

Publications of Ivan Arzhantsev

Refereed Articles

1. *Polyhedral divisors and SL_2 -actions on affine T -varieties*. With A. Liendo. Michigan Mathematical Journal, to appear. See also Prepublication de l'Institut Fourier, hal-00595725; arXiv:1105.4494v1, 26 pp.
2. *Hassett-Tschinkel correspondence: Modality and projective hypersurfaces*. With E.V. Sharoyko. Journal of Algebra, to appear. See also arXiv:0912.1474v2, 12 pp.
3. *Torsors over Luna strata*. In “Torsors, étale homotopy and applications to rational points”. Proceedings of the ICMS workshop in Edinburgh, 10-14 January 2011, London Mathematical Society Lecture Note Series, V. Batyrev and A. Skorobogatov, Editors, to appear. See also arXiv:1104.5581v1, 11 pp.
4. *Flag varieties as equivariant compactifications of \mathbb{G}_a^n* . Proceedings of the American Mathematical Society 139 (2011), no. 3, 783–786.
5. *Finite-dimensional subalgebras in polynomial Lie algebras of rank one*. With E.A. Makedonskii and A.P. Petravchuk. Ukrainian Mathematical Journal 63 (2011), no. 5, 708–712.
6. *Homogeneous toric varieties*. With S.A. Gaifullin. Journal of Lie Theory 20 (2010), no. 2, 283–293.
7. *Cox rings, semigroups and automorphisms of affine algebraic varieties*. With S.A. Gaifullin. Sbornik: Math. 201 (2010), no. 1, 1–21.
8. *Saturated subfields and invariants of finite groups*. With A.P. Petravchuk. Mathematical Notes 86 (2009), no. 5, 625–628.
9. *Projective embeddings of homogeneous spaces with small boundary*. Izvestiya Math. 73 (2009), no. 3, 437–453.
10. *On factoriality of Cox rings*. Mathematical Notes 85 (2009), no. 5, 623–629.
11. *Geometric Invariant Theory via Cox rings*. With J. Hausen. Journal of Pure and Applied Algebra 213 (2009), no. 1, 154–172.
12. *Invariant ideals and Matsushima's criterion*. Communications in Algebra 36 (2008), no. 12, 4368–4374.
13. *On the multiplication map of a multigraded algebra*. With J. Hausen. Mathematical Research Letters 14 (2007), no. 1, 129–136.
14. *Affine embeddings of homogeneous spaces*. In “Surveys in Geometry and Number Theory”, N. Young (Editor), London Mathematical Society Lecture Notes Series 338, Cambridge University Press, 2007, 1–51.
15. *Closed polynomials and saturated subalgebras of polynomials algebras*. With A.P. Petravchuk. Ukrainian Mathematical Journal 59 (2007), no. 12, 1783–1790.
16. *On embeddings of homogeneous spaces with small boundary*. With J. Hausen. Journal of Algebra 304 (2006), no. 2, 950–988.

17. *On affinely closed homogeneous spaces.* With N.A. Tennova. Journal of Mathematical Sciences (Springer) 131 (2005), no. 6, 6133–6139.
18. *On the canonical embedding of certain homogeneous spaces.* With D.A. Timashev. In “Lie Groups and Invariant Theory: A.L. Onishchik’s jubilee volume” (E.B. Vinberg, Editor), AMS Translations, Series 2, vol. 213 (2005), 63–83.
19. *Classification of affine homogeneous spaces of complexity one.* With O.V. Chuvashova. Sbornik: Math. 195 (2004), no. 6, 765–782.
20. *Algebras with finitely generated invariant subalgebras.* Annales de l’Institut Fourier 53 (2003), no. 2, 379–398.
21. *On stability of diagonal actions.* Mathematical Notes 71 (2002), no. 5–6, 735–738.
22. *A classification of reductive linear groups with spherical orbits.* Journal of Lie Theory 12 (2002), no. 1, 289–299.
23. *Invariant subalgebras and affine embeddings of homogeneous spaces.* Research and Exposition in Mathematics 25 (2002), I. Bajo, E. Sanmartín (Eds.), Recent Advances in Lie Theory, Heldermann Verlag Berlin, 121–126.
24. *Uniqueness of addition in semisimple Lie algebras.* Russian Mathematical Surveys 56 (2001), no. 3, 569–571.
25. *On modality and complexity of affine embeddings.* Sbornik: Math. 192 (2001), no. 8, 1133–1138.
26. *Affine embeddings with a finite number of orbits.* With D.A. Timashev. Transformation Groups 6 (2001), no. 2, 101–110.
27. *On stability of subgroup actions on certain quasihomogeneous G -varieties.* Journal of Lie Theory 10 (2000), no. 2, 345–357.
28. *Contractions of affine spherical varieties.* Sbornik: Math. 190 (1999), no. 7, 937–954.
29. *On normality of spherical orbit closures.* Functional Analysis and its Applications 31 (1997), no. 4, 278–280.
30. *On SL_2 -actions of complexity one.* Izvestiya Math. 61 (1997), no. 4, 685–698.
31. *On actions of reductive groups with one-parameter family of spherical orbits.* Sbornik: Math. 188 (1997), no. 5, 639–655.

Conference Proceedings and other Publications

1. *Student Olympiads at Faculty of Mechanics and Mathematics in Moscow State University.* With V.I. Bogachev, A.A. Zaslavski, V.Yu. Protasov, A.M. Raigorodski, and A.B. Skopenkov. Math. Prosvetshenie 14 (2010), 225–234 (Russian).
2. *Dirichlet’s principle and its applications in Geometry.* In: Mathematics in Problems. A.A. Zaslavski et al. (Eds), MCCME, Moscow (2009), 372–378 (Russian).
3. *Ernest Borisovich Vinberg.* With S.M. Gusein-Zade, Yu.S. Ilyashenko, A.L. Onishchik, A.B. Sosinsky, D.A. Timashev, and M.A. Tsfasman. Moscow Mathematical Journal 8 (2008), no. 4, 617–620.

4. *Some results on uniqueness of addition in Lie algebras*. Proceedings of the First Colloquium on Lie Theory and Applications, I. Bajo, E. Sanmartín (Eds.), Universidad de Vigo (2002), 19–24.

5. *Invariant differential operators and representations with spherical orbits*. Proceedings of Institute of Mathematics of NAS of Ukraine 43 (2002), no. 2, 419–424.

6. *Uniqueness of addition in Lie algebras, I*. With A.V. Titov. Moscow University Mathematical Bulletin 56 (2001), no. 2, 38–40.

7. *Uniqueness of addition in Lie algebra $sl_2(K)$* . Moscow University Mathematical Bulletin 55 (2000), no. 4, 29–31.

8. *Uniqueness of addition in Lie algebra $sl(2)$* . In “Lie Algebras, Rings and Related Topics” (Fong Yuen, A.A. Mikhalev, E. Zelmanov, Eds), Springer-Verlag Hong Kong Ltd. (2000), 1–4.

9. *Algebraic curves and Hilbert’s 14th problem*. Moscow University Mathematical Bulletin 49 (2000), no. 4, 15–19.

Books and Lecture Notes

1. *Cox rings*. With U. Derenthal, J. Hausen, and A. Laface. To to be published by Cambridge University Press in the Cambridge Studies in Advanced Mathematics. The first chapter is available at arXiv:1003.4229, 56 pp.

2. *A Collection of Problems in Algebra*. With V.A. Artamonov et al. Edited by A.I. Kostrikin. New Edition: Moscow, MCCME, 2009, 408 pages (Russian).

3. *Graded algebras and 14th Hilbert problem*. Lecture Course. Moscow, MCCME, 2009, 63 pages (Russian).

4. *Gröbner bases and systems of algebraic equations*. Lecture Course. 1th Edition: Moscow, Dialog-MGU, 1999, 36 pages; 2nd Edition: Moscow, Max-Press, 2002, 88 pages; 3rd Edition: Moscow, MCCME, 2003, 67 pages (Russian).

Preprints

1. *Acyclic curves and group actions on affine toric surfaces*. With M. Zaidenberg. Prepublication de l’Institut Fourier, hal-00632263; arXiv:1110.3028v1, 29 pp.

2. *Flexible varieties and automorphism groups*. With H. Flenner, S. Kaliman, F. Kutzschebauch, and M. Zaidenberg. Max-Planck-Institut für Mathematik, Preprint Series 2010 (106); arXiv:1011.5375v1, 41 pp.

3. *Flag varieties, toric varieties, and suspensions: three instances of infinite transitivity*. With K. Kuyumzhiyan and M. Zaidenberg. Prepublication de l’Institut Fourier, hal-00463347; arXiv:1003.3164v1, 25 pp.

4. *Factorial algebraic group actions and categorical quotients*. With D. Celik and J. Hausen. arXiv:0908.0443v2, 11 pp.