

Publications

Dr. Victor Pogrebnnyak

1. V.A. Pogrebnnyak, J.J. Whalen, Controllable microwave transmission in rectangular periodically corrugated waveguide, *Electronics Letters*, vol. 43, No. 4, 226-228, 2007.
2. V.A. Pogrebnnyak, E. Akray, A.N. Kucukaltun, Tunable gap in the transmission spectrum of a periodic waveguide, *Applied Physics Letters*, vol. 86, 151115, 2005.
3. V.A. Pogrebnnyak, The controllable band structure for a periodic quantum well, *Physical Review B*, vol. 69, No. 24307, 2004,
4. V.A. Pogrebnnyak, The controllable band structure for a periodic quantum well, *Virtual Journal of Nanoscale Science & Technology*, vol.9, No.25, 2004.
5. V.A. Pogrebnnyak, Non-Bragg reflections in a periodic waveguide, *Optics Communications*, vol. 231, pp. 201-207, 2004.
6. V.A. Pogrebnnyak, Geometric resonance in a periodic waveguide, *Journal of Applied Physics*, vol. 94, No.10, pp. 6979-6981, 2003.
7. V.A. Pogrebnnyak, Electronic States in 2D Quantum Well, *Physics of the Solid State (American Institute of Physics, AIP)*, vol. 41, No. 10, pp. 1715-1718, 1999.
8. V.A. Pogrebnnyak, Electromagnetic Standing Wave Resonances in a Periodically Corrugated Waveguide, *Phys. Rev. E , Rapid Communication*, vol. 58, No. 5, pp. R5261-63, 1998.
9. V.A. Pogrebnnyak, I.M. Rarenko, D.D. Khalameida, V.M. Yakovenko, 2D and 3D Electron Channels at Block Boundaries in Mosaic (HgCd)Te Crystals, *Semiconductors (AIP)* , vol. 32, No.3, pp.288-294, 1998.
10. V.A. Pogrebnnyak, O. Gredescoul, Magnetic Oscillations in Semiconductor Polycrystals and Powders with 2D Conductive Channels, *Physika B*, vol. 24, No. 247, pp. 278-281, 1998.
11. V.A. Pogrebnnyak, V.M. Yakovenko, I.V. Yakovenko, Surface Electronic States between Two Media, *Physics of Solid State. (American Institute of Physics)*, vol. 39, No. 10, pp. 1677-1680, 1997. [Translation from *Fiz. Tverd. Tela (St. Petersburg)* 39, 1875 (1997)].
12. V.A. Pogrebnnyak, I.M. Rarenko, D.D. Khalameida, V.M. Yakovenko, Grain Boundary Conductivity and Size Effect in Mosaic (HgCd)Te Crystals, *Japanese J. Appl. Phys*, vol.36, No. 9, p. 5514, 1997.
13. V.A. Pogrebnnyak, V.M. Yakovenko, Electronic Surface States Induced by One-Dimensional Irregularities, *Phys. Lett. A*, vol. 209, p. 103, 1995.
14. **V.A. Pogrebnnyak**, I.M. Rarenko, D.D. Khalameida, V.M. Yakovenko, Low Temperature Galvano- Magnetic Effects in Mosaic Crystals, *Ukrainian Physical Journal*, vol. 40, No.5, p.971-975, 1995 (in Russian).
15. F.G. Bass, **V.A. Pogrebnnyak**, Hot Electron Scattering by Localized Optical Modes in Polar Semiconductor, *Solid State Comm.*, vol. 85, No. 12 , p. 32, 1993.

16. **V.A. Pogrebnyak**, Transport Phenomena in Narrow-Gap Semiconductors, Extended abstract of D.Sc. thesis, Preprint, Latvian University, Riga, 30p, 1990 (in Russian).
17. **V.A. Pogrebnyak**, Transport Phenomena in Narrow-Gap Semiconductors with Point and Extended Defects, 266p., Doctor of Sciences' thesis, Institute for Radio Physics and Electronics, Academy of Sciences of Ukraine, Kharkov, Ukraine 1990 (in Russian).
18. **V.A. Pogrebnyak**, D.D. Khalameida, V.M. Yakovenko, Quantum Oscillations of Photothermomagnetic EMF in 2D electron gas, Solid State Communications, vol. 68, No. 891, 1988.
19. **V.A. Pogrebnyak**, Thermo EMF Quantum Oscillations in Semiconductor Under Electron Gas Heating by Microwave Radiation, In book: "Interaction of Microwaves and Semiconductor Structures", Saratov, vol. 2, p. 28, 1988 (in Russian).
20. **V.A. Pogrebnyak**, D.D. Khalameida, V.M. Yakovenko, Two-dimensional n-type conductivity at block boundaries in (HgCd)Te single crystals, Solid State Comm., vol. 65, No. 3, p. 1307, 1988.
21. **V.A. Pogrebnyak**, D.D. Khalameida, A.I. Vakser, Semiconductor Detector of Millimeter and Submillimeter Radiation, Author's Certificate, USSR, No. 1403919, 1988.
22. **V.A. Pogrebnyak**, A.I. Vakser, High Frequency Heating of Graded-Gap Semiconductor Plasma, In the book: "Solid State Electronics for Millimeter Wavelength Communications", IRE Acad. Sci., Ukraine, Kharkov, pp. 62-67, 1988 (in Russian).
23. **V.A. Pogrebnyak**, D.D. Khalameida, V.M. Yakovenko, Mosaic Structure of (HgCd)Te Crystals: Physical Properties, JETP Letters, vol. 46, No. 5, p. 146, 1987.
24. A.I. Vakser, **V.A. Pogrebnyak**, D.D. Khalamada, Photothermomagnetic Effect in Variable-Gap Semiconductors, FTP (Sov. Phys. Semicond), vol. 19, No. 10, p. 1801, 1985.
25. **V.A. Pogrebnyak** I.N. Gorbatyuk, D.A. Kichigin, Influence of Acceptor States on Transport Phenomena in (CdHg)Te Crystals, Ukrainian Physical Journal, No. 30, No. 10, p. 81, 1985 (in Russian).
26. D.A. Kichigin, I.N. Knish, **V.A. Pogrebnyak**, D.D. Khalamada, [Influence of a quantizing magnetic field on the degree of degeneracy of the electron gas and transport effects in CdHgTe semiconductors](#), Sov. Phys. Solid State, vol. 26, No.8, p. 1389, 1984.
27. A.M. Kosevich, **V.A. Pogrebnyak**, Localized Optical Vibrations in Ionic Crystals, JETP, vol. 83 No. 3, p. 1886, 1982.
28. **V.A. Pogrebnyak**, T. Gasanov, Propagation of Strong Electromagnetic Waves in Kane Semiconductors, Bulletin of Azerbaijan Academy of Sciences, Physics and Mathematics, vol. 3, No. 4, p. 72, 1982 (in Russian).
29. A.M. Kosevich, **V.A. Pogrebnyak**, Localized Optical Modes Induced by Point and Extended Defects in Ionic Crystals, Phys. Letters A, vol. 92, p. 143, 1982.
30. E.I. Kaner, F.G. Bass, **V.A. Pogrebnyak**, Nonlinear Electromagnetic Waves in Semiconductors, in a book: "High Frequency Properties of Metal and Semiconductors", IRE Acad. Sci. Ukraine, Kharkov, 1980 (in Russian).
31. **V.A. Pogrebnyak**, [Current-voltage characteristic in the case of overheating instability in semiconductors with negatively charged traps](#), FTP-Sov. Phys. Semicond., vol. 14, No.10, p. 1210, 1980.

32. **V.A. Pogrebnyak**, [Temperature--recombination vortex waves in semiconductors with traps](#), FTP-Sov. Phys. Semicond. vol. 14, No. 2, p. 211, 1980.
33. **V.A. Pogrebnyak**, O.A. Gredeskoul, [Instability of coupled waves in ferromagnetic semiconductors containing hot electrons](#), FTP - Sov. Phys. Semicond., vol. 14, No. 3, p. 305, 1980.
34. **V.A. Pogrebnyak**, Field of a point source in a one-dimensional, randomly inhomogeneous medium with a specularly reflecting wall, Sov. Radio Phys. Journal, vol. 22, No. 11, pp. 1408-1410, 1979. Also in Radiophysics and Quantum Electronics, Springer Verlag, New York LLC, ISSN: 0033-8443, vol.22, No.11, pp.983-985, 1979. Translated from Izvestia Visshih Uchebni Zavedeniy, Radiofizika.
35. **V.A. Pogrebnyak**, A.P. Gavrik, K.I. Kononenko, Detector Effect in a Gas-Discharge Plasma, Kharkov University Bulletin, Radio Physics and Electronics, vol. 138, p. 81, 1976 (in Russian).
36. **V.A. Pogrebnyak**, A.P. Gavrik, K.I. Kononenko, Excitation of Ion-Sound Waves in Gas-Discharge Plasma by Strong Electromagnetic Waves, Kharkov University Bulletin, Radio Physics and Electronics, vol. 138, p. 81, 1976 (in Russian).
37. E.I. Kaner, F.G. Bass, **V.A. Pogrebnyak**, High Frequency Heating of Semiconductor Plasma, In book: "High Frequency Properties of Metal and Semiconductors", IRE Acad. Sci., Ukraine, Kharkov, p. 138, 1975 (in Russian).
38. **V.A. Pogrebnyak**, Theory of Nonlinear Effects in Semiconductors, Reprint, Donetsk State University, Donetsk, 16p, 1974 (in Russian).
39. F.G. Bass, **V.A. Pogrebnyak**, Self-Focusing of Electromagnetic Waves in Semiconductors, FTP-Sov. Phys.-Solid State, vol. 15, No. 7, p. 2126, 1973.
40. **V.A. Pogrebnyak**, Transport Phenomena in Kane Semiconductors Placed in High Electric and Magnetic Fields, FTT - Sov. Phys.-Solid State., vol. 14, No.3, p. 934, 1972.
41. F.G. Bass, **V.A. Pogrebnyak**, Analogy Between Relativistic Plasma and the Electron Plasma of Kane Semiconductors, Sov. Phys. Semicond., vol. 14, No. 6, p. 1766, 1972.
42. Y.L. Zanberg, **V.A. Pogrebnyak**, K.I. Kononenko, Detector Characteristics of Gas-Discharge Plasma, JTF - Sov. Phys., J. Technical Physics, vol. 42, No. 1, p. 66, 1972.
43. **V.A. Pogrebnyak**, Influence of Electron Recombination on Nonlinear Effects in Semiconductors, FTT-Sov. Phys.- Solid State., vol. 13, No. 10, p. 2455, 1972.
44. K.I. Kononenko, **V.A. Pogrebnyak**, Non-elastic Electron-Atom Collisions in Gas-Discharge Plasma, JTF - Sov. Phys., J. Technical Physics, vol. 42, No. 8, p. 1566, 1972.
45. K.I. Kononenko, **V.A. Pogrebnyak**, Theory of the Detector Effect in Gas-Discharge Plasma, Kharkov Univ. Bulletin, Radio Physics and Electronics, vol. 80, p. 58, 1972 (in Russian).
46. Y.U. Gurevich, **V.A. Pogrebnyak**, Propagation of Strong Spherical and Cylindrical Electromagnetic Waves in the Ionosphere, Sov. Phys. Geomagnetism and Aeronomy, vol. 11, No. 1, p. 65, 1971.
47. **V.A. Pogrebnyak**, Effect of Electron Escape on Electromagnetic Wave Propagation in Semiconductors, FTT - Sov. Phys - Solid State, vol. 12, No. 12, p. 135, 1970.

Conferences

1. V.A. Pogrebnyak, J.J Whalen, "Observation of Controllable Non-Bragg Gap in Periodically Corrugated Waveguide," National Radio Science Meeting NRSM-2008, CD of Abstracts of the USA National Radio Science Meeting/Internertional Union of Radio Science, p.BD12-8, 3-6 January 2008, University of Colorado at Boulder, Boulder, Colorado, 2008.
2. V.A. Pogrebnyak, J.J Whalen, A.N. Küçükaltun, K.Bargach, "Tunable Microwave Transmission in Periodically Corrugated Waveguide, Proceeding of 12th Internertional Symposium on Antennas and Electromagnetics, 16-19 July 2006, University of Manitoba, Winnipeg, Manitopba, Canada, 2006.
3. V.A. Pogrebnyak, E. Akray, A.N. Küçükaltun, Tunable microwave transmission spectrum in periodically corrugated waveguide, the Proceedings International Loughborough Antennas & Propagation Conference (LAPC), pp. 289-292, 11-12 April, 2006, Loughborough University, Loughborough , UK
4. V.A. Pogrebnyak, J.J Whalen, A.N. Küçükaltun, K.Bargach, "Tunable Bragg gap in Periodic Waveguide, Internertional Union of Radio Science, Book of Abstracts of the USA National Radio Science meeting, 4-7 January 2006, University of Colorado at Boulder, Boulder, Colorado, 2006.
5. V.A. Pogrebnyak, A.N. Küçükaltun, E.Akay, "Ayarlanabilir mikrodalga filtresi olarak periyodik oluklu galga kılavuz", 1.RF ve Mikrodalga Ölçümleri Ulusal Çalışta (1.RFMD UÇ), TÜBİTAK Ulusal Metroloji Enstitüsü, Gebze, Kocaeli, Türkiye, 26-28 Eylül, 2005.
6. **V.A. Pogrebnyak**, A.N. Küçükaltun, "Tunable Periodically Corrugated Waveguide as a Filter for Microwave Frequencies", Proceedings of the International Conference in Physics/23rd Natl. Meeting of Turkish Physical Society devoted to Intl Year of Physics13-16 September 2005, Mugla University, p1446 - 1449, Mugla, Turkey, 2005.
7. **V.A. Pogrebnyak**, E. Akray, A.N. Küçükaltun, Tunable electron transport in the lateral nanostructure, Proceedings of 2005 NSTI Nanotechnology Conference & Trade Show, 8-13 May 2005, Anaheim, California, vol. 3, pp. 61-63, Nano Science Technology Institute, U.S.A. 2005.
8. **V.A. Pogrebnyak**, E. Akray, Ö.E. Inan, A.N.Küçükaltun, Tunable Stop Band in Periodic Waveguide, The 3rd International Conference on Experimental Mechanics 2004, Singapore.
9. **V.A. Pogrebnyak**, U.Hasar, M.Guler, Ö.E.Inan, T.Eraslan, A.N.Küçükaltun, Periodic Waveguide as a Frequency Selective Microwave Power Switch. p.116, Euro 2004-Electromagnetics Conference, Magdeburg, Germany, 2004.
10. **V.A. Pogrebnyak**, Ö.E.Inan, U. Hasar, N.Küçükaltun, T.Erasalan, E. Akray, Sefa Meral, Periyodik oralak olyklu dalga kılavuzunun spektrunda durdurma bantları.(Stop bands in the spectrum of a periodically corrugated waveguide) URSI Turkish Coference, Bilkent Ünivritesi, Ankara, Turkiye, pp. 48-50, 2004.

11. **V.A. Pogrebnyak**, Geometric resonance in a periodic waveguide, Proceedings of the 2003 IEEE International Symposium on Electromagnetic Compatibility, Volume 2, 11-16 May 2003 Page(s):776 – 778, Istanbul, 2003.
12. M.S.Bozgeyik, F.Karadag, **V.A. Pogrebnyak**, Z.G. Altin, A.M. Mamedov, Polarization Induced Electronic Processes in Quantum Well, F.16 , The 10th European Meeting on Ferro electricity, Oxford, UK, 2003.
13. **V.A. Pogrebnyak**, U. Hasar, O.E. Inan, Cutoff frequency splitting in periodic waveguide, vol. 2, pp. 368-371, 10 National Congress, Istanbul, Turkey, 2003.
14. **V.A. Pogrebnyak**, Non-Bragg nature band gaps in a periodic waveguide, Frontiers in Optics/Laser Science XIX, MT 51, Tucson, Arizona, US, 2003.
15. **V.A. Pogrebnyak**, M. Guler, New Photonic Band Gap in Periodic Structure, 24th ESTEC Antenna Workshop, European Space Agency, Noordwijk, Netherlands, 2001.
16. **V.A. Pogrebnyak**, M.Guler, Electron Energy Spectrum of the 2D Quantum Well with Periodic Boundaries, 259 Heraeus Int. Workshop “ Exploring Quantum Physics”, Venice, Italy, 2001.
17. **V.A. Pogrebnyak**, M. Guler, Non-Bragg Stop Bands in a Periodic Waveguide, Millennium Conference on Antennas and Propagation, Davos, Switzerland, vol. 1, p.38, report No.1526, 2000.
18. **V.A. Pogrebnyak**, Electron Resonances in Two Dimensional Quantum Well, 3th International Conference on Low Dimensional Structures and Devices, Antalya , Turkey, 1999.
19. **V.A. Pogrebnyak**, A.H. Serbest, M. Guler, Elektrik-Elektronik Bilggisayar Muhendisligi 8 Ulusal Konferensi, vol. 1, p. 259, Gaziantep, Turkey, 1999.
20. **V.A. Pogrebnyak**, Electron Standing Wave Resonances and Fractional Quantum Hall Effect, Proceedings of 4th International Conference on Mathematical Methods in Electromagnetic Theory, MMET 98, vol. 2, 2-5 June 1998, pp. 719 – 721, Kharkov. Ukraine, 1998.
21. **V.A. Pogrebnyak**, Influence of microcorrugated surface on electron states in 2D quantum well
Physics and Engineering of Millimeter and Submillimeter Waves, 1998. MSMW '98. Third International Kharkov Symposium, Volume 1, pp. 269-271, 15-17 Sept. 1998, Kharkov, Ukraine.
22. **V.A. Pogrebnyak**, D.D. Khalamedia, I.M. Rarenko, X-Ray and Metallographical Investigation of Extended Defects, Physical Properties of Mosaic Crystals, 9th International Conference on Intergranular and Interphase Boundaries in Materials, Praha, Czech Republic, 1998.
23. **V. A. Pogrebnyak**, O. Gredeskoul, Magnetic Oscillations in Polycrystals with 2D Channels, Abstracts of 5th Symposium on Research in High Magnetic Fields, Abstract MP12, Sydney, Australiy , 1997.
24. **V.A. Pogrebnyak**, V.M. Yakovenko , Electronic Surface States at Irregular Interface of Media, Europhysics Conference Abstracts, 15th General Conference of Condensed Matter Division of EPS", Italy, 1996.

25. **V.A. Pogrebnyak**, D.D. Khalamedia, Electronic Structure and Conduction Properties of Block Boundaries in Mosaic Crystals, Abstracts of 7th International Conference on Intergranular and Interphase Boundaries in Materials, Lisboa, Portugal, 1995.
26. **V.A. Pogrebnyak**, 2D and 3D Grain Boundaries Conductivities in (HgCd) Te Crystals, Narrow Gap Semiconductors International Conference, Albuquerque, USA, 1995.
27. **V.A. Pogrebnyak**, D.D. Khalamedia, V.M. Yakovenko, Semiconductor with Bulk and 2D Conductivities : A New Element for Microelectronics, Proceedings 7th Int. Mediterranean Electrotechnical Conference, MELECON, vol.2, pp.575-576, ISBN:0-78031772-6, 12-14 Apr., Antalya, Turkey, 1994.
28. **V.A. Pogrebnyak**, Energy Diagram of Grain Boundary in (HgCd)Te Crystal, Europhysics Conference Abstracts, 14th General Conference of Condensed Matter Division of EPS, Madrid, 1994.
29. **V.A. Pogrebnyak**, A.I. Vakser, Photo sensor Application of Polycrystalline Films, Proceedings of 9th Int. Conference on Thin Films, Austria, 1993.
30. **V.A. Pogrebnyak**, D.D. Khalamedia, V.M. Yakovenko, Magnetotransport in Thin Polycrystalline Film, Abstracts of 1993 Int. Conference on Solid-State Devices and Materials, Makuhari Mewsse, Chiba, Japan., 1993.
31. **V. A. Pogrebnyak**, D.D. Khalamedia, V.M. Yakovenko, Magnetoresistivity Oscillation in Thin Polycrystalline Film with Barrier Conductivity, Europhysics Conference Abstracts, 13th General Conference of Condensed Matter Division of EPS, Regenbug, Germany, 1993.
32. F.G. Bass, **V.A. Pogrebnyak**, Localized Optical Vibration Scattering Mechanism in Polar Semiconductor, Proceedings of 8th Int. Symposium on Ultrafast Phenomena in Semiconductors, Vilnius, Lithuania, 1992.
33. **V.A. Pogrebnyak**, 2D Electron Gas as a Far-Infrared and Millimeter Wave Detector, Proceedings of 1992 Int. Conference on Millimeter Wave Technology, Beijing, China, 1992.
34. F.G. Bass, **V. A. Pogrebnyak**, Effect of Localized Optical Modes on Transport Phenomena in Polar Semiconductors, Europhysics Conference Abstracts, 12th General Conference of Condensed Matter Division of EPS, Praha, Czechia, 1992.
35. **V.A. Pogrebnyak**, Hot Electron Nernst Effect in Two-Dimensional Electron Gas, Proceedings of 4th Int. Workshop on Metal/Nonmetal Microsystem, Darmstadt, Germany, 1991.
36. **V. A. Pogrebnyak**, D.D. Khalamedia, Photo-thermo-magnetic Effect in Two-Dimensional Electron Gas, Proceedings of All-Union 7th Conference, Plasma and Instabilities in Semiconductors, Palanga, Lithuania, USSR, 1989.
37. **V.A. Pogrebnyak** A.I. Vakser, Microwave Graded - Gap Semiconductor Detector, Abstracts of 3th All-Union Conference "CHIP Microwave Electronics", Krasnoyarsk, USSR, 1988.
38. **V. A. Pogrebnyak**, D.D. Khalamedia, V.M. Yakovenko, Nature of Anomalous Transport Phenomena in (HgCd) Te Crystals, Proceedings of 11th All-Union Semiconductor Physics Conference, Kishinev, USSR, 1988.

39. **V.A. Pogrebnyak**, D.D. Khalamedia, Size Effect Caused by Mosaic Crystal Structure, Proceedings of 9th All-Union Conference "Electronic Surface Phenomena and Thin Semiconductor Layers", Novosibirsk, USSR, 1988.
40. **V. A. Pogrebnyak**, A.I. Vakser, Nonlinear HF Phenomena in Graded-Gap Semiconductor Plasma, Proceedings of All-Union 6th Conference "Plasma and Instabilities in Semiconductors", Vilnius, Lithuania, USSR, 1986.
41. **V.A. Pogrebnyak**, A.I. Vakser, Photothermomagnetic Effect in Graded-Gap Semiconductors, Proceedings of 2th All-Union Conference", CHIP Microwave Electronics", Saratov, USSR, 1985.
42. D. A. Kichigin, **V.A. Pogrebnyak**, Investigation of Hot Electron Scattering Mechanism in Narrow Gap Semiconductor, Proceedings of 5th All-Union Conference "Plasma and Instabilities in Semiconductors", Vilnius, Lithuania, USSR, 1983.
43. A. M. Kosevich, **V.A. Pogrebnyak**, Non- exponential Decay Law of Localized Optical Vibration in Ionic Crystals, Proceedings of 9th All-Union Symposium "Semiconductors Theory", Uzhgorod, USSR, 1983.
44. **V.A. Pogrebnyak**, Transverse Temperature Recombination Waves in Semiconductor with Traps, Proceedings of 10th All-Union Symposium "Semiconductors Theory", Novosibirsk, USSR, 1980.
45. **V.A. Pogrebnyak**, O. A. Gredeskoul, Spin-Helicon Instability in Magnetic Semiconductor Placed in Strong Electric Field, Abstracts of All-Union Conference "Physics of Magnetism", Kharkov, USSR, 1979.