

SELECTED PUBLICATION LIST OF Vladimir P. GOLUBYATNIKOV

MONOGRAPHS:

1. Computational Systems Biology, Chapter 5, Theory of Gene Networks. (Russian, with V.A.Likhoshvai, G.V.Demidenko, S.I.Fadeev, A.A.Evdokimov) Novosibirsk, SB RAS. 2008, p. 395 – 480.

2. Uniqueness questions in reconstruction of multidimensional objects from tomography-type projection data.

Inverse and ill-posed problems series. VSP. Utrecht, Netherlands. 2000.

JOURNALS AND COLLECTED PAPERS:

Geometry, geometric tomography:

1. (with A.A.Akinshin, G.Goldman, Y.Yomdin) Accuracy of reconstruction of spike-trains with two near-colliding nodes. Contemporary Mathematics, American Math. Society. 2017. V. 699, p. 1 – 17.

<http://dx.doi.org/10.1090/conm/699/14078>

2. (with D.Batenkov and Y.Yomdin) Reconstruction of planar domains from partial integral measurements. Contemporary mathematics, 2013, v. 591, p. 51 – 66.

3. (with D.Batenkov and Y.Yomdin) On one class of integral geometry problems with non-complete data. Journal of Math. Sci., New York, 2014, v. 202, N 1, p. 25 – 39.

4. Süss's lemma and inverse problems. Siberian electronic mathematical review. (Russian) 2012, v. 9, p. A.16 - A.19.

5. (with D.Batenkov and Y.Yomdin) Reconstruction of planar domains from partial integral measurements. arXiv:1205.5661v1 [math.MG] 25 May 2012, 23 p.

6. (with V.Rovenski) Determination of sets with positive reach by their projection type images. Journal of inverse and ill-posed problems. 2011, v. 19, N 43, p. 407 – 428.

7. Reconstruction of non-convex objects from their linear and circular projections. (Russian) Siberian Electronic Mathematical Reports, 2010. Proc. 1-st international school-conference "Theory and numerical methods of solutions of inverse problems", part 1, p. 62 – 72.

8. (with D.Batenkov and Y.Yomdin) On one non-linear inverse problem of recovering of a domain with singularities on its boundary from a finite collection of measurements (Russian). Proc. Chair of Calculus, v. 2, Gorno-Altai state university, 2010, p. 17 – 23.
9. (with V.Rovenski) Some extensions of the class of k -convex bodies, 2009, Siberian Math. Journal, v. 60, N 5, P. 820–829.
10. On convexity of a planar domain with a pair of concave tomography projections. 2009. Siberian Advances in mathematics, v. 19, N 2, p. 85–90.
11. On convexity of a domain with a pair of concave tomography projections. (Russian). 2008, Math. Proceedings of Sobolev Institute of Mathematics, v. 11, N 2, p. 107 – 114.
12. (with V.Rovenski) Some extensions of the class of k -convex bodies. arXiv:0809.3643v1 [math.MG] 22 September 2008, 13 p.
13. (with V.Rovenski) Some extensions of the class of convex bodies. arXiv:0808.1788v1 [math.MG] 13 August 2008, 28 p.
14. (with I.Karaca, E.Ozyilmaz, B.Tantay) On uniqueness of reconstruction of surfaces from their apparent contours and the stationary phase observations. Computer graphics and geometry. 2000, v. 2, N 1, <http://cg-g.newmail.ru>
15. (with I.Karaca, E.Ozyilmaz, B.Tantay) On determining the shapes of hypersurfaces from the shapes of their apparent contours and symplectic geometry measurements. Sib.Advances in Math.,2000, v. 10, N 2, p. 9 – 15.
16. On uniqueness of recoverability of the convex compacts from their projections. The case of complex spaces. (Russian) Siberian Mathematical Journ. 1999, v. 40, N 4, p. 805 – 810.
17. On reconstruction of transparent surfaces from their apparent contours. Journ. Inverse Ill-Posed problems. 1998, v. 6, N 5, p. 395 – 402.
18. On the unique reconstructibility of convex and visible compact sets from their projections. 2. Sib. Math. Journ. 1995, v. 36, N 2, p. 265 – 269.
19. On uniqueness of Reconstruction of the Form of Convex and Visible Bodies from Their Projections. Amer.Math.Society Translations. ser. 2, 1995, v. 163, p. 35 – 45. MR 96 m:52008.
20. Stability questions in some inverse problems of the reconstruction of convex compact sets from their projections. Sib. Math. Journ. 1992, v. 33, N 3, p. 409 – 415. MR 93 h:52003.
21. Stability problems of the reconstruction of some compacts from their projections. Soviet Mathematical Doklady, 1992, v. 45, N 1, p. 12 – 14.

22. On the unique reconstructibility of convex and visible compact sets from their projections. *Math. USSR Sbornik*, 1991, v. 182, N 5, p. 1 – 10.
23. (with N.B.Ayupova) Algorithms of solutions of multidimensional inverse problems and complexes of lines and planes. (Russian). In: *Methods for solutions of inverse problems*. (Russian). Institute of Mathematics, Novosibirsk, 1990, p. 36 – 44. MR 93 k:53075.
24. On the unique reconstructibility of convex compacts from their projections. *Sib. Math. Journ.* 1990, v. 31, N 6, p. 1043 – 1045.
25. On uniqueness of reconstruction of visible bodies from their projections. *Sib. Math. Journ.*, 1988, v. 29, N 5, p. 761 – 764. MR 90 d:52004.
26. On reconstruction of a shape of a body from its projections. *Sov. Math. Dokl.*, 1982, v. 262, N 3, p. 62 – 63. MR 84 d: 52002
27. On tomography of polyhedra. (Russian). In: *Questions of correctness of inverse problems of mathematical physics*. Computing Center, Novosibirsk, 1982, p. 75 – 76. Zbl.Math.524.52004o.
28. On uniqueness of reconstruction of Riemannian metric in one astrophysical problem. (Russian). In: *Uniqueness, stability and methods of solutions of inverse and incorrect problems*. Novosibirsk, 1980, p. 30 – 35.
29. Some geometrical problems connected with the scattering theory. (Russian) In: *Ill-posed mathematical problems and problems of geophysics*. Computing Center, Novosibirsk, 1979, p. 60 – 65.
30. (with Yu.E.Anikonov) On the question of the uniqueness of the solutions of inverse problems of scattering theory. (Russian). In: *Inverse Problems for Differential Equations of Mathematical Physics*. Computing Center, Novosibirsk, 1978, p. 13 – 17. MR. 81m:35111.
31. A condition for uniqueness of the shortest paths. (Russian). *Ibid.* p. 51 – 54. MR 81 m:53025.

Topology:

1. (with A.E.Kalenykh) On structure of phase portraits of some nonlinear dynamical systems. (Russian) *Bulletin of Novosibirsk State University*, 2015, v. 15, N 1, p. 45 – 53.
2. Inverse problem for the Hamilton-Jacobi equation on a closed manifold. *Siberian Math. Journ.* 1997, v. 38, N 2, p. 235 – 238.
3. Integral submanifolds of the Thom spaces of tangent bundles of spheres. *Questions and Answers in General Topology*, Japan, 1990, v. 8, special issue, p. 163 – 167. MR 91d:57020.

4. On bordism rings with split normal bundles 2. *Sib. Math. Journ.*, 1989, v. 30, N 5, p. 699 – 704. MR 90 k:57042.
5. (with G.I.Smirnov) Integral submanifolds of Thom spaces. (Russian). In: *Topological and geometrical methods in Analysis. Voronezh, 1989*, p. 146 – 152. MR 91 c:55026.
6. (with G.I.Smirnov and V.T.Filippov) Chronogeometric and topological structures of spaces with variable metric signatures. (Russian). *Doklady Akad. Nauk*, 1988, v. 299, N 5, p. 1106 – 1108. MR 89 f:83071.
7. Some cohomotopy properties of the Thom spaces. (Russian). *Sib. Math. Zhurnal*, 1986, v. 27, N 2, p. 202 – 205. MR 88 f:55018.
8. Integral submanifolds of phase spaces and cohomotopy. *Soviet Math. Doklady*, 1985, v. 280, N 1, p. 18 – 20. MR 86 h:58073.
9. Manifolds with stable normal bundles split in half in phase spaces. (Russian). *Func. Analysis i prilozhen.* 1984, v. 18, N 2, p. 63 – 64.
10. Topological properties of non-hamiltonian systems. (Russian). In: *Theory, methodology and practice of the system investigations.* (Russian). VNIISI GKNT, Moscow, 1984, p. 29 – 31.
11. (with L.N.Pestov) Trajectories of dynamical system defined by an one-parameter group of conformal transformations of R^3 . *Siberian Math. Journal*, 1983, v. 24, N 1, p. 52 – 56. MR 85 f:34084.
12. On one algebraic spectral sequence. (Russian) *Siberian Math. Zhurnal*, 1980, v. 21, N 1, p. 202 – 207. MR 81 g:57021.
13. On bordism rings with split normal bundles. *Russian Math. Surveys*, 1979, v. 34, N 6, p. 172 – 176. MR 82 b:57027.
14. A theory of cobordisms. *Siberian Math. Journ.* 1979, v. 20, N 2, p. 187 – 191. MR 80 m:57030.

Tomography, inverse problems:

1. (with Yu.E.Anikonov, N.B.Ayupova, V.G.Bardakov, M.V.Neshchadim) Invertibility of maps and inverse problems. *Siberian electronic mathematical review.* (Russian) 2012, v. 9, p. 382 – 432.
2. (with V.V.Pickalov, D.I.Kazantzev) Generalizations of the central slice theorem to the fan-beam tomography problem. (Russian) *Numerical methods and programming.* 2006, v. 7, p. 180 – 184.
3. (with N.B.Ayupova) Multidimensional cone-beam tomography algorithm. *Journ. of three dimensional images 3D Forum, Japan.* 2000, v. 14, N 2, p. 88 – 93.

4. (with N.B.Ayupova) On formal solutions to multidimensional evolution equations. *Siberian Advances in Math.* 1998, v. 8, N 4, p. 21 – 40.
5. (with N.B.Ayupova) Inverse problems for evolution equations and matrix Fourier transform. *Journ. Inverse and Ill-Posed Problems.* 1997, v. 5, N 5, p. 401 – 409.
6. (with N.B.Ayupova) On formal solutions of an inverse problem for one class of evolution equations. 10 Siberian School “Algebra, Geometry, Analysis, and Mathematical Physics”. Novosibirsk 14 – 22 August 1996. Institute of Mathematics, Novosibirsk, 1997. p. 21 – 29.
7. Inverse problem for the Hamilton-Jacobi equation. *Journal on Inverse and Ill-Posed problems.* 1995, v. 3, N 5, p. 407 – 410. MR 97a:70030.
8. (with Yu.A.Goritzki) Reconstruction of a discrete finite source from its 1-dimensional tomograms. (Russian). In: *Methods for investigations of inverse and incorrect problems.* Comp. Center, Novosibirsk, 1987, p. 68–72.
9. (with M.M.Uzakov) Pseudodifferential operators in the Integral Geometry problems. (Russian). *Ibid*, p. 136 – 149.

Mathematical biology:

1. (with N.E.Kirillova) On cycles in models of functioning of circular gene networks. (Russian) *Siberian Journal of pure and applied mathematics.* 2018, v. 21, N 1, p. 54 – 63.
2. (with N.B.Ayupova and M.V.Kazantsev) On existence of a cycle in an asymmetric model of a molecular repressilator. *Numerical analysis and applications.* 2017, v. 10, N 2, p. 101 – 107.
3. Questions of existence of a stable cycle in one model of molecular repressilator. (Russian) *Mathematical structures and modelling.* (Omsk state university) 2017, N 2 (42), p. 59 – 67.
4. (with N.B.Ayupova) A three-cells model of the initial stage of development of one proneural cluster. *Journal of Applied and Industrial Mathematics.* 2017, v. 11, N 2, p. 1 – 7.
5. (with T.A.Bukhariha and D.P.Furman) Gene network controlling the morphogenesis of *D.melanogaster* macrochaetes: an expanded model of the central regulatory circuit. *Russian Journal of Development Biology.* 2016, v. 47, N 5, p. 288 – 293.
6. (with M.V.Kazantsev) On one piecewise linear dynamical system which models a gene network with variable feedback. *Siberian journal of pure and applied mathematics.* (Russian) 2016, v. 16, N 4, p. 28 – 37.

7. (with N.B.Ayupova) On two classes of nonlinear dynamical systems: The four-dimensional case. *Siberian mathematical journal*, 2015, v. 56, N 2, p. 231 – 236.
8. (with T.A.Bukharina and D.P.Furman) A model study of the morphogenesis of *D. melanogaster* mechanoreceptors: The central regulatory circuit. *Journal of Bioinformatics and Computational Biology*. February 2015, v. 13, N. 01, DOI: 10.1142/S0219720015400065, p. 1540006-1 – 1540006-15.
9. (with I.V.Golubyatnikov) Geometry and topology of phase portraits of Glass-Pasternack dynamical systems in small dimensions. *Mathematical structures and modeling*. Omsk state university, 2014, N 3(31), p 40 – 47. (Russian)
10. (with Yu.A.Gaidov) On cycles and other geometric phenomena in phase portraits of some nonlinear dynamical systems. In: “Geometry and applications”. *Springer Proceedings in Mathematics and Statistics*, v. 72. Springer NY, 2014, p. 225 – 233.
11. (with N.B.Ayupova) On the uniqueness of a cycle in an asymmetric three-dimensional model of a molecular repressilator. *Journal of Industrial and Applied mathematics*. 2014, v. 8, N 2, p. 1 – 6.
12. (with Yu.A.Gaidov) On cycles and other geometric phenomena in phase portraits of some nonlinear dynamical systems. In: “Geometry and Applications”, *Springer Proceedings in Mathematics & Statistics*. 2014. v. 72, Springer, NY, pp. 225 – 233.
13. (with A.A.Akinshin and I.V.Golubyatnikov) On some multidimensional models of gene networks functioning. (Russian) *Siberian Journal of Industrial Mathematics*, 2013, v. 16, N 1, p. 3 – 9.
14. (with A.A.Akinshin) On cycles in symmetric dynamical systems. *Bull. Novosibirsk State University*, (Russian) 2012, v. 12, N 2, p. 3 – 12.
15. (with T.A.Bukharina, D.P.Furman, I.V.Golubyatnikov) Model investigation of central regulatory contour of gene network of *D. melanogaster* Macrochaete morphogenesis. *Russian Journ. of development biology*. 2012, v. 43, N 11, p. 49 – 53.
16. (with Yu.A.Gaidov) On the Existence and Stability of Cycles in Gene Networks with Variable Feedbacks. *Contemporary mathematics*. 2011. v. 553, p. 61 – 74.
17. (with I.V.Golubyatnikov) On periodic trajectories in odd-dimensional gene networks models. *Russian Journal of Numerical Analysis and Mathematical Modeling*. 2011, v. 28, N 4, p. 397 – 412.

18. (with T.A.Bukharina, D.P.Furman, I.V.Golubyatnikov) Mathematical modeling of the first phase of morphogenesis of mechanoreceptors of *D.melanogaster* (Russian) Siberian Journal of Industrial Mathematics, 2011, v. 14, N 3, p. 14 – 19.
19. (with I.V.Golubyatnikov and V.A.Likhoshvai) On the Existence and Stability of Cycles in Five-Dimensional Models of Gene Networks. Numerical Analysis and Applications, 2010, v. 3, N 4, p. 329 – 335.
20. (with I.V.Golubyatnikov) On periodic trajectories of nonlinear dynamical systems of a special type. (Russian) Bulletin of Novosibirsk State University, 2010, v. 10, N 3, p. 3 – 16.
21. (with I.V.Golubyatnikov) On multidimensional models of gene networks functioning. Journal of applied and industrial mathematics, v. 5, N 3, July-September 2011, p. 343 – 347.
22. (with Yu.A.Gaidov, V.A.Likhoshvai) On some nonlinear dynamical systems modeling asymmetric gene networks. 2. (Russian) Bulletin of Novosibirsk State University, 2010, v. 10, N 1, p. 18 – 28.
- 23.(with E.Mjolsness, Yu.A.Gaidov) Topological index of a model of *p53-Mdm2* circuit. The Herald of Vavilov society for geneticists and breeding scientists, 2009, v. 13, N 1, p. 160 – 162.
24. (with I.V.Golubyatnikov) Geometric problems of higher-dimensional gene networks modeling. (Russian) Proc. Chair of Calculus, Gorno-Altai state university, 2009, p. 3 – 12.
25. (with Yu.A.Gaidov) On some nonlinear dynamical systems modeling asymmetric gene networks. (Russian) Bulletin of Novosibirsk State University, 2007, v. 7, N 2, p. 8 – 17.
26. (with S.S.Bednarjevsky, E.S.Zaharikov, G.I.Smirnov, N.G.Shevchenko) On correlation of the information biotest data and the ecoanalytical control of an environment in areas of petroleum extraction. (Russian) Bulletin of Novosibirsk State University, 2007, v. 7, N 1, p. 3 – 8.
27. (with A.G.Kleshchev, K.A.Kleshcheva, A.V.Kudryavtzeva) Investigation of phase portraits of 3-dimensional gene networks models. (Russian) Siberian Journal of Industrial Mathematics, 2006, v. 9, N 1, p. 75 – 84.
28. (with V.A.Likhoshvai, E.P.Volokitin, Yu.A.Gaidov, A.F.Osipov) Periodic trajectories and Andronov-Hopf bifurcations in models of gene networks. In: Bioinformatics of Genome Regulation and structure II, Springer Science+Buisness Media Inc. 2006, p. 405 – 414.
29. (with Yu.A.Gaidov, A.G.Kleshchev, E.P.Volokitin) Modeling of asym-

metric gene networks functioning with different types of regulation. *Biophysics*, 2006, v. 51, suppl. 1, p. 61 – 65.

30. (with V.A.Likhoshvai, A.V.Ratushny) Existence of Closed Trajectories in 3-D Gene Networks. *The journal of three dimensional images 3D Forum*, Japan, 2004, v. 18, N 4, p. 96 – 101.

31. (with V.A.Likhoshvai) One-dimensional model of amphibious population evolution. (Russian) *Siberian Journal of Industrial Mathematics*. 2002, v. 5, N 1, p. 53 – 60.

Applications in physics, biophysics etc.:

1. (with S.S.Bednarzhevsky, Zh.V.Korol, G.I.Smirnov) Fundamental problems of innovative nonlinear nanotechnologies for environmental and analytical diagnosis of heterogeneous systems aimed to upgrade and improve the efficiency of oil and gas production. *Perspectives of science*, 2013, N 3 (42), p. 133 – 135.

2. (with S.S.Bednarzhevsky, G.I.Smirnov, N.P.Zapivalov) The laser photocatalysis of subatomic reactions in the hydrogen energy technologies. *The Complete Energy Journal*, 2010, v. 19, N 11, p. 43 – 45.

3. (with S.S.Bednarzhevsky, G.I.Smirnov, N.P.Zapivalov) Fractons in seismic survey of petroliferous strata. *The Complete Energy Journal*, 2009, v. 18, N 11, p. 27 – 28.

4. (with S.S.Bednarzhevsky, G.I.Smirnov, N.P.Zapivalov) New nanotechnology of the formation of high-productive petroliferous strata on base of the ion change by metasomatic dolomitization. *The Complete Energy Journal*, 2009, v. 18, N 10, p. 33 – 36.

5. (with D.V.Kozlovskaya, G.I.Smirnov, N.G.Shevchenko) Modeling of polarization-statistical signals control methods in systems of quantum-mechanical information and cryptography. (Russian) *Bulletin of Novosibirsk State University*, 2005, v. 5, N 4, p. 3 – 13.

6. (with E.V.Akinina, S.S.Bednarzhevskii, A.G.Nazin, N.G.Shevchenko, G.I.Smirnov) Modeling of gauge functions for technologies of system analysis of quality and certification of biomaterials. (Russian) *Siberian Journal of Industrial Mathematics*, 2005, v. 8, N 3, p. 3 – 7.

7. (with E.V.Makarov and G.I.Smirnov) Quasi-static model of nonlinear generation of ions in magneto-active plasma. (Russian) *Sib. Journ. Industr. Math.*, 2004, v. 7, N 4, p. 59 – 65.

8. (with V.V.Makarov, E.V.Makarov, G.I.Smirnov, N.G.Shevchenko) Mathematical modeling of self-induction of plasma of stationary high-precision charge. (Russian) Sib. Journ. Industr. Math., 2004, v. 7, N 3, p. 76 – 83.
9. (with B.P.Kashnikov, G.I.Smirnov) Mathematical modeling of transfer of a charge by a resonance irradiation in solid nano-structures. (Russian) Sib. Journ. Industr. Math., 2003, v. 6, N 2, p. 31 – 36.
10. (with Yu.E.Anikonov, A.L.Bukhgeim, S.I.Kabanikhin, V.G.Romanov) On 70-th anniversary of M.M.Lavrent'ev. (Russian) Sib. Journ. Industr. Math., 2002, v. 5, N 2, p. 3 – 6.
11. (with G.F.Bukreeva, V.A.Kontorovich, V.O.Krasavchikov) Geometric approach to modeling of Hydrocarbon migration pathways. Journal of three dimensional images 3D Forum, Japan, 2001, v. 15, N4, p. 140 – 145.
12. (with S.S.Bednarzhevsky, G.Yu.Sazhinov, G.I.Smirnov) On mathematical modeling of the polarization methods of the impulse laser nephelometry in the disperse biomed. (Russian). Sib. Journ. Industr. Math., 1999, v. 2, N 1, p. 5 – 12.
13. (with N.P.Zapivalov, G.I.Smirnov, V.I.Kharitonov) Methods of the fractal modeling of the seismic prospecting of the oil-containing systems. (Russian). Ibid. p. 41 – 46.
14. (with N.P.Zapivalov, G.I.Smirnov, V.I.Kharitonov) Fractal modeling of electric permeability of the oil-containing media. (Russian). Sib. Journ. Industr. Math., 1999, v. 2, N 2, p. 36 – 41.
15. (with A.G.Kleshchev, V.K.Malinovskii, V.N.Novikov) Liquid Relaxation Spectra in Mode Coupling Theory: Comparison with Experiment in a two-Mode Approximation. (Russian) Doklady Akademii Nauk, 1999, v. 367, N 5, p. 617 – 619.
16. (with E.V.Akinina, S.S.Bednarzhevsky, G.I.Smirnov) Mathematical modeling of the non-linear dynamics of the strong radiation in the laser nephelometry of the disperse biomed. (Russian). Sib. Journ. Industr. Math., 1998, v. 1, N 2, p. 14 – 23.
17. (with K.S.Aleksandrov, V.I.Zinenko, I.P.Aleksandrova, A.N.Vtiurin, S.A.Parshikov, M.M.Lavrent'ev, S.M.Zerkal', A.G.Kleshchev, A.P.Shebanin, V.K.Malinovskii, V.N.Novikov, N.V.Surovtzev) Dynamics, relaxation and nano-structure of overcool liquids, amorphous and partially ordered solid bodies, experimental studies and numerical simulations. (Russian) Integrated programs of basic research. SB RAS, Novosibirsk, 1998. p. 255-268.
18. (with E.N.Kuz'min and G.I.Smirnov) Propagation of two-dimensional

nonlinear shock waves in an elastic medium. (Russian). In: Mathematical problems in interpreting seismic prospecting data. (Russian). Novosibirsk, "Nauka", 1988, p. 203 – 206. MR 90 h:86006.

19. Determination of the dimension of a model source of wave radiation according to kinematic data. (Russian). In: Questions of well-posedness in the problems of mathematical physics and analysis. (Russian). Computing Center, Novosibirsk, 1986, p. 45 – 51. Zbl. Math. 679.o76091.

20. Geometrical problems of the theory of sources of earthquakes. (Russian). In: Mathematical problems of geophysics. (Russian). Computing Center, Novosibirsk, 1986, p. 12 – 19.

21. Geometrical problems of reconstruction of wave sources. (Russian). Questions of correctness and methods for the investigations of inverse problems. (Russian). Computing Center, Novosibirsk, 1986, p. 64 – 70.

22. Determination of an elastic waves source from kinematic data. (Russian). In: Inverse problems of mathematical physics. (Russian). Computing Center, Novosibirsk, 1985, p. 66 – 69. MR 88 k:73015.

23. Geometrical questions of renewal of sources of wave fronts. (Russian). In: Methods for the investigations of nonclassical problems of mathematical physics. (Russian). Computing Center, Novosibirsk, 1985, p. 46 – 52.

24. (with L.N.Pestov) Determination of a model source of seismic perturbations. (Russian). In: Uniqueness, stability and methods of solutions of incorrect problems of mathematical physics and analysis. Computing Center, Novosibirsk, 1984, p. 76 – 82.

25. (with L.N.Pestov) A model of a source of the seismic waves. (Russian). In: Theory and methods of solutions of ill-posed problems and their applications. Computing Center, Novosibirsk, 1983, p. 78 – 79.

26. (with L.N.Pestov) On the group of conformal transformations of R^3 in the star dynamics and in inverse kinematic problems of seismic. (Russian). In: Approximate solutions methods and questions of the well-posedness of inverse problems. Computing Center, Novosibirsk, 1981, p. 35 – 43.

CONFERENCES PROCEEDINGS *etc*

Geometry and Topology:

1. Some unsolved problems in Geometric Tomography. Proc. School-seminar "Analysis, geometry and topology", part 1, Barnaul, 2 – 4 October 2013, p. 50 – 59.

2. (with A.A.Akinshin) Uniqueness of cycles of special types nonlinear dynamical systems. Proc. International conference “Geometry days in Novosibirsk”. Sobolev institute of mathematics, 2012, p. 7 – 15.

3. (with U.Pekmen, I.Karaca, E.Ozyilmaz, B.Tantay) On reconstruction of surfaces from their apparent contours and the stationary phase observation. Proceedings of International conference ”Shape Modeling and Applications”. 1999, University of Aizu, Japan, p. 116 – 120.

4. (with U.Pekmen) On reconstruction of the forms of hypersurfaces from their apparent contours and kinematic projection data. Proc. conf. on Combinatorial and Computing methods in Mathematics. Omsk University, 1999, p. 95 – 102.

5. Integral submanifolds of the Thom spaces of tangent bundles to spheres. (Russian). Third Siberian School on Algebra and Analysis. Proceedings. Irkutsk, 1990, p. 18 – 22.

Tomography and Inverse Problems:

1.(with A.A.Akinshin, Y.N.Yomdin) Low-dimensional Prony systems. (Russian) Proc. International Conference “Lomonosov readings in Altai: fundamental problems of science and education”, Barnaul, 20 – 24 October 2015, Altai state university. p. 443 – 450.

2. (with D.V.Batenkov and Y.N.Yomdin) On reconstruction of an elliptic curve from a finite collection of moments. Proc. of school-conference on geometric analysis. Gorno-Altai State University, 2011, p. 14 – 17.

3. Some problems of linear and non-linear geometric tomography. (Russian) Proc. of school-conference on geometric analysis. Gorno-Altai State University, 2010, p. 17 – 30.

4. (with V.V.Pickalov, D.I.Kazantzev, N.B.Ayupova) Considerations of iterative algorithms for fan-beam tomography scheme. Proc. 4-th World Congress on Industrial Tomography, Aizu, 2005, v. 2, p. 687 – 690.

5. (with I.V.Golubyatnikov and H.H.Hacısalihođlu). An inverse problem for nonlinear Hamilton-Jacobi equation. Proc. Intern. conf. ”Nonlinear analysis and Nonlinear modeling” 2001, Fethiye, Turkey. p. 120 – 127.

6. (with N.B.Ayupova) Algorithms of recovering of multidimensional objects from tomography-type projection data. Proc. 3-d Intern. conf. ”Human and Computer”, Aizu, Japan, 2000, p. 236 – 241.

7. On integrability of the formal solutions of inverse problems for systems of multidimensional evolution equations. (Russian). Proc. Intern.

conf. "Scientific foundations of High Technologies". v.6. Novosibirsk State Technical University, 1997, p. 10 – 15.

8. An inverse problem of reconstruction of a dispersive relation. (Russian). Proc. of Intern. seminar "Inverse problems of Geophysics". Novosibirsk, 1996, p. 68 – 71.

Mathematical biology:

1. Multidimensional asymmetric mathematical models of circular gene networks. Proc. International Conference "Lomonosov readings in Altai", Baranul, Altai state university, 14 – 17 November 2017, p. 225 – 261.

2. (with N.E.Kirillova) Mathematical and numerical modelling of circular gene networks. (Russian) Selected reports of International Conference "Lomonosov readings in Altai", Baranul, Altai state university, 14 – 17 November 2017, p. 6 – 16.

3. Conditions of existence of a stable cycle in one asymmetric gene network model. (Russian) Proc. International Conference "Computational and Applied mathematics-2017", 26 – 30 June 2017, Novosibirsk, p. 218 – 223.

4. (with A.A.Akinshin, N.B.Ayupova, M.V.Kazantsev) Geometry of phase portrait of one gene network model. (Russian) Proc. 12-th international Asiatic school-seminar "Problems of optimization of complex systems" Novosibirsk, INMMG, 12-16 december 2016, p. 18 – 24.

5. (with N.B.Ayupova) Dynamical systems which models 3-cells complex (Russian). *ibid*, p. 58 – 62.

6. (with N.B.Ayupova) On one nonlinear dynamical system. (Russian) Proc. All-Russian Conference "MAK-15", Barnaul, 1 – 5 July 2015, Altai State University, p. 54 - -58.

7. (with V.A.Likhoshvai) Oscillating and chaotic trajectories in gene network models. Igor' Andreevich Poletaev 1915 – 1983. (Russian) Novosibirsk, Sobolev Institute of Mathematics, 2015, p. 153 – 158.

8. (with N.B. Ayupova) Geometric and topological characteristics of phase portraits of some nonlinear chemical kinetics dynamical systems. (Russian) Proc. Interbational Conference "Lomonosov readings in Altai: fundamental problems of science and education", Baranul, Altai state university, 11 – 14 November 2014, p. 225 – 261.

9. (with N.B. Ayupova) Geometric and topological characteristics of phase portraits of some nonlinear chemical kinetics dynamical systems. (Russian) Selected Proceedengs of Interbational Conference "Lomonosov readings

in Altai: fundamental problems of science and education”, Baranul, Altai state university, 11 – 14 November 2014, p. 41 – 47.

10. (with A.A.Akinshin and M.V.Kazantzev) Comparative analysis of some numerical methods of gene networks modeling by means of the R language. (Russian) Ibid, p. 548 – 554.

11. (with Yu.A.Gaidov and I.V.Golubyatnikov). Some direct and inverse problems in bioinformatics. Proc. Intern. School-seminar “Lomonosov readings in Altai”, (Russian) part 1, Baranul, 5 – 8 November 2013, p. 18 – 25.

12. (with Akinshin A.A. and Likhoshvai V.A.) Mathematical and computational models of gene networks functioning. The 11-th Bioinformatics Research and Education Workshop. Berlin, Technical university. May 3–4, 2013 , p. 1 – 5.

13. Geometric characteristics of phase portraits of some dissipative dynamical systems. (Russian) Proc. of school-conference on geometric analysis. Gorno-Altai State University, 2012, p. 14 – 17.

14. (with Yu.A.Gaidov and I.V.Golubyatnikov) On cycles in non-linear dynamical systems of a special type (Russian). Proc. of international school-conference “Lomonosov readings in Altai”, 2012, p. 272 – 279.

15. (with I.V.Golubyatnikov) Periodic trajectories in the gene networks models with negative feedbacks. (Russian) Proc. 4-th Intern. conf. ”Mathematical and computer modeling of Natural and Social problems”. University of Penza, May 2010, p. 29 – 32.

16. (with E.Mjolsness) Dynamics in *p53-Mdm2*-damage repair network. (Russian) Materials of Lectures at International Conf. ”Complex analysis and complex dynamics”. Naharia, Israel, May 2009, p. 14 – 15.

17. (with E.Mjolsness) Topological index of a model of *p53-Mdm2*-oscillations. Materials Intern. Conf. ”Modern problems of mathematics, mechanics and their applications”. Moscow, MSU, March–April 2009, p. 338 – 339.

18. (with Yu.A.Gaidov) Geometric problems of gene networks modeling. Conference ”Mathematics in the modern world”. Novosibirsk, Sept. 2007.

19. (with Yu.A.Gaidov) On nonlinear dynamical systems as models of the gene networks. Proc. International conf. ”Differential equations, theory of functions and applications”, Novosibirsk, 2007, p. 657 – 658.

20. (with G.I.Smirnov, N.G.Shevchenko) Statistical model of polarization methods of quantum information control. Ibid.

21. (with Yu.A.Gaidov, A.G.Kleshchev) Mathematical modeling of asymmetric gene networks with different types of regulation mechanisms.

Proc. 9-th Intern. conf. "Human and Computers", University of Aizu, Japan, 2006, p. 1 – 6.

22. (with Yu.A.Gaidov, A.G.Kleshchev) Asymmetric models of the gene networks. Proc. 5-th International conf. "Bioinformatics of Genome Regulation and Structure". Novosibirsk, 2006, v.3, p. 56 – 59.

23. (with Yu.A.Gaidov, A.G.Kleshchev, E.P.Volokitin) Gene networks models with different types of regulation. Ibid. p. 60 – 63.

24. (with V.Likhoshvai, Yu.Gaidov, A.Kleshchev, E.Lashina) Regular and chaotic dynamics in the gene networks modeling. Proc. 8-th Intern. conf. "Human and Computers", Aizu, Japan, 2005, p. 7 – 12.

25. (with V.A.Likhoshvai, A.V.Ratushny) Oscillatory gene networks modeling and Hopf bifurcation. Proc. 7-th Intern. conf. "Human and Computers", Aizu, Japan, 2004, p. 72 – 77.

26. (with E.P.Volokitin, V.A.Likhoshvai, A.F.Osipov) Hopf bifurcation in the Gene Networks. Proc. 4-th International conf. "Bioinformatics of Genome Regulation and Structure". Novosibirsk, 2004, p. 46 – 48.

27. (with E.Makarov) Closed trajectories in gene networks. Ibid, p.42–45.

28. (with V.A.Likhoshvai, S.I.Fadeev, A.V.Ratushny, Yu.G.Matushkin, N.A.Kolchanov) Mathematical and Computing modeling of genetic networks. Proc. 6-th Intern. conf. "Human and Computers", University of Aizu, Japan, 2003. p. 200 – 205.

Applications in Physics, Geophysics etc.:

1. (with E.V.Makarov and G.I.Smirnov) Statistical modeling of nonlinear dynamics of photo-resonance processes. Proc. Intern. conf. "Computational technologies in science, technique, education", Almaty 2004, p. 100 – 106.

2. (with E.V.Makarov, V.V.Makarov, G.I.Smirnov) Stochastic modeling of fractal structure of electric conductivity in polycrystalline films. Proc. Int. conf. on Computational Math., part 1, Novosibirsk, 2004, p. 262 – 265.

3. (with G.I.Smirnov). On primary logical elements of the quantum Computer. Proc. Intern. conference in memory of A.A.Lyapunov. Novosibirsk, 2001, p. 157 – 164. (Russian)

4. (with G.F.Bukreeva, V.A.Kontorovich, V.O.Krasavchikov) Computer modeling of possible Hydrocarbom migration pathways for determination of petroleum catchment areas. Proc. 4-th Intern. conference "Human and Computer", 2001, Aizu, Japan, p. 201 – 206.

5. Reconstruction of transparent surfaces from their apparent contours. Proc. of the Intern. conf. "Methods of Study, Structure and Monitoring of the Lithosphere". Novosibirsk 8 – 13 September 1998. United Institute of Geology, Geophysics and Mineralogy, Novosibirsk, 1998, p. 319 – 321.

6. (with N.P.Zapivalov, V.M.Ivanov, G.I.Smirnov) Fractal modeling of an inverse scattering problem for seismic and acoustic fields in geological prospecting and geophysical monitoring. (Russian). Ibid. p. 72 – 73.

SOME ABSTRACTS, PREPRINTS AND TEXTBOOKS:

1. Spectral sequence. (Russian) Preprint. Novosibirsk, 2016, 44 pp.

2. (with A.A.Akinshin) On nonuniqueness of cycles in dissipative dynamical systems of chemical kinetics. Abstracts 6-th International conference "Solitons, Collapses, Turbulence". Novosibirsk, June 2012.

3. Periodic trajectories in gene networks models (Russian), Textbook for graduate students. Novosibirsk State University, 2011, 50 p.

4. On periodic trajectories in some models of gene networks. Abstracts of International Conference "Differential equations and related topics", Moscow state university, May 30 – June 1, 2011, p. 46 – 47.

5. Applied geometry. (Russian) Preprint, Novosibirsk, 2006, 24 pp.

6. (with V.A.Likhoshvai) On modeling of amphibious population evolution. Preprint, University of Auckland, New Zealand, 2002. 10 p.

7. Reconstruction of multidimensional objects from the shapes of their projections. Abstracts and short communications, International Congress of Mathematics, Beijing, 2002, p. 63.

8. Manifold without a boundary. (Russian) Preprint, Institute of Mathematics, Novosibirsk, 2000, 15 pp.

9. (with S.V.Gol'din and A.A.Duchkov) Analysis of dynamics of the seismic waves in the ray series approach. (Russian). Abstracts Intern. conf. "Inverse Problems of Math. Physics". Novosibirsk, 1998, p. 26 – 27.

10. On reconstruction of transparent surfaces from their apparent contours. Ibid. p. 82 – 84.

11. Homology groups. (Russian) Preprint, Institute of Mathematics, Novosibirsk, 1996, 30 pp.

12. Foundations of differential topology, part 1. (Russian). Textbook for graduate students. Novosibirsk State University. 1994, 28 p.

13. Some inverse problems in geometry. Quaderno N 29/1990, University of Milano, 1990, 17 p.