

Аграчев Андрей Александрович

Список публикаций

- [1] A. A. Agrachev, P. Lee, “Bishop and Laplacian comparison theorems on 3D contact sub-Riemannian manifolds with symmetry”, *J. Geometric Analysis*, 2014 (to appear), arXiv: [1105.2206](#).
- [2] A. A. Agrachev, P. Lee, “Generalized Ricci Curvature Bounds for Three Dimensional Contact Subriemannian manifolds”, *Math. Ann.*, 2014 (to appear).
- [3] A. Agrachev, “Some open problems”, *Geometric Control Theory and Sub-Riemannian Geometry*, Springer INDAM Series, **5**, eds. G. Stefani, U. Boscain, J-P. Gauthier, A. Sarychev, M. Sigalotti, Springer, 2014, 1–13.
- [4] A. Agrachev, D. Barilari, L. Rizzi, “On conjugate times of LQ optimal control problems”, *J. Dyn. Control Syst.*, 2014 (to appear).
- [5] A. Agrachev, A. Gentile, A. Lerario, “Geodesics and horizontal-path spaces in Carnot Groups”, *Geometry & Topology*, 2014 (to appear).
- [6] A. A. Agrachev, *Quadratic cohomology*, 2013, 24 pp., arXiv: [1301.2059](#).
- [7] A. A. Agrachev, D. Barilari, L. Rizzi, *The curvature: a variational approach.*, 2013, 88 pp., arXiv: [1306.5318](#).
- [8] A. Agrachev, D. Barilari, U. Boscain, “On the Hausdorff volume in sub-Riemannian geometry”, *Calc. Var. Partial Differential Equations*, **43** (2012), 355–388 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [9] A. Agrachev, D. Barilari, “Sub-Riemannian structures in 3D Lie groups”, *J. Dyn. Control Syst.*, **18** (2012), 21–44 [Scopus](#).
- [10] A. A. Agrachev, Yu. Baryshnikov, D. Liberzon, “On robust Lie-algebraic stability conditions for switched linear systems”, *Systems Control Lett.*, **61** (2012), 347–353 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [11] A. Agrachev, L. Lerario, “Systems of quadratic inequalities”, *Proceedings of London Mathematical Society*, **105:3** (2012), 622–660 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [12] A. Agrachev, D. Barilari, U. Boscain, *Introduction to Riemannian and sub-Riemannian geometry*, <http://hdl.handle.net/1963/5877>, SISSA, Триест, Италия, 2012, 179 с.
- [13] A. A. Аграчев, Р. В. Гамкредидзе, “Геометрия принципа максимума”, *Тр. МИАН*, **273** (2011), 5–27 [MathNet.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, R. V. Gamkrelidze, “The geometry of maximum principle”, *Proc. Steklov Inst. Math.*, **273** (2011), 1–22 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [14] A. A. Аграчев, “О пространствах симметричных операторов с кратными основными состояниями”, *Функц. анализ и его прил.*, **45:4** (2011), 1–15 [MathNet.Ru](#) [crossref](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, “On the space of symmetric operators with multiple ground states”, *Funct. Anal. Appl.*, **45:4** (2011), 241–251 [Scopus](#).
- [15] A. A. Аграчев, “Корректные вариационные задачи с бесконечным горизонтом на компактном многообразии”, *Дифференциальные уравнения и топология. I*, Сборник статей. К 100-летию со дня рождения академика Льва Семеновича Понтрягина, Тр. МИАН, **268**, МАИК, М., 2010, 24–39 [MathNet.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ZentralMATH](#); A. A. Agrachev, “Well-posed infinite horizon variational problems on a compact manifold”, *Proc. Steklov Inst. Math.*, **268** (2010), 17–31 [Scopus](#).
- [16] A. A. Аграчев, “Инвариантные лагранжевы подмногообразия диссипативных систем”, *УМН*, **65:5**(395) (2010), 185–186 [MathNet.Ru](#) [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#); A. A. Agrachev, “Invariant Lagrangian submanifolds of dissipative systems”, *Russian Math. Surveys*, **65:5** (2010), 977–978 [Scopus](#).
- [17] A. Agrachev, P. W. Y. Lee, “Continuity of optimal control costs and its application to weak KAM theory”, *Calc. Var. Partial Differential Equations*, **39:1-2** (2010), 213–232 [Scopus](#).
- [18] A. A. Agrachev, M. Caponigro, “Dynamics control by a time-varying feedback”, *J. Dyn. Control Syst.*, **16:2** (2010), 149–162 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).

- [19] A. A. Agrachev, U. Boscain, G. Charlot, R. Ghezzi, M. Sigalotti, “Two-dimensional almost-Riemannian structures with tangency points”, *Ann. Inst. H. Poincaré Anal. Non Linéaire*, **27**:3 (2010), 793–807 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#) [ISI Web of Knowledge](#).
- [20] A. A. Agrachev, F. C. Chittaro, “Smooth optimal synthesis for infinite horizon variational problems”, *ESAIM Control Optim. Calc. Var.*, **15**:1 (2009), 173–188 [crossref](#) [MathSciNet](#) [ISI Web of Knowledge](#).
- [21] A. Agrachev, U. Boscain, J.-P. Gauthier, F. Rossi, “The intrinsic hypoelliptic Laplacian and its heat kernel on unimodular Lie groups”, *J. Func. Anal.*, **256**:8 (2009), 2621–2655 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [22] A. A. Аграчев, “У любой субримановой метрики есть точки гладкости”, *Докл. РАН*, **424**:3 (2009), 295–298 [MathNet.Ru](#) [MathSciNet](#); A. A. Agrachev, “Any sub-Riemannian metric has points of smoothness”, *Russian Math. Dokl.*, **79**:1 (2009), 1–3 [crossref](#) [MathSciNet](#) [ISI Web of Knowledge](#) [Scopus](#).
- [23] A. Agrachev, P. Lee, “Optimal transportation under nonholonomic constraints”, *Trans. Amer. Math. Soc.*, **361**:11 (2009), 6019–6047 [Scopus](#).
- [24] A. A. Agrachev, M. Caponigro, “Controllability on the group of diffeomorphisms”, *Ann. Inst. H. Poincaré Anal. Non Linéaire*, **26**:6 (2009), 2503–2509 [Scopus](#).
- [25] A. A. Agrachev, F. C. Chittaro, “Extremals flows and infinite horizon optimization”, *Mathematical control theory and finance*, Springer, Berlin, 2008, 1–13 [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [26] A. Agrachev, “Hamiltonian systems and optimal control”, *Hamiltonian dynamical systems and applications*, NATO Sci. Peace Secur. Ser. B Phys. Biophys., Springer, Dordrecht, 2008, 143–156 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [27] A. Agrachev, A. Sarychev, “Solid controllability in fluid dynamics”, *Instability in models connected with fluid flows. I*, Int. Math. Ser. (N. Y.), **6**, Springer, New York, 2008, 1–35 [MathSciNet](#) [ZentralMATH](#).
- [28] A. A. Agrachev, “Geometry of optimal control problems and Hamiltonian systems”, *Nonlinear and optimal control theory*, Lectures given at the C.I.M.E. Summer School (Cetraro, June 19–29, 2004), Lecture Notes in Math., **1932**, eds. P. Nistri, G. Stefani, Springer, Berlin, 2008, 1–59 [MathSciNet](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [29] A. Agrachev, U. Boscain, M. Sigalotti, “A Gauss-Bonnet-like formula on two-dimensional almost-Riemannian manifolds”, *Discrete Contin. Dyn. Syst.*, **20**:4 (2008), 801–822 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [30] A. Agrachev, *Any sub-Riemannian Metric has Points of Smoothness*, 2008, arXiv: [0808.4059](#) [ads*](#).
- [31] A. Agrachev, M. Caponigro, *Families of vector fields which generate the group of diffeomorphisms*, 2008, arXiv: [0804.4403](#) [ads*](#).
- [32] Agrachev A. A., Boscain U., Sigalotti M., “Two-dimensional almost-Riemannian manifolds”, *Subelliptic PDE’s and applications to geometry and finance*, Lect. Notes Semin. Interdiscip. Mat., **6**, Semin. Interdiscip. Mat. (S.I.M.), Potenza, 2007, 17–31 [MathSciNet](#) [ZentralMATH](#).
- [33] Agrachev A., Zelenko I., “On feedback classification of control-affine systems with one- and two-dimensional inputs”, *SIAM J. Control Optim.*, **46**:4 (2007), 1431–1460 (electronic) [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [34] Agrachev A., Kuksin S., Sarychev A., Shirikyan A., “On finite-dimensional projections of distributions for solutions of randomly forced 2D Navier-Stokes equations”, *Ann. Inst. H. Poincaré Probab. Statist.*, **43**:4 (2007), 399–415 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#) [ISI Web of Knowledge](#).
- [35] A. A. Аграчев, “Качение шаров и октавы”, *Анализ и особенности. Часть 1*, Сборник статей. К 70-летию со дня рождения академика Владимира Игоревича Арнольда, Тр. МИАН, **258**, Наука, М., 2007, 17–27 [MathNet.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, “Rolling Balls and Octonions”, *Proc. Steklov Inst. Math.*, **258** (2007), 13–22 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [36] A. A. Аграчев, “Кривизна и гиперболичность гамильтоновых систем”, *Динамические системы и оптимизация*, Сборник статей. К 70-летию со дня рождения академика Дмитрия Викторовича Аносова, Тр. МИАН, **256**, Наука, М., 2007, 31–53 [MathNet.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, “The Curvature and Hyperbolicity of Hamiltonian Systems”, *Proc. Steklov Inst. Math.*, **256** (2007), 26–46 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [37] A. Agrachev, “Optimal control of measures”, *Bull. Georgian Natl. Acad. Sci. (N.S.)*, **1(175)**:4 (2007), 5–11 [MathSciNet](#).

- [38] Agrachev A. A., Sarychev A. V., “Controllability of 2D Euler and Navier-Stokes equations by degenerate forcing”, *Comm. Math. Phys.*, **265**:3 (2006), 673–697 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#) [ISI Web of Knowledge](#).
- [39] Agrachev A., Chambrion Th., “An estimation of the controllability time for single-input systems on compact Lie groups”, *ESAIM Control Optim. Calc. Var.*, **12**:3 (2006), 409–441 (electronic) [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [40] A. A. Agrachev, P. V. Гамкредидзе, “Принцип максимума Понтрягина 50 лет спустя”, *Динамические системы: моделирование, оптимизация, управление*, Сборник научных трудов, Тр. ИММ УрО РАН, **12**, 2006, 6–14 [Math.Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, R. V. Gamkrelidze, “The Pontryagin Maximum Principle 50 years later”, *Proc. Inst. Math. Mech.*, **253**:, suppl. 1 (2006), S4–S12 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [41] Agrachev A., Marigo A., “Rigid Carnot algebras: a classification”, *J. Dyn. Control Syst.*, **11**:4 (2005), 449–494 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [42] Agrachëv A. A., Shcherbakova N. N., “Hyperbolicity of Hamiltonian systems of negative curvature”, *Dokl. Akad. Nauk*, **400**:3 (2005), 295–298 [Math.Net.Ru](#) [MathSciNet](#).
- [43] Agrachev A. A., Chtcherbakova N. N., Zelenko I., “On curvatures and focal points of dynamical Lagrangian distributions and their reductions by first integrals”, *J. Dyn. Control Syst.*, **11**:3 (2005), 297–327 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [44] Agrachev A. A., Sarychev A. V., “Navier-Stokes equations: controllability by means of low modes forcing”, *J. Math. Fluid Mech.*, **7**:1 (2005), 108–152 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [45] A. A. Agrachev, P. V. Гамкредидзе, “Vector fields on n -bundles over $2n$ -dimensional manifolds”, *Геометрические задачи теории управления*, Современная математика и ее приложения, **21**, 2004, 3–18 [MathSciNet](#); Agrachev A. A., Gamkrelidze R. V., “Vector fields on n -foliated $2n$ -dimensional manifolds”, *J. Math. Sci. (N. Y.)*, **135**:4 (2006), 3093–3108 [crossref](#) [MathSciNet](#).
- [46] Agrachëv A. A., Sarychev A. V., “Controllability for the Navier-Stokes equation with small control”, *Dokl. Akad. Nauk*, **394**:6 (2004), 727–730 [Math.Net.Ru](#) [MathSciNet](#) [ZentralMATH](#).
- [47] Agrachev A. A., Sachkov Yu. L., *Control theory from the geometric viewpoint*, Control Theory and Optimization, II, Encyclopaedia of Mathematical Sciences, **87**, Springer-Verlag, Berlin, 2004, xiv+412 pp. [MathSciNet](#) [ZentralMATH](#).
- [48] Agrachev A., Marigo A., “Nonholonomic tangent spaces: intrinsic construction and rigid dimensions”, *Electron. Res. Announc. Amer. Math. Soc.*, **9** (2003), 111–120 (electronic) [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [49] Agrachev A. A., Sigalotti M., “On the local structure of optimal trajectories in \mathbf{R}^3 ”, *SIAM J. Control Optim.*, **42**:2 (2003), 513–531 (electronic) [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [50] Agrachev A. A., “Introduction to optimal control theory”, *Mathematical control theory*, Part 1, 2 (Trieste, 2001), ICTP Lect. Notes, **VIII**, Abdus Salam Int. Cent. Theoret. Phys., Trieste, 2002, 453–513 (electronic) [MathSciNet](#).
- [51] Agrachev A. A., Stefani G., Zezza P., “Strong optimality for a bang-bang trajectory”, *SIAM J. Control Optim.*, **41**:4 (2002), 991–1014 (electronic) [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [52] Agrachev A., Zelenko I., “Geometry of Jacobi curves. II”, *J. Dynam. Control Systems*, **8**:2 (2002), 167–215 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [53] Agrachev A. A., Stefani G., Zezza P., “Symplectic methods for strong local optimality in the bang-bang case”, *Contemporary trends in nonlinear geometric control theory and its applications* (México City, 2000), World Sci. Publ., River Edge, NJ, 2002, 169–181 [MathSciNet](#) [ZentralMATH](#).
- [54] Agrachev A. A., Zelenko I., “Geometry of Jacobi curves. I”, *J. Dynam. Control Systems*, **8**:1 (2002), 93–140 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [55] Agrachëv A. A., “A “Gauss-Bonnet formula” for contact sub-Riemannian manifolds”, *Dokl. Akad. Nauk*, **381**:5 (2001), 583–585 [Math.Net.Ru](#) [MathSciNet](#) [ZentralMATH](#).
- [56] Agrachev A. A., Liberzon D., “Lie-algebraic stability criteria for switched systems”, *SIAM J. Control Optim.*, **40**:1 (2001), 253–269 (electronic) [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [57] Agrachev A., Gauthier J.-P., “On the subanalyticity of Carnot-Carathéodory distances”, *Ann. Inst. H. Poincaré Anal. Non Linéaire*, **18**:3 (2001), 359–382 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#) [ISI Web of Knowledge](#).
- [58] Agrachev A., Zelenko I., “Principal invariants of Jacobi curves”, *Nonlinear control in the year 2000* (Paris), Lecture Notes in Control and Inform. Sci., **258**, Vol. 1, Springer, London, 2001, 9–21 [MathSciNet](#).

- [59] Agrachev A., Gauthier J.-P., “Subanalyticity of distance and spheres in sub-Riemannian geometry”, *Non-linear control in the year 2000* (Paris), Lecture Notes in Control and Inform. Sci., **258**, Vol. 1, Springer, London, 2001, 1–8 [MathSciNet](#).
- [60] Agrachev A. A., Charlot G., Gauthier J. P. A., Zakalyukin V. M., “On sub-Riemannian caustics and wave fronts for contact distributions in the three-space”, *J. Dynam. Control Systems*, **6**:3 (2000), 365–395 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [61] Agrachev A. A., Charlot G., Gauthier J.-P. A., Zakalyukin V. M., “On stability of generic subriemannian caustic in the three-space”, *C. R. Acad. Sci. Paris Sér. I Math.*, **330**:6 (2000), 465–470 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#) [ISI Web of Knowledge](#).
- [62] Agrachev A. A., “Is it possible to recognize local controllability in a finite number of differentiations?”, *Open problems in mathematical systems and control theory*, Comm. Control Engrg. Ser., Springer, London, 1999, 15–18 [MathSciNet](#).
- [63] Agrachev A. A., Gauthier J.-P. A., “On the Dido problem and plane isoperimetric problems”, *Acta Appl. Math.*, **57**:3 (1999), 287–338 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [64] Agrachev A. A., Sarychev A. V., “Sub-Riemannian metrics: minimality of abnormal geodesics versus subanalyticity”, *ESAIM Control Optim. Calc. Var.*, **4** (1999), 377–403 (electronic) [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [65] Agrachev A., Stefani G., Zezza P., “A Hamiltonian approach to strong minima in optimal control”, *Differential geometry and control* (Boulder, CO, 1997), Proc. Sympos. Pure Math., **64**, Amer. Math. Soc., Providence, RI, 1999, 11–22 [MathSciNet](#) [ZentralMATH](#).
- [66] А. А. Аграчев, Ж. П. А. Готье, “Субримановы метрики и изопериметрические задачи в контактном случае”, *Труды международной конференции, посвященной 90-летию со дня рождения Л. С. Понтрягина (Москва, 31 августа – 6 сентября 1998 г.). Том 3. Геометрическая теория управления*, Итоги науки и техн. Сер. Современ. мат. и ее прил. Темат. обз., **64**, ВИНТИ, М., 1999, 5–48 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); А. А. Agrachev, J.-P. A. Gauthier, “Sub-Riemannian metrics and isoperimetric problems in the contact case”, *J. Math. Sci. (New York)*, **103**:6 (2001), 639–663 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [67] Agrachev A., “Compactness for sub-Riemannian length-minimizers and subanalyticity”, Control theory and its applications (Grado, 1998), *Rend. Sem. Mat. Univ. Politec. Torino*, **56**:4 (1998), 1–12 (2001) [MathSciNet](#) [ZentralMATH](#).
- [68] Agrachev A. A., “Feedback-invariant optimal control theory and differential geometry. II. Jacobi curves for singular extremals”, *J. Dynam. Control Systems*, **4**:4 (1998), 583–604 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [69] Agrachev A., Stefani G., Zezza P., “An invariant second variation in optimal control”, *Internat. J. Control*, **71**:5 (1998), 689–715 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [70] Agrachev A. A., Chakir El-A. El-H., Gauthier J. P., “Sub-Riemannian metrics on \mathbf{R}^{3n} ”, *Geometric control and non-holonomic mechanics* (Mexico City, 1996), CMS Conf. Proc., **25**, Amer. Math. Soc., Providence, RI, 1998, 29–78 [MathSciNet](#) [ZentralMATH](#).
- [71] Agrachev A., Gamkrelidze R., “Symplectic methods for optimization and control”, *Geometry of feedback and optimal control*, Monogr. Textbooks Pure Appl. Math., **207**, Dekker, New York, 1998, 19–77 [MathSciNet](#) [ZentralMATH](#).
- [72] Agrachev A. A., Sarychev A. V., “On abnormal extremals for Lagrange variational problems”, *J. Math. Systems Estim. Control*, **8**:1 (1998), 87–118 [MathSciNet](#).
- [73] А. А. Аграчев, П. Дзедза, Ж. Стефани, “Сильные минимумы в оптимальном управлении”, *Оптимальное управление, дифференциальные уравнения и гладкая оптимизация*, Сборник статей. К 70-летию со дня рождения члена-корреспондента РАН Реваза Валериановича Гамкrelidze, Тр. МИАН, **220**, Наука, М., 1998, 8–26 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); А. А. Agrachev, P. Zezza, G. Stefani, “Strong minima in optimal control”, *Proc. Steklov Inst. Math.*, **220** (1998), 4–22 [MathSciNet](#) [ZentralMATH](#).
- [74] А. А. Аграчев, Е. Ф. Мищенко, “Вместо введения. О работах Р. В. Гамкrelidze”, *Оптимальное управление, дифференциальные уравнения и гладкая оптимизация*, Сборник статей. К 70-летию со дня рождения члена-корреспондента РАН Реваза Валериановича Гамкrelidze, Тр. МИАН, **220**, Наука, М., 1998, 5–7 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); А. А. Agrachev, E. F. Mishchenko, “Introduction. On works of R. V. Gamkrelidze”, *Proc. Steklov Inst. Math.*, **220** (1998), 1–3 [MathSciNet](#) [ZentralMATH](#).
- [75] Agrachev A., Bonnard B., Chyba M., Kupka I., “Sub-Riemannian sphere in Martinet flat case”, *ESAIM Control Optim. Calc. Var.*, **2** (1997), 377–448 (electronic) [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [76] Agrachev A. A., Pallaschke D., Scholtes S., “On Morse theory for piecewise smooth functions”, *J. Dynam. Control Systems*, **3**:4 (1997), 449–469 [MathSciNet](#) [ZentralMATH](#).

- [77] Agrachev A. A., Gamkrelidze R. V., “Feedback-invariant optimal control theory and differential geometry. I. Regular extremals”, *J. Dynam. Control Systems*, **3**:3 (1997), 343–389 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [78] Agrachev A. A., Sarychev A. V., “Abnormal sub-Riemannian geodesics: Morse index and rigidity”, *Ann. Inst. H. Poincaré Anal. Non Linéaire*, **13**:6 (1996), 635–690 [MathSciNet](#) [ZentralMATH](#).
- [79] Agrachev A. A., “Exponential mappings for contact sub-Riemannian structures”, *J. Dynam. Control Systems*, **2**:3 (1996), 321–358 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [80] Agrachev Andrei, El Alaoui El-Houcine Chakir, Gauthier Jean-Paul, Kupka Ivan, “Generic singularities of sub-Riemannian metrics on \mathbf{R}^3 ”, *C. R. Acad. Sci. Paris Sér. I Math.*, **322**:4 (1996), 377–384 [MathSciNet](#) [ZentralMATH](#).
- [81] Agrachev A. A., Sarychev A. V., “On abnormal extremals for Lagrange variational problems”, *J. Math. Systems Estim. Control*, **5**:1 (1995) (electronic), 31 pp. [MathSciNet](#).
- [82] Agrachev A. A., “Methods of control theory in nonholonomic geometry”, *Proceedings of the International Congress of Mathematicians*. V. 1, 2 (Zürich, 1994), Birkhäuser, Basel, 1995, 1473–1483 [MathSciNet](#) [ZentralMATH](#).
- [83] Agrachëv A. A., “On regularity properties of extremal controls”, *J. Dynam. Control Systems*, **1**:3 (1995), 319–324 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [84] Agrachëv A. A., Sarychev A. V., “Strong minimality of abnormal geodesics for 2-distributions”, *J. Dynam. Control Systems*, **1**:2 (1995), 139–176 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [85] A. A. Агрacheв, P. B. Гамкредидзе, “Об орбитах групп диффеоморфизмов и потоков”, *Особенности гладких отображений с дополнительными структурами*, Сборник статей, Тр. МИАН, **209**, Наука, Физматлит, М., 1995, 3–13 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, R. V. Gamkrelidze, “On the orbits of groups of diffeomorphisms and flows”, *Proc. Steklov Inst. Math.*, **209** (1995), 1–10 [MathSciNet](#) [ZentralMATH](#).
- [86] Agrachëv A. A., Gamkrelidze R. V., “The shuffle product and symmetric groups”, *Differential equations, dynamical systems, and control science*, Lecture Notes in Pure and Appl. Math., **152**, Dekker, New York, 1994, 365–382 [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [87] Agrachëv A. A., Gamkrelidze R. V., “Local controllability and semigroups of diffeomorphisms”, *Acta Appl. Math.*, **32**:1 (1993), 1–57 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [88] Agrachëv A. A., Gamkrelidze R. V., “Local controllability for families of diffeomorphisms”, *Systems Control Lett.*, **20**:1 (1993), 67–76 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [89] Agrachëv A. A., Vakhrameev S. A., “Morse theory and optimal control problems”, *Nonlinear synthesis* (Sopron, 1989), Progr. Systems Control Theory, **9**, Birkhäuser Boston, Boston, MA, 1991, 1–11 [MathSciNet](#).
- [90] Agrachëv A. A., “Newton diagrams and tangent cones to attainable sets”, *Analysis of controlled dynamical systems* (Lyon, 1990), Progr. Systems Control Theory, **8**, Birkhäuser Boston, Boston, MA, 1991, 11–20 [MathSciNet](#) [ZentralMATH](#).
- [91] A. A. Агрacheв, P. B. Гамкредидзе, “Ряды Вольтерра и группы подстановок”, *Итоги науки и техн. Сер. Современ. пробл. мат. Нов. достиж.*, **39**, ВИНТИ, М., 1991, 3–40 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, R. V. Gamkrelidze, “Volterra series and permutation groups”, *J. Math. Sci.*, **71**:3 (1994), 2409–2433 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [92] E. P. Аваков, A. A. Агрacheв, A. B. Арутюнов, “Множество уровня гладкого отображения в окрестности особой точки и нули квадратичного отображения”, *Матем. сб.*, **182**:8 (1991), 1091–1104 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ads](#); E. R. Avakov, A. A. Agrachev, A. V. Arutyunov, “The level set of a smooth mapping in a neighborhood of a singular point, and zeros of a quadratic mapping”, *Math. USSR-Sb.*, **73**:2 (1992), 455–466 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [93] A. A. Агрacheв, P. B. Гамкредидзе, “Симплектическая геометрия и необходимые условия оптимальности”, *Матем. сб.*, **182**:1 (1991), 36–54 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ads](#); A. A. Agrachev, R. V. Gamkrelidze, “Symplectic geometry and conditions necessary for optimality”, *Math. USSR-Sb.*, **72**:1 (1992), 29–45 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [94] Agrachëv A. A., Gamkrelidze R. V., “The “time substitution” variation in optimal control”, *Dokl. Akad. Nauk SSSR*, **311**:2 (1990), 265–270 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#); *Soviet Math. Dokl.*, **41**:2 (1990), 227–231 (1991) [MathSciNet](#) [ZentralMATH](#).
- [95] Agrachëv A. A., Gamkrelidze R. V., “Symplectic geometry for optimal control”, *Nonlinear controllability and optimal control*, Monogr. Textbooks Pure Appl. Math., **133**, Dekker, New York, 1990, 263–277 [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).

- [96] Agrachëv A. A., Gamkrelidze R. V., Sarychev A. V., “Local invariants of smooth control systems”, *Acta Appl. Math.*, **14**:3 (1989), 191–237 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [97] А. А. Аграчев, Р. В. Гамкредидзе, “Квадратичные отображения и гладкие вектор-функции: эйлеровы характеристики множеств уровня”, *Итоги науки и техн. Сер. Соврем. пробл. мат. Нов. достиж.*, **35**, ВИНТИ, М., 1989, 179–239 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); А. А. Agrachev, R. V. Gamkrelidze, “Quadratic mappings and smooth vector functions: Euler characteristics of level sets”, *J. Soviet Math.*, **55**:4 (1991), 1892–1928 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [98] А. А. Аграчев, Р. В. Гамкредидзе, “Квазиэкстремальность для управляемых систем”, *Итоги науки и техн. Сер. Соврем. пробл. мат. Нов. достиж.*, **35**, ВИНТИ, М., 1989, 109–134 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); А. А. Agrachev, R. V. Gamkrelidze, “Quasi-extremality for controllable systems”, *J. Soviet Math.*, **55**:4 (1991), 1849–1864 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [99] Р. В. Гамкредидзе, А. А. Аграчев, С. А. Вахрамеев, “Обыкновенные дифференциальные уравнения на векторных расслоениях и хронологические исчисления”, *Итоги науки и техн. Сер. Соврем. пробл. мат. Нов. достиж.*, **35**, ВИНТИ, М., 1989, 3–107 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); R. V. Gamkrelidze, A. A. Agrachev, S. A. Vakhrameev, “Ordinary differential equations on vector bundles, and chronological calculus”, *J. Soviet Math.*, **55**:4 (1991), 1777–1848 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [100] А. А. Аграчев, “Еще одно условие условного экстремума”, *УМН*, **44**:5(269) (1989), 153–154 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#); А. А. Agrachev, “One more condition for a conditional extremum”, *Russian Math. Surveys*, **44**:5 (1989), 189–190 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#) [ISI Web of Knowledge](#).
- [101] Agrachëv A. A., “Homology of the intersections of real quadrics”, *Dokl. Akad. Nauk SSSR*, **299**:5 (1988), 1033–1036 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#); *Soviet Math. Dokl.*, **37**:2 (1988), 493–496 [MathSciNet](#) [ZentralMATH](#).
- [102] Agrachëv A. A., Gamkrelidze R. V., “Calculation of the Euler characteristic of the intersections of real quadrics”, *Dokl. Akad. Nauk SSSR*, **299**:1 (1988), 11–14 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#); *Soviet Math. Dokl.*, **37**:2 (1988), 297–300 [MathSciNet](#) [ZentralMATH](#).
- [103] А. А. Аграчев, “Топология квадратичных отображений и гессианы гладких отображений”, *Итоги науки и техн. Сер. Алгебра. Топол. Геом.*, **26**, ВИНТИ, М., 1988, 85–124 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); А. А. Agrachev, “The topology of quadratic mappings and Hessians of smooth mappings”, *J. Soviet Math.*, **49**:3 (1990), 990–1013 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [104] А. А. Аграчев, “Квадратичные отображения в геометрической теории управления”, *Итоги науки и техн. Сер. Пробл. геом.*, **20**, ВИНТИ, М., 1988, 111–205 [Math-Net.Ru](#) [MathSciNet](#); А. А. Agrachev, “Quadratic mappings in geometric control theory”, *J. Soviet Math.*, **51**:6 (1990), 2667–2734 [crossref](#) [MathSciNet](#).
- [105] Agrachëv A. A., Sarychev A. V., “Filtrations of a Lie algebra of vector fields and the nilpotent approximation of controllable systems”, *Dokl. Akad. Nauk SSSR*, **295**:4 (1987), 777–781 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#); *Soviet Math. Dokl.*, **36**:1 (1988), 104–108 [MathSciNet](#).
- [106] Agrachëv A. A., Gamkrelidze R. V., “Morse and Maslov indices for the extremals of controllable systems”, *Dokl. Akad. Nauk SSSR*, **287**:3 (1986), 521–524 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [107] А. А. Аграчев, С. А. Вахрамеев, “Линейные по управлению системы постоянного ранга и условия релейности экстремальных управлений”, *УМН*, **41**:6(252) (1986), 163–164 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#); А. А. Agrachev, S. A. Vakhrameev, “Linearly controlled systems of constant rank and relay conditions for extreme control”, *Russian Math. Surveys*, **41**:6 (1986), 199–200 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#) [ISI Web of Knowledge](#).
- [108] А. А. Аграчев, А. В. Сарычев, “О редукции гладкой линейной по управлению системы”, *Матем. сб.*, **130**(172):1(5) (1986), 18–34 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); А. А. Agrachev, A. V. Sarychev, “On reduction of a smooth system linear in the control”, *Math. USSR-Sb.*, **58**:1 (1987), 15–30 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [109] Agrachëv A. A., Gamkrelidze R. V., “The index of extremality and quasiextremal controls”, *Dokl. Akad. Nauk SSSR*, **284**:4 (1985), 777–781 [Math-Net.Ru](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [110] Agrachëv A. A., Vakhrameev S. A., “Nonlinear control systems of constant rank and bang-bang conditions for extremal controls”, *Dokl. Akad. Nauk SSSR*, **279**:2 (1984), 265–269 [Math-Net.Ru](#) [MathSciNet](#) [ISI Web of Knowledge](#).
- [111] Agrachëv A. A., Sarychev A. V., “The control of rotation for an asymmetric rigid body”, *Problems Control Inform. Theory/Problemy Upravlen. Teor. Inform.*, **12**:5 (1983), 335–347 [MathSciNet](#) [ZentralMATH](#).
- [112] А. А. Аграчев, С. А. Вахрамеев, Р. В. Гамкредидзе, “Дифференциально-геометрические и теоретико-групповые методы в теории оптимального управления”, *Итоги науки и техн. Сер. Пробл. геом.*, **14**,

- ВИНИТИ, М., 1983, 3–56 [Math.Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, S. A. Vakhrameev, R. V. Gamkrelidze, “Differential geometric and group theoretic methods in optimal control theory”, *J. Soviet Math.*, **28**:2 (1985), 145–182 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [113] A. A. Аграчев, С. А. Вахрамеев, “Хронологические ряды и теорема Коши–Ковалевской”, Итоги науки и техн. Сер. Пробл. геом., **12**, ВИНТИ, М., 1981, 165–189 [Math.Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, S. A. Vakhrameev, “Chronological series and the Cauchy–Kovalevskaya theorem”, *J. Soviet Math.*, **21**:2 (1983), 231–250 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [114] A. A. Аграчев, Р. В. Гамкредидзе, “Хронологические алгебры и нестационарные векторные поля”, Итоги науки и техн. Сер. Пробл. геом., **11**, ВИНТИ, М., 1980, 135–176 [Math.Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, R. V. Gamkrelidze, “Chronological algebras and nonstationary vector fields”, *J. Soviet Math.*, **17**:1 (1981), 1650–1675 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [115] A. A. Аграчев, Р. В. Гамкредидзе, “Экспоненциальное представление потоков и хронологическое исчисление”, *Матем. сб.*, **107(149)**:4(12) (1978), 467–532 [Math.Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, R. V. Gamkrelidze, “The exponential representation of flows and the chronological calculus”, *Math. USSR-Sb.*, **35**:6 (1979), 727–785 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [116] A. A. Аграчев, “Необходимое условие оптимальности второго порядка в общем нелинейном случае”, *Матем. сб.*, **102(144)**:4 (1977), 551–568 [Math.Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, “A second-order necessary condition for optimality in the general nonlinear case”, *Math. USSR-Sb.*, **31**:4 (1977), 493–506 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [117] A. A. Аграчев, Р. В. Гамкредидзе, “Принцип оптимальности второго порядка для задачи быстродействия”, *Матем. сб.*, **100(142)**:4(8) (1976), 610–643 [Math.Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, R. V. Gamkrelidze, “A second order optimality principle for a time-optimal problem”, *Math. USSR-Sb.*, **29**:4 (1976), 547–576 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [118] A. A. Аграчев, “О суперпозициях непрерывных функций”, *Матем. заметки*, **16**:4 (1974), 517–522 [Math.Net.Ru](#) [MathSciNet](#) [ZentralMATH](#); A. A. Agrachev, “On superpositions of continuous functions”, *Math. Notes*, **16**:4 (1974), 897–900 [crossref](#) [MathSciNet](#) [ZentralMATH](#).
- [119] A. A. Аграчев, Д. В. Аносов, С. М. Асеев, В. М. Бухштабер, А. М. Вершик, Я. Б. Воробец, В. А. Кайманович, Б. С. Кашин, И. Г. Лысёнок, А. Ю. Ольшанский, В. Н. Ремесленников, Я. Г. Синай, С. К. Смирнов, А. М. Степин, И. А. Тайманов, Е. В. Щепин, “Ростислав Иванович Григорчук (к шестидесятилетию со дня рождения)”, *УМН*, **68**:5(413) (2013), 187–190 [Math.Net.Ru](#) [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#); A. A. Agrachev, D. V. Anosov, S. M. Aseev, V. M. Buchstaber, A. M. Vershik, Ya. B. Vorobets, V. A. Kaimanovich, B. S. Kashin, I. G. Lysenok, A. Yu. Ol’shanskii, V. N. Remeslennikov, Ya. G. Sinai, S. K. Smirnov, A. M. Stepin, I. A. Taimanov, E. V. Shchepin, “Rostislav Ivanovich Grigorichuk (on his sixtieth birthday)”, *Russian Math. Surveys*, **68**:5 (2013), 967–971 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [120] A. A. Аграчев, Д. В. Аносов, И. А. Богаевский, А. С. Бортаковский, А. Б. Будаков, В. А. Васильев, В. В. Горюнов, С. М. Гусейн-Заде, А. А. Давыдов, В. К. Зародов, В. Д. Седых, Д. В. Трещёв, В. Н. Чубариков, “Владимир Михайлович Закалюкин (некролог)”, *УМН*, **67**:2(404) (2012), 187–190 [Math.Net.Ru](#) [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ads*](#); A. A. Agrachev, D. V. Anosov, I. A. Bogaevskii, A. S. Bortakovskii, A. B. Budakov, V. A. Vassiliev, V. V. Goryunov, S. M. Gusein-Zade, A. A. Davydov, V. R. Zarodov, V. D. Sedykh, D. V. Treshchev, V. N. Chubarikov, “Vladimir Mikhailovich Zakalyukin (obituary)”, *Russian Math. Surveys*, **67**:2 (2012), 375–379 [crossref](#) [MathSciNet](#) [ZentralMATH](#) [ISI Web of Knowledge](#).
- [121] Ю. С. Осипов, В. В. Козлов, Л. Д. Фаддеев, Д. В. Аносов, В. С. Владимиров, Р. В. Гамкредидзе, А. А. Гончар, Н. Н. Красовский, А. В. Кражжский, А. Б. Куржанский, С. П. Новиков, С. М. Асеев, А. Б. Жижченко, Д. В. Трещёв, А. А. Аграчев, Е. А. Волков, Н. Л. Григоренко, А. А. Давыдов, М. И. Зеликин, А. Ю. Колесов, А. А. Мальцев, М. С. Никольский, Н. Х. Розов, А. Г. Сергеев, К. О. Бесов, С. П. Коновалов, “Памяти Евгения Фроловича Мищенко”, *Дифференциальные уравнения и топология. II*, Сборник статей. К 100-летию со дня рождения академика Льва Семеновича Понтрягина, Тр. МИАН, **271**, МАИК, М., 2010, 7–8 [Math.Net.Ru](#) [MathSciNet](#); Yu. S. Osipov, V. V. Kozlov, L. D. Faddeev, D. V. Anosov, V. S. Vladimirov, R. V. Gamkrelidze, A. A. Gonchar, N. N. Krasovskii, A. V. Kryazhinskii, A. B. Kurzhanskii, S. P. Novikov, S. M. Aseev, A. B. Zhizhchenko, D. V. Treschev, A. A. Agrachev,

E. A. Volkov, N. L. Grigorenko, A. A. Davydov, M. I. Zelikin, A. Yu. Kolesov, A. A. Mal'tsev, M. S. Nikol'skii, N. Kh. Rozov, A. G. Sergeev, K. O. Besov, S. P. Konovalov, "In memory of Evgenii Frolovich Mishchenko", *Proc. Steklov Inst. Math.*, **271** (2010), 1–2 [crossref](#) [MathSciNet](#) [ISI Web of Knowledge](#).