

LIST OF PUBLICATIONS - UGUR G. ABDULLA

1. The well-posed nature of the problem of determining an unknown boundary of a domain in a similarity regime. *USSR Computational Mathematics and Mathematical Physics*, 1988, **28**, 100-101 (transl. by Pergamon Press).
2. Finite propagation velocity and local perturbations in nonlinear relaxation filtration. *Journal of Applied Mechanics and Technical Physics*, 1991, **5**, 750-754 (transl. by Plenum Publ. Corp., New York).
3. Peak regimes in problems for quasilinear heat equation with convection. *Computational Mathematics and Mathematical Physics*, 1991, **31**, 462-466 (transl. by Pergamon Press).
4. Unbounded solutions of the nonlinear equation of heat conduction with a sink. *Computational Mathematics and Mathematical Physics*, 1992, **32**, 1109-1120 (transl. by Pergamon Press).
5. On the existence of unbounded solutions of the nonlinear heat-conduction equation with a sink. *Computational Mathematics and Mathematical Physics*, 1993, **33**, 205-216 (transl. by Pergamon Press).
6. Unbounded solutions of the Kolmogorov-Petrovskii-Piskunov equation. *Computational Mathematics and Mathematical Physics*, 1993, **33**, 603-614 (transl. by Pergamon Press).
7. Numerical method of solving inverse problems for nonlinear differential equations. *Computational Mathematics and Mathematical Physics*, 1993, **33**, 1043-1057 (transl. by Pergamon Press).
8. On localization of unbounded solutions of the nonlinear heat equation with transfer. *Russian Acad. Sci. Dokl. Math.*, 1993, **47**, 298-301 (transl. by American Mathematical Society).
9. Unbounded solutions of the nonlinear parabolic equations. *Russian Mathematical Surveys*, 1993, **48**, (Materials of Joint Session of the Petrovsky Seminar on Differential Equations & Mathematical Problems of Physics and of the Moscow Mathematical Society, 15th Session, 18-21 January 1993).
10. On exact local bounds for the support of the solutions in problems for nonlinear parabolic equations. *Russian Mathematical Surveys*, 1994, **40**, **4**, (Materials of Joint Session of the Petrovsky Seminar on Differential Equations & Mathematical Problems of Physics and of the Moscow Mathematical Society, 16th Session, 18-21 January 1994).
11. Stability of symmetric travelling waves in the Cauchy problem for the Kolmogorov-Petrovskii-Piskunov equation. *Differential Equations*, 1994, **30**, 377-386 (transl. by Plenum Publ. Corp., New York).
12. On the space localization of unbounded perturbations in nonlinear heat conduction with transfer. *Applied Mathematics Letters*, 1994, **7**, 91-95.
13. Large time behaviour of the nonlinear infiltration equation. *Nonlinear Analysis: Theory, Methods and Applications*, 1994, **23**, 1353-1364.
14. Quasilinearization and inverse problems of nonlinear dynamics. *Journal of Optimization Theory and Applications*, 1995, **85**, 509-526.

15. Quasilinearization and inverse problems for nonlinear control systems. *Journal of Optimization Theory and Applications*, 1995, **85**, 527-543.
16. Exact local estimations of support of solutions for nonlinear parabolic equations. *Math. Sbornik*, 1995, **186**, 1085-1106 (transl. by American Mathematical Society).
17. On asymptotically exact local estimates for compactly supported solutions to a nonlinear parabolic equation with absorption. *Siberian Mathematical Journal*, 1995, **36**, 837-852 (transl. by Plenum Publ. Corp., New York).
18. On the unbounded solutions of the nonlinear heat equation with transfer. *Differential Equations*, 1995, **31**, 686-694 (transl. by Plenum Publ. Corp., New York).
19. Local structure of solutions of the reaction-diffusion equations. *Nonlinear Analysis: Theory, Methods and Applications*, 1997, **30**, 3153-3163.
20. Instantaneous shrinking of the support in problems for nonlinear degenerate parabolic equations. *Mathematical Notes*, 1998, **63**, 285-292. (Translated from *Matematicheskie Zametki*, 1998, **63**, 323-331).
21. Instantaneous shrinking and exact local estimations of interface in nonlinear diffusion absorption. *Advances in Math. Sciences and Appl.*, 1998, **8**, 483-503.
22. Reaction-Diffusion in Irregular Domains. Advanced Textbook, Baku State University, Baku, 1998, 75p.
23. Local structure of solutions of the Dirichlet problem for N-dimensional reaction-diffusion equations in bounded domains. *Advances in Differential Equations*, 1999, **4**, 197-224.
24. Reaction-diffusion in irregular domains. *Journal of Differential Equations*, 2000, **164**, 321-354.
25. Interface development and local solutions to reaction-diffusion equations. *SIAM Journal of Math. Anal.*, 2000, **32**, No. 2, 235-260, (together with J.R.King).
26. Reaction-Diffusion in a closed domain formed by irregular curves. *Journal of Math. Anal. and Applications*, 2000, **246**, 480-492.
27. Nonlinear diffusion in irregular domains with cusps. *Zeitschrift fuer Angewandte Mathematik und Mechanik*, 2000, **80**, Supplement. 3, 759-760. Issues devoted to the materials of the conference GAMM-99, 12-16 April, 1999, Metz, France.
28. On the Dirichlet problem for the nonlinear parabolic equations in non-smooth domains, Proceedings of the EQUADIFF-99, 1-8 August 1999, Berlin, Germany. Edited by B.Fiedler, K.Groeger and J.Sprekels, World Scientific, 2000, pp. 729-731.
29. On the Dirichlet problem for the nonlinear diffusion equation in non-smooth domains. *Journal of Math. Anal. and Applications*, 2001, **260**, 2, 384-403.
30. On the Dirichlet problem for the reaction-diffusion equations in non-smooth domains. *Nonlinear Analysis, Theory, Methods and Applications*, 2001, **47**, 2, 765-776.
31. Nonlinear diffusion in irregular domains, in Elliptic and Parabolic Problems, Rolduc and Gaeta 2001, World Scientific, 2002, pp.302-310.
32. Evolution of interfaces and explicit asymptotics at infinity for the fast diffusion equation with absorption, *Nonlinear Analysis, Theory, Methods and Applications*, 2002, **50**, 4, 541-560.

33. First boundary value problem for the diffusion equation. I. Iterated logarithm test for the boundary regularity and solvability, *SIAM Journal of Math. Anal.*, 2003, **34**, No.6, 1422-1434.
34. Well-posedness of the Dirichlet problem for the nonlinear diffusion equation in non-smooth domains, *Transactions of the Amer. Math. Society*, 2005, **357**, No.1, 247-265.
35. Multidimensional Kolmogorov-Petrovsky test for the boundary regularity and irregularity of solutions to the heat equation, *Boundary Value Problems*, 2005, **1**, No.2, 181-199.
36. Kolmogorov problem for the heat equation and its probabilistic counterpart, *Nonlinear Analysis*, 2005, **63**, No.5-7, 712-724.
37. Necessary and sufficient condition for uniqueness of solution to the first boundary value problem for the diffusion equation in unbounded domains, *Nonlinear Analysis*, 2006, **64**, No.5, 1012-1017
38. Wiener's criterion for the unique solvability of the Dirichlet problem in arbitrary open sets with non-compact boundaries, *Nonlinear Analysis*, 2007, **67**, No. 2, 563-578.
39. Reaction-Diffusion in nonsmooth and closed domains, *Boundary Value Problems*, Special issue: *Harnack Estimates, Positivity and Local Behaviour of Degenerate and Singular Parabolic Equations*, Vol. 2007 (2007), pp.28.
40. Wiener's criterion at ∞ for the heat equation, *Advances in Differential Equations*, 2008, **13**, No.5-6, 457-488.