

Publikationsliste

1 Referierte Zeitschriftenartikel

- [1] *An estimate for the maximum of solutions of parabolic equations with the Venttsel' condition*, Vestnik Leningrad. Univ. (Ser. Mat. Mekh. Astronom., vyp.2), (1991), 3-12 [Russian]; *English transl. in Vestnik Leningrad Univ. Math.*, **24** (1991), No.2, 1-11.
- [2] *A solution of the Bloch equations as a polynomial product*, (mit E.G.Apuškinsky und V.V. Moskalev), Vestnik Leningrad. Univ. (Ser. Phys. Chem., vyp.3), (1991), 16-22 [Russian].
- [3] *On estimates on the boundary of the domain for the Hölder norms of derivatives of the solutions of linear parabolic equations with singularities of a special form*, (mit A.I. Nazarov), Vestnik S.-Peterburg. Univ. (Ser. Mat. Mekh. Astronom., vyp.3), (1993), 134-136 [Russian]; *English transl. in Vestnik Leningrad Univ. Math.*, **26** (1993), No.3, 55-57.
- [4] *An initial-boundary value problem with a Venttsel boundary condition for parabolic equations not in divergence form*, (mit A.I. Nazarov), Algebra i Analiz, **6** (1994), No.6, 1-29 [Russian]; *English transl. in St. Petersburg Math. J.*, **6** (1995), No.6, 1127-1149.
- [5] *Hölder estimates of solutions to initial-boundary value problems for parabolic equations of nondivergent form with Wentzel boundary condition*, (mit A.I. Nazarov), Amer. Math. Soc. Transl. (2), **64** (1995), 1-13.
- [6] *Boundary estimates for the first-order derivatives of a solution to a nondivergent parabolic equation with composite right-hand side and coefficients of lower-order derivatives*, (mit A.I. Nazarov), Probl. Mat. Anal., **14** (1995), 3-27 [Russian]; *English transl. in J. Math. Sciences*, **77** (1995), no. 4, 3257-3276.

- [7] *On the behavior of the free boundary near the boundary of the domain*, (mit N.N. Uraltseva), Zap. Nauchn. Sem. St.-Petersburg Otdel. Math. Inst. Steklov (POMI), **221** (1995), 5-19 [Russian]; English transl. in J. Math. Sciences, **87** (1997), no. 2, 3267-3276.
- [8] *On the quasilinear stationary Venttsel' problem*, (mit A.I. Nazarov), Zap. Nauchn. Sem. St.-Petersburg Otdel. Math. Inst. Steklov (POMI), **221** (1995), 20-29 [Russian]; English transl. in J. Math. Sciences, **87** (1997), no. 2, 3277-3283.
- [9] *The nonstationary Venttsel' problem with quadratic growth with respect to the gradient*, (mit A.I. Nazarov), Probl. Mat. Anal., **15** (1995), 33-46 [Russian]; English transl. in J. Math. Sciences, **80** (1996), no. 6, 2197-2207.
- [10] *Hölder estimates for solutions to the degenerate boundary-value Venttsel problem for parabolic and elliptic equations of nondivergence type*, (mit A.I. Nazarov), Probl. Mat. Anal., **17** (1997), 3-19 [Russian]; English transl. in J. Math. Sciences, **97** (1999), no. 4, 4177-4188.
- [11] *Estimates for the gradient of solutions to stationary degenerate Venttsel problems*, (mit A.I. Nazarov), Probl. Mat. Anal., **18** (1998), 43-69 [Russian]; English transl. in J. Math. Sciences, **98** (2000), no. 6, 654-673.
- [12] *The Venttsel' problem for nonlinear elliptic equations*, (mit A.I. Nazarov), Probl. Mat. Anal., **19** (1999), 3-26 [Russian]; English transl. in J. Math. Sciences, **101** (2000), 2861-2880.
- [13] *A survey of results on nonlinear Venttsel problems*, (mit A.I. Nazarov), Appl. Math., **45** (2000), no. 1, 69-80.
- [14] *Quasilinear two-phase Venttsel' problems*, (mit A.I. Nazarov), Zap. Nauchn. Sem. St.-Petersburg Otdel. Math. Inst. Steklov (POMI), **271** (2000), 11-38 [Russian]; English transl. in J. Math. Sciences, **115** (2003), no. 6, 2704-2719.
- [15] *Boundary estimates for solutions to the parabolic free boundary problem*, (mit H. Shahgholian und N.N. Uraltseva), Zap. Nauchn. Sem. St.-Petersburg Otdel. Math. Inst. Steklov (POMI), **271** (2000), 39-55.
- [16] *The Dirichlet problem for quasilinear elliptic equations in domains with smooth closed edges*, (mit A.I. Nazarov), Probl. Mat. Anal.,

- 21** (2000), 3-29 [Russian]; *English transl. in J. Math. Sciences*, **105** (2001), no. 5, 654-673.
- [17] *Linear two-phase Venttsel problems*, (mit A.I. Nazarov), *Arkiv Math.*, **39** (2001), 201-222
- [18] *On global solutions of a parabolic problem with an obstacle*, (mit H. Shahgholian und N.N. Uraltseva), *Algebra i Analiz*, **14** (2002), 3-25 [Russian]; *English transl. in St. Petersburg Math. J.*, **14** (2003), no. 1, 1-17.
- [19] *The elliptic Dirichlet problem in weighted spaces*, (mit A.I. Nazarov), *Zap. Nauchn. Sem. St.-Petersburg Otdel. Math. Inst. Steklov (POMI)*, **288** (2002), 14-33 [Russian]; *English transl. in J. Math. Sciences*, **123** (2004), no. 6, 4527-4538.
- [20] *Quasilinear elliptic two-phase Venttsel's problems in the transversal case*, (mit A.I. Nazarov), *Probl. Mat. Anal.*, **24** (2002), 3-28 [Russian]; *English transl. in J. Math. Sciences*, **112** (2002), no. 1, 3927-3943.
- [21] *On the Lipschitz property of the free boundary in a parabolic problem with an obstacle*, (mit H. Shahgholian und N.N. Uraltseva), *Algebra i Analiz*, **15** (2003), no. 3, 78-103 [Russian]; *English transl. in St. Petersburg Math. J.*, **15** (2004), no. 3, 375-391.
- [22] *Steady states of anisotropic generalized Newtonian fluids*, (mit M. Bildhauer und M. Fuchs), *J. Math. Fluid Mech.*, **7** (2005), no. 2, 261-297.
- [23] *Boundary estimates for solutions of two-phase obstacle problems*, (mit N.N. Uraltseva), *Probl. Mat. Anal.*, **34** (2006), 3-11 [Russian]; *English transl. in J. Math. Sciences*, **142** (2007), no. 1, 1723-1732.
- [24] *Partial regularity for higher order variational problems under anisotropic growth conditions*, (mit M. Fuchs), *Ann. Acad. Sci. Fenn. Math.*, **32** (2007), no. 1, 199-214.
- [25] *Boundary estimates for solutions to the two-phase parabolic obstacle problem*, (mit N.N. Uraltseva), *Probl. Mat. Anal.*, **38** (2008), 3-9 [Russian]; *English transl. in J. Math. Sciences*, **156** (2009), no. 4, 569-576.
- [26] *The behavior of the free boundary close to a fixed boundary in a parabolic problem*, (mit N. Matevosyan und N.N. Uraltseva), *Indiana Univ. Math. J.*, **58** (2009), no. 2, 583-604.

- [27] *Interior gradient bounds for local minimizers of variational integrals under nonstandard growth conditions*, (mit M. Bildhauer und M. Fuchs), *Probl. Mat. Anal.*, **43** (2009), 35-50 [Russian]; *English transl. in J. Math. Sciences*, **164** (2010), no.3, 345-363.
- [28] *On local generalized minimizers and the local stress tensor for variational problems with linear growth*, (mit M. Bildhauer und M. Fuchs), *Probl. Mat. Anal.*, **44** (2010), 39-54 [Russian]; *English transl. in J. Math. Sciences*, **165** (2010), no.1, 42-59.
- [29] *Uniform estimates near the initial state for solutions of the two-phase parabolic problems*, (mit N.N. Uraltseva), *Algebra and Analysis*, **25** (2013), no. 2, 63-74.

2 **Buchbeiträge**

- [30] *Chapter 23. Geometric and electromagnetic aspects of fusion pore making*, (mit E. Apushkinsky, B. Booß-Bavnbek und M. Koch), *Systems Biology* (Springer Book Series), **vol. 2**, Systems biology of regulated exocytosis in pancreatic β -cells, Springer Verlag, 2011.

3 **Konferenzbeiträge**

- [31] *On the Venttsel problem for parabolic equations*, (mit A.I. Nazarov), Proc. Third Crimean Fall Mathematical School-Symposium on Spectral and Evolutional Problems, Crimea, Ukraine, 1993.
- [32] *Degenerate Venttsel problems*, Book of Abstracts PDE Prague'98, Praha, August 10-16, 1998, Partial Differential Equations, Theory and Numerical Solutions, Karolinum, Praha, 1998.
- [33] *The Venttsel problem for nonlinear elliptic equations*, (mit A.I. Nazarov), Book of Abstracts International Conference on Differential and Functional Differential Equations, Moscow, Russia, August 16-21, 1999.
- [34] *Two-phase problems with Venttsel type interface conditions*, Book of Abstracts Symposium Theory of PDE's and Special Topics of Theory of ODE's dedicated to 150th anniversary of birthday of S.V.Kovalevskaya, St.Petersburg, Russia, May 11-15, 2000.

- [35] *Nonlinear Venttsel problems*, (mit A.I. Nazarov), 3rd European Congress of Mathematics, Barselona, July 10 to 14, 2000, Proceedings CD-ROM.
- [36] *Quasilinear elliptic Dirichlet problems in domains with smooth edges*, (mit A.I. Nazarov), International Conference "Differential Equations and Related Topics", dedicated to the Centenary Anniversary of Ivan G. Petrovskii (XX Joint Session of Petrovskii Seminar and Moscow Mathematical Society), Book of Abstracts, Moscow, 2001.
- [37] *Quasilinear elliptic Dirichlet problem in nonregular domains*, (mit A.I. Nazarov), Czechoslovak International Conference on Differential Equations and Their Applications, Prague, Czech Republic; August 27-31, 2001, Equadiff 10, Book of Abstracts, Posters and Extended Abstracts.
- [38] *Quasilinear elliptic Dirichlet problem in nonregular domains*, (mit A.I. Nazarov), Czechoslovak International Conference on Differential Equations and Their Applications, Prague, Czech Republic; August 27-31, 2001, Equadiff 10, CD-ROM.
- [39] *Free boundary regularity for parabolic obstacle problem*, (mit H. Shahgholian und N.N. Uraltseva) Deutsche Mathematiker-Vereinigung Jahrestagung 2003, 14.-19. September in Rostock, Vortragsauszüge.
- [40] *Regularity of free boundaries in parabolic obstacle type problems*, Report No. 33, Oberwolfach Reports, **Vol. 2** (2005), issue 3, 1913.
- [41] *Free boundary problems in exocytosis*, REx Workshop: Systems Biology of Regulated Exocytosis in Pancreatic β -cells, Copenhagen, February 17-18, 2009, CD-ROM.
- [42] *Parabolic obstacle problem with contact points*, Book of Abstract of the Sixth International Conference on Differential and Functional Differential Equations, Moscow, Russia, August 14-21, 2011.
- [43] *Parabolic obstacle type problems - a survey*, Book of Program and Abstracts of the International Workshop on Hysteresis and Slow-Fast Systems, Wittenberg, Germany, December 12-14, 2011.
- [44] *L^∞ -estimates for derivatives of solutions to some parabolic free boundary problem*, Deutsche Mathematiker-Vereinigung Jahrestagung in Saarbrücken, 17.-20. September 2012, Book of Abstracts, p.137.

4 Eingereicht

- [45] *A counterexample to the Hopf-Oleinik lemma*, (with A.I. Nazarov).
- [46] *On regularity properties of solutions to hysteresis-type problems*, (mit N.N. Uraltseva).

5 Schriften

- [47] *An estimate for the maximum of solutions of parabolic equations with the Venttsel condition*. Diploma Thesis, Leningrad State University, 1990, [Russian].
- [48] *Nonstationary Venttsel problem for nonlinear parabolic equations* Ph.D. Thesis, St.Petersburg State University, 1993, [Russian].
- [49] *Free boundary problems - regularity properties near the fixed boundary*, Habilitationsschrift, Universität des Saarlandes, 2013