

# List of publications of Alexander A. Shlapunov

## books

1. Shlapunov A.A. **Green's integrals and their applications to elliptic systems.** Tesi di perfezionamento (ed. E. Vesentini), Scuola Normale Superiore, 1996, 162 pp.

## articles in journals/contributions to books

1. Shlapunov A.A. **On the closure of smooth functions in Hölder's spaces.** Equations of Mathematical Physics and Theory of Functions. Krasnoyarsk State University, Krasnoyarsk, 1991, p. 121 - 123 (in Russian).
2. Shlapunov A.A **Solvability criterion for the Cauchy problem for the Laplace equation.** Proceed. of XXIX National scientific student's conference. Mathematics., Novosibirsk State University, Novosibirsk, 1991, p. 63–67 (in Russian).
3. Shlapunov A.A. **On the Cauchy problem for the Laplace equation.** Siberian Math. Journal, V.33, N. 3 (1992), p. 205–215.
4. Shlapunov A.A, Tarkhanov N.N. **On the Cauchy problem for holomorphic functions of Lebesgue class  $L^2$  in domain.** Siberian Math. Journal, V.33, N. 5 (1992), p. 914–922.
5. Shlapunov A.A., Tarkhanov N.N. **Bases with double orthogonality in the Cauchy problem for systems with injective symbols.** Dokl. Ross. AN., V. 326, N. 1 (1992), p. 45–49; English Transl. in Russian Ac. Sci. Dokl. Math., V. 46, N. 2 (1993), p. 255–230.
6. Aizenberg L.A., Karepov O.V., Shlapunov A.A. **On the property of uniqueness and existence of a limit in Carleman's formulae.** Trudy MIRAN, V. 203, (1994), p. 1–8; English Transl. in Proc. of the Steklov Inst. of Math. N. 3 (1995), p. 1–9.
7. Shlapunov A.A. **On iterations of Green type integrals for matrix factorizations of the Laplace operator.** Rend. Mat. Acc. Linc., S. 9, V. 5, N. 2 (1994), p. 103–116.
8. Shlapunov A.A., Tarkhanov N.N. **Bases with double orthogonality in the Cauchy problem for systems with injective symbols.** The Proceedings of the London Mathematical Society. Ser. 3, V. 71, (1995), p. 1–52.
9. Shlapunov A.A., Tarkhanov N.N. **A stability set in the Cauchy problem for elliptic systems.** Operator Theory: Advances and Applications (78), Birkhäuser, 1995, p. 353–355.
10. Shlapunov A.A. **Spectral decomposition of Green's integrals and existence of  $W^{s,2}$ -solutions of matrix factorizations of the Laplace operator in a ball.** Rend. del Seminario Mat. dell'Università di Padova, V.96 (1996), p. 237–256.
11. Nacinovich M., Shlapunov A.A. **On iterations of Green integrals and their applications to elliptic differential complexes.** Mathematische Nachrichten, 180 (1996), p. 243–284.

12. Shlapunov A.A. **On the Cauchy Problem for the Lamé system.** Zeitschrift für Angewandte Mathematik und Mechanik, V. 76, N. 4 (1996), p. 215–221.
13. Shlapunov A.A. **On the Cauchy Problem for some elliptic systems in a shell in  $\mathbb{R}^n$ .** Zeitschrift für Angewandte Mathematik und Mechanik, V. 77, N. 11, (1997), p. 849–859.
14. Nacinovich M., Shlapunov A.A., Tarkhanov N.N. **Duality in the spaces of solutions of elliptic systems.** Ann. Scuola Norm. Sup. Pisa, Cl. Sci. (4), Vol. XXVI (1998), p. 207–232.
15. Shlapunov A.A. **On the Cauchy problem in the Hardy classes for elliptic systems of linear partial differential equations.** Dep. VINITI 20.04.98, N 1177–B98. 28pp.
16. Shlapunov A.A. **On conditions for global solvability of overdetermined linear elliptic systems.** In book "Complex Analysis and Mathematical Physics", Krasnoyarsk State University, Krasnoyarsk, 1998, p. 246–255.
17. Shlapunov A.A. **Iterations of self-adjoint operators and their applications to elliptic systems.** Math. Nachrichten, 218 (2000), p. 165–174.
18. Shlapunov A.A. **On regularization of a mixed problem for linear elliptic systems.** In book "Complex Analysis and Differential Operators", Krasnoyarsk State University, Krasnoyarsk, 2000, p. 175–182.
19. Shlapunov A.A. **On a solvability condition to a system with injective symbol in terms of iterations of double layer potentials.** Siberian Math. Journal, V. 42, N. 4 (2001), p. 952–963.
20. Shlapunov A.A. **Regularization of the Cauchy problem for the Dolbeault complex.** In book "Multi-Dimensional Complex Analysis", Krasnoyarsk State University, Krasnoyarsk, 2002, p. 178–191.
21. Shlapunov A.A. **Duality in spaces of solutions to elliptic systems.** Siberian Math. Journal, V. 43, N. 4 (2002), p. 948–958.
22. Shlapunov A.A. **On a duality in spaces of polyharmonic functions.** Izvestiya VUZ. Mathematics, N. 8 (483), 2002, p. 79–81.
23. Shlapunov A.A., Tarkhanov N. **Duality by reproducing kernels.** International Journal of Math. and Math. Sciences, **6** (2003), 78pp.
24. Tarkhanov N., Shlapunov A.A. **Green integrals in complex analysis.** VINITI, Modern Mathematics and its Applications, Complex Analysis, V. 108 (2006), p. 106–157; English translation in Journ. of Math. Sciences, April 2004, V. 120 (6), p. 1868–1900.
25. Shlapunov A.A. **On some properties of the Martinelli-Bochner-Koppelman integral.** "Problems of Analysis", Krasnoyarsk State Technical University, Krasnoyarsk, 2003, p. 280–287.
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33. Shlapunov A.A., Tarkhanov N. **Mixed problems with a parameter.** Russian Journ. Math. Phys., V.12, N. 1, 2005, p. 97–124.
34. Shestakov I.V., Shlapunov A.A. **On the solvability of the non-homogeneous Cauchy-Riemann system in a spherical shell.** "Vestnik KrasGU", Krasnoyarsk State University, Krasnoyarsk, 2006, Ser. Phys.-Math. Sci., N. 1, p. 102–111.
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42. Shlapunov A.A., Tarkhanov N. **A homotopy operator for Spencer's sequence in the  $C^\infty$ -case.** Siberian Adv. in Math., 2009, V. 19, N.2, 75-109.
43. Shlapunov A.A. **Boundary problems for Helmholtz equation and the Cauchy problem for Dirac operators.** Journal of Siberian Federal University, Math. and Phys., 2011, N. 4 (2), 218-229.
44. Shestakov I.V., Shlapunov A.A. **On the Cauchy problem for operators with injective symbols in the spaces of distributions.** J. Inv. Ill-posed Problems, V. 19 (2011), N. 1. 127-150.
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50. Peicheva A.S., Shlapunov A.A. **On the completeness of root functions of Sturm-Liouville problems for the Lamé system in weighted spaces.** Z. Angew. Math. Mech., V. 95, N. 11 (2015), 1202-1214.
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## Lectures and Teaching Materials

1. Shlapunov A.A. **History of Mathematics**. Krasnoyarsk State University, Krasnoyarsk, 1998, 32pp.
2. Shlapunov A.A. **On some applications of functional analysis**. Krasnoyarsk State University, Krasnoyarsk, 1998, 32pp.
3. Shlapunov A.A. **A Brief Survey on the History of Mathematics**. Krasnoyarsk State University, Krasnoyarsk, 2005, 32pp.
4. Shlapunov A.A., Rabotin V.V., Sadykov T.M., Ermilov I.V., Mihalkin E.N., Trutnev V.M., Fedchenko D.P., Shestakov I.V., Yakovlev E.I. **Functional Analysis. Tutorial Complex (Program, Lectures, Exercises, Methodical instructions for homework, Organizational and methodical instructions, Control materials)**. Siberian Federal University, Krasnoyarsk, 2007, Electronic data, 18,5 Mb.
5. Kytmanov A.M., Kytmanov A.A., Myslivets S.G., Shlapunov A.A., Khodos O.V. **Integral Representations and Current’s Theory. Tutorial Complex (Program, Lectures, Exercises, Methodical instructions for homework, Organizational and methodical instructions, Control materials)**. Siberian Federal University, Krasnoyarsk, 2007, Electronic data, 18,6 Mb.
6. Tsikh A.K., Antipova I.A., Shlapunov A.A., Bushueva N.A. **Introduction to Mathematics. Tutorial Complex (Program, Lectures, Exercises, Methodical instructions for homework, Organizational and methodical instructions, Control materials)**. Siberian Federal University, Krasnoyarsk, 2008, Electronic data, 6 Mb.

7. Trutnev V.M., Bushueva N.A., Shlapunov A.A., Semusheva A.Yu., Kytmanov A.M. **Complex Analysis: beginning of Complex Analysis. Tutorial Complex (Program, Lectures, Exercises, Methodical instructions for homework, Organizational and methodical instructions, Control materials)**. Siberian Federal University, Krasnoyarsk, 2011, Electronic data, 3 Mb.
8. Shlapunov A.A., Rabotin V.V., Sadykov T.M. **Functional Analysis. Lectures**. Siberian Federal University, Krasnoyarsk, 2011, 268 pp.
9. Shlapunov A.A., Rabotin V.V., Sadykov T.M. **Functional Analysis. Operator Equations. Tutorial**. Siberian Federal University, Krasnoyarsk, 2011, 282 pp.
10. Shlapunov A.A., Trutnev V.M., Fedchenko D.P. **Functional Analysis. Methodical instructions for homework**. Siberian Federal University, Krasnoyarsk, 2012, 27 pp.
11. Shlapunov A.A., Trutnev V.M., Fedchenko D.P. **Functional Analysis and Integral Equations. Methodical instructions for homework**. Siberian Federal University, Krasnoyarsk, 2012, 35 pp.
12. Shlapunov A.A., Znamenskaya O.V. **History and Methodology of Mathematics. Methodical instructions for homework**. Siberian Federal University, Krasnoyarsk, 2012, 22 pp.
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## Abstracts of academic conferences

1. Shlapunov A.A. **On solvability conditions in the Sobolev spaces for overdetermined elliptic systems of linear partial differential equations**. Abstracts of the conference "Mathematical models and methods of their investigations", Krasnoyarsk State University, Krasnoyarsk, 1997, p. 194–195.
2. Shlapunov A.A. **Convergence of iterations of Green's integrals and formulae for solutions of elliptic systems with constant coefficients**". Abstracts of the conference "Symmetry in Natural Science", Institute of Computational Modelling, Krasnoyarsk, 1998, p. 152–153.
3. Shlapunov A.A. **On regularization of a mixed problem for the Laplace operator**. Abstracts of the conference "Mathematical models and methods of their investigations", Krasnoyarsk State University, Krasnoyarsk, 1999, p. 213–214.
4. Shlapunov A.A. **On a dual space for solutions of the Dirac operator in the ball**. The Proceedings of the conference "Symmetry in Natural Science", Institute of Computational Modeling, Krasnoyarsk, 2000, p. 262–265.
5. Shlapunov A.A. **Regularization of mixed boundary problems**. Abstracts of the conference "Operator Algebras and Index theory on manifolds with singularities", University of Potsdam, Potsdam, 2000, p. 25.

6. Shlapunov A.A. **Remark on the inhomogeneous Cauchy problem for elliptic systems.** The Proceedings of the conference "Mathematical models and methods of their investigations", Institute of Computational Modeling, Krasnoyarsk, 2001, V. 2, p. 285–290.
7. Shlapunov A.A. **Green Integrals on Manifolds with cracks.** Abstracts of the conference "Partial Differential Equations", University of Potsdam, Potsdam, 2001, p. 32.
8. Shlapunov A.A. **On the Cauchy problem for the Dolbeault complex.** Abstracts of the conference "Multi-Dimensional Complex Analysis", Krasnoyarsk State University, Krasnoyarsk, 2002, p. 54–55.
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10. Shlapunov A.A. **Regularization of the Ill-posed Cauchy problem for elliptic systems with the use of iterations of Green's integrals.** Abstracts of the conference "Ill-posed and Inverse problems", Institute of Mathematics, Siberian Branch of Academy of Science, Novosibirsk, 2002, p. 152.
11. Shlapunov A.A. **Duality by reproducing kernels.** Abstracts of the conference "Siberian School on Geometry and Analysis", Institute of Mathematics, Siberian Branch of Academy of Science, Novosibirsk, 2002, p. 81.
12. Shlapunov A.A. **Decomposition in Sobolev spaces with the use of normal and tangential parts of section.** Abstracts of the conference "Siberian School on Geometry and Analysis", Institute of Mathematics, Siberian Branch of Academy of Science, Novosibirsk, 2004.
13. Shlapunov A.A. **Mixed problems with a parameter and the Cauchy problem for the Cauchy-Riemann system.** Abstracts of the conference "Complex Analysis and its Applications", Kuban State University, Krasnodar, 2005.
14. Shestakov I.V., Shlapunov A.A. **On the solvability of the Cauchy problem for operators with injective symbols in Sobolev spaces.** Abstracts of the conference "Ill-posed and Inverse problems", Institute of Mathematics, Siberian Branch of Academy of Science, Novosibirsk, 2007.
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