenko, V. G. Gordeev, A. M. Zaitsev, V. A. Nikolaenko, V. F. Stelmakh, Patent USSR, No. 1483839, 1989.
- *Method of Finding of Latent Leaks*, V. S. Varichenko, A. M. Zaitsev, N. I. Kochanov, A. A. Melnikov, Patent USSR, No. 1402820, 1988.
- *Method of Production of Silicon Solar Cells*, A. M. Zaitsev, A. A. Patrin, Ju. V. Sorokin, V. F. Stelmakh, Patent USSR, No. 1499608, 1987.

Grants

- Carbon Nanowires on Diamond Substrates, PSC-CUNY, 2004 - 2005, \$ 4,987
- Pressure Measurements in Diamond Anvil Cells Using on p-i-p Diodes, Photoluminescence and Raman Spectroscopy, German Research Foundation, 1999 - 2001, EURO 120,000
- Thermochemical Treatment of Diamond, German Research Foundation, 1999, EURO 40,000
- Intelligent Micro-Cooling Systems, Nr. 3.1.1-119/9, German Ministry of Science and Education 1995 - 1998, EURO 350,000
- High Energy Ion Implantation in Semiconductors, Nr. Ha1249/3-1, German Research Foundation, 1994 -1995, EURO 50,000
- High Energy Ion Tracks in Superhard Semiconductors - New Physical Basis of Nano-Technology, Alexander von Humboldt Foundation (Germany), 992 - 1994, EURO 52,000.