

List of Publications

Books:

1. *Infinite dimensional Lie algebras*, Birkhäuser, Boston, 1983 (second edition, Cambridge University Press, 1985) (third edition, Cambridge University Press, 1990). Russian translation, MIR, Moscow, 1993. Chinese translation, 2006.
2. *Infinite dimensional groups with applications*, ed., Publ. MSRI 4, 1985.
3. (with A. Raina) *Bombay lectures on highest weight representations*, World Scientific, 1987.
4. (with A. Raina and N. Rozhkovskaya) *Bombay lectures on highest weight representations*, Second edition, World Scientific, 2013.
5. *Infinite-dimensional Lie algebras and groups*, ed., *Adv. Ser. in Math. Phys.*, vol. 7, 1989.
6. (with V. Guillemin, J.-L. Brylinsky and R. Brylinsky) *Lie theory and geometry*, ed., Birkhäuser, Boston, 1994.
7. *Vertex algebras for beginners*, University lecture series, AMS, vol. 10, 1996 (second edition, AMS, 1998). Russian translation, Moscow 2005.
8. (with C. Martinez and E. Zelmanov) Graded simple Jordan superalgebras of growth one, *Memoirs of AMS* 711, 2001, pp 1-140.
9. (with P. Cheung) *Quantum calculus*, Springer-Verlag, 2002. Russian translation, Moscow 2005. Persian translation, 2015.
10. (with R. Kellerhals, F. Knop, P. Littelmann, D. Panyushev) *Vinberg volume*, ed., *J. Algebra* **313**, Springer-Verlag, 2007.
11. (with R. Panyushev, E. Vinberg) *Morozov volume*, ed., *Transf. Groups* **15**, Springer-Verlag, 2010.
12. (with S. Gindikin, E. Vinberg) *Dynkin volume*, ed., *Transf. Groups* **19**, Springer-Verlag, 2014.
13. (with V. Popov) *Lie groups, geometry and representation theory*, ed., *Progress in Math* **326**, Springer-Verlag, 2018.

Journal Articles

1. On a characteristic property of locally Euclidean spaces, *Uspehi Mat. Nauk.* **191** (1964), No. 4, 225–227.
2. (with E. Vinberg) Quasi-homogeneous cones, *Math. Zametiki* **1** (1967), 347–354 (English translation: *Math. Notes* **1** (1967)).
3. Simple graded Lie algebras of finite growth, *Funkt. Analys y ego prilozh.* **1** (1967), No. 4, 82–83 (English translation: *Funct. Anal. Appl.* **1** (1967), 328–329).
4. Graded Lie algebras and symmetric spaces, *Funkt. Analys y ego prilozh.* **2** (1968), No. 2, 93–94 (English translation: *Funct. Anal. Appl.* **2** (1968), 183–184).
5. Simple irreducible graded Lie algebras of finite growth, *Iz vestija AN USSR (ser. Math.)* **32** (1968), 1923–1967 (English translation: *Math. of USSR-Izvestija* **2** (1968), 1271–1311).
6. Some properties of the contragredient Lie algebras, *Trudy MIEM*, No. 5, 1969, 48–60.

7. An algebraic definition of compact Lie groups, *Trudy MIEM*, No. 5, 1969, 36–47.
8. Automorphisms of finite order of semi-simple Lie algebras, *Funkt. analys y ego prilozh.* **3** (1969), No. 3, 94–96 (English translation: *Funct. Anal. Appl.* **3** (1969), 252–254).
9. On classifications of simple Lie algebras over fields of non-zero characteristics, *Izvestija AN USSR (ser. Math.)* **34** (1970), 381–404 (English translation: *Math of USSR-Izvestija* **4** (1970), 391–413).
10. (with B. Weisfeiler) Exponentials in Lie algebras of characteristic p , *Izvestija AN USSR (ser. Math.)* **35** (1971), 762–788 (English translation: *USSR-Izvestija* **5** (1971), 777–803).
11. (with B. Weisfeiler) On irreducible representations of Lie p -algebras, *Funkt. analys y ego prilozh.* **5** (1971), No. 2, 28–36 (English translation: *Funct. Anal. Appl.* **5** (1971), 111–117).
12. Global Cartan pseudogroups and simple Lie algebras of characteristic p , *Uspehi Math. Nauk.* **26** (1971), No. 3, 199–200.
13. On algebras related to quantum field theory, *All-Union Algebraic Colloquium*, Kishinev, 1971, 140–141.
14. On irreducible representations of Lie algebras of classical type, *Uspehi Math. Nauk.* **27** (1972), No. 5, 237–238.
15. Filtered Lie algebras of Cartan type, *Uspehi Math. Nauk.* **29** (1974), No. 3, 203–204.
16. Infinite-dimensional Lie algebras and the Dedekind η -function, *Funkt. analys y ego prilozh.* **8** (1974), No. 1, 77–78 (English translation: *Funct. Anal. Appl.* **8** (1974), 68–70).
17. A description of filtered Lie algebras whose associated graded Lie algebras are of Cartan type, *Izvestija AN USSR (ser. Math.)* **38** (1974), 800–834 (English translation: *Math. of USSR-Izvestija* **8** (1974), 801–835; letter to the editor, 40 (1976), No. 6).
18. On the question of description of the orbit space of linear algebraic groups, *Uspehi Math. Nauk.* **30** (1975), No. 6, 173–174.
19. Classification of simple Lie superalgebras, *Funkt. Anal. y ego Prilozh.* **9** (1975), No. 3, 91–92; letter to the editor, **10** (1976), No. 2, **93** (English translation: *Funct. Anal. Appl.* **9** (1975), 263–265).
20. (with B. Weisfeiler) Coadjoint action of a semi-simple algebraic group and the center of the enveloping algebra in characteristic p , *Proc. Kon. Nederl. Akad., Series A* **38** (1976), 136–151.
21. (with V. Popov and E. Vinberg) Sur les groupes linear algebrique avec algebres d’invariants libre, *C.R. Acad. Sci. Paris*, **283** (1976), 875–878.
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26. Classification of simple algebraic supergroups, *Uspehi Math. Nauk.* **32**, No. 3 (1977), 214–215.
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30. Contravariant form for infinite dimensional Lie algebras and superalgebras, *Lecture Notes in Physics* **94** (1979), 441–445).
31. (with D. Kazhdan) Structure of representations with highest weight of infinite dimensional Lie algebras, *Advances in Math.* **34** (1979), 97–108.
32. Highest weight representations of infinite dimensional Lie algebras, *Proceedings of ICM, Helsinki* **1978** (1980), 299–304.
33. Infinite root systems, representations of graphs and invariant theory, *Inventiones Math.* **56** (1980), 57–92.
34. An elucidation of “Infinite dimensional algebras... and the very strange formula” $E_8^{(1)}$ and the cube root of the modular invariant j , *Advances in Math.* **35** (1980), 264–273.
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42. Simple Lie groups and the Legendre symbol, *Lecture Notes in Math.* **848** (1981), 110–124.
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44. (with O. Gabber) On defining relations of certain infinite-dimensional Lie algebras, *Bull. Amer. Math. Soc.* **5** (1981), 185–189.
45. (with K. Watanabe) Finite linear groups whose ring of invariants is a complete intersection, *Bull. Amer. Math. Soc.* **6** (1982), 221–223.
46. (with V. Deodhar and O. Gabber) Structure of some categories of representations of infinite dimensional Lie algebras, *Advances in Math.* **45** (1982), 92–116.
47. Infinite root systems, representations of graphs and invariant theory II, *Journal of Algebra* **78** (1982), 141–162.
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