

PUBLICATIONS OF A.S. RAPINCHUK

A) BOOK

1. *Algebraic groups and number theory* (monograph, 656p.) (with V.P. Platonov). Moscow, "Nauka" Publishers, 1991. (English translation was published by "Academic Press" in 1993). MR 93j:11023 & 95b:11039 The second edition of the book will be published in two volumes by Cambridge University Press.

I am currently working with G. Prasad on a book project devoted to the congruence subgroup problem.

B) RESEARCH PAPERS

1. *On some estimates of the number of double cosets in the adelic groups of algebraic groups* (with A.A. Bondarenko), Doklady Acad. Sci. BSSR **22**(1978), No. 5, 397-400 MR 80b:10030
2. *Class numbers of algebraic groups* (with A.A. Bondarenko and V.P. Platonov), Soviet Math. Dokl. **20**(1979), No. 2, 264-267 MR 80d:10035
3. *On the group of rational points of three-dimensional groups* (with V.P. Platonov), Soviet math. Dokl. **20**(1979), No. 4, 693-697 MR 81a:12014
4. *Class numbers and class groups of algebraic groups* (with A.A. Bondarenko and V.P. Platonov), Math. USSR-Izvestija **14**(1980), No. 3, 547-569 MR 82k:20074
5. *Class numbers and class groups of algebraic groups II* (with A.A. Bondarenko and V.P. Platonov), Math. USSR-Izvestija **16**(1981), No. 2, 357-372 MR 82i:20039
6. *On Platonov's conjecture on genus in arithmetic groups*, Doklady Acad. Sci. BSSR **25**(1981), No. 2, 101-104 (Amer. Math. Soc. Transl. (2), **128**(1986), 117-122) MR 82i:20053
7. *The number of classes in the genus of a quadratic form and algebraic groups*, Math. USSR-Izvestija **19**(1982), No. 1, 79-93 MR 83j:10023
8. *Multiplicative structure of skew fields over number fields and the Hasse principle* (with V.P. Platonov), Soviet Math. Dokl. **26**(1982), No. 2, 388-392 MR 84h:12021
9. *Algebraic groups (survey)* (with V.P. Platonov), Itogi nauki i tehniki VINITI. Algebra. Topology. Geometry. **21**(1983), 80-134 MR 85h:20046
10. *Multiplicative structure of skew fields over number fields and the Hasse norm principle* (with V.P. Platonov), Trudy Mat. Inst. Steklov **165**(1984), 171-187 MR 85j:11162
11. *On the metaplectic kernel for anisotropic groups*, Doklady Acad. Sci. BSSR **29**(1985), No. 12, 1068-1071 (Amer. Math. Soc. Transl. (2) **154**(1992), 81-85) MR 87g:20076
12. *Metaplectic kernel for the group  $SL(1, D)$* , Doklady Acad. Sci. BSSR **30**(1986), No. 3, 197-200 (Amer. Math. Soc. Transl. (2) **154**(1992), 87-92) MR 87k:12007
13. *The Hasse principle for symmetric spaces*, Doklady Acad. Sci. BSSR **31**(1987), No. 9, 773-776 MR 89a:11039

14. *Multiplicative arithmetic of division algebras over number fields and the metaplectic problem*, Math. USSR-Izvestija **31**(1988), No. 2, 349-379. MR 89h:11074
15. *On finite presentability of reduced norms in simple algebras*, Doklady Acad. Sci. BSSR **32**(1988), No. 1, 5-8 (Amer. Math. Soc. Transl. (2) **154**(1992), 93-98) MR 89f:12004
16. *The congruence subgroup problem for algebraic groups and strong approximation in affine varieties*, Doklady Acad. Sci. BSSR **32**(1988), No. 7, 581-584 MR 89i:11053
17. *The structure of the groups of rational points of classical algebraic groups over number fields* (with V.P. Platonov), Siberian Math. J. **30**(1989), No. 6, 980-993 MR 91b:11044
18. *On the congruence subgroup problem for algebraic groups*, Soviet Math. Dokl. **39**(1989), No. 3, 618-621 MR 90i:11041
19. *The congruence subgroup problem for arithmetic groups with bounded generation*, Soviet Math. Dokl. **42**(1991), No. 2, 664-668 MR 92b:20053
20. *Representations of groups with bounded generation*, Soviet Math. Dokl. **42**(1991), No. 3, 816-820 MR 92h:22022
21. *Combinatorial theory of arithmetic groups*, Preprint of the Institute of Mathematics of the Academy of Sciences of BSSR no. 20(420), 1990
22. *The congruence subgroup problem for algebraic groups*, Topics in Algebra. Banach Center Publ. **26**, part 2, PWN, Warsaw, 1990, 399-410 MR 93f:20060
23. *Abstract characterizations of arithmetic groups with the congruence subgroup property* (with V.P. Platonov), Soviet Math. Dokl. **44**(1992), No. 1, 342-347 MR 93e:11056
24. *Abstract properties of arithmetic groups and the congruence subgroup problem* (with V.P. Platonov), Russian Acad. Sci. Izv. Math. **40**(1993), 455-476 MR 93i:20052
25. *New abstract conditions for the congruence subgroup property*, Preprint 92-085 of the Sonderforschungsbereich 343 (Universität Bielefeld), 1992
26. *Congruence subgroup problem for algebraic groups: old and new*, Asterisque **209**(1992), 73-84 MR 94b:20047
27. *Geometric representation theory for fundamental groups of compact orientable surfaces* (with V.V. Benyash-Krivetz), Russian Acad. Sci. Dokl. Math. **47**(1993), No. 2, 211-215 MR 94i:20070
28. *Rings of characters of representations of finitely generated groups into arbitrary algebraic groups* (with O.A. Barkovich), Doklady Acad. Sci. of Belarus **37**(1993), No. 2, 101-105 MR 94f:20016
29. *The normal subgroup structure of  $SL_D$  over number fields and the classification of finite simple groups* (with A. Potapchik), C.R. Acad. Sci. **320**(1995), 657-662 MR 96d:20047
30. *Representation varieties of the fundamental groups of compact orientable surfaces* (with V.V. Benyash-Krivetz and V.I. Chernousov), Israel J. Math. **93**(1996), 29-71 MR 98a:57002
31. *Computation of the metaplectic kernel* (with G. Prasad), Publ. Math. IHES **84**(1996), 91-187 MR 98i:22026 (featured review)
32. *Normal subgroups of  $SL(1,D)$  and the classification of finite simple groups* (with A. Potapchik), Proc. Indian Acad. Sci. **106**(1996), No. 4, 329-368 MR 98i:20049

33. *n*-dimensional linear representations of  $\text{Aut } F_n$ , and more, J. Algebra **197**(1997), No. 1, 146-152 MR 98k:20055
34. *SS-rigid groups and A. Weil's criterion for local rigidity I*, Manuscr. math. **97**(1998), 529-543 MR 99m:20019
35. *On an approximation property for nondiscrete inequivalent representations of finitely generated groups*, C. R. Acad. Sci. **326**(1998), 19-24 MR 99i:20057
36. *On the finite dimensional unitary representations of Kazhdan groups*, Proc. AMS. **127**(1999), No. 5, 1557-1562. MR 99h:22004
37. *The congruence subgroup problem*, Algebra, *K*-theory, Groups, and Education, On the Occasion of Hyman Bass's 65th Birthday, Contemp. math. **243**(1999), 175-188 MR 2001f:20108
38. *Normal subgroups of the multiplicative group of a division algebra, and valuations*, Preprint 99-075 of the Sonderforschungsbereich 343 (Universität Bielefeld), 1999.
39. *Low-dimensional linear representations of  $\text{Aut } F_n$*  (with A. Potapchik), Trans. AMS **352**(2000), 1437-1451 MR 2000j:20015
40. *On abstract homomorphisms of Chevalley groups with nonreductive image I* (with L. Lifschitz), J. Algebra **242**(2001), 374-399 MR 2002g:20081
41. *Valuation-like maps and the congruence subgroup property* (with Y. Segev), Invent. math. **144**(2001), 571-607 MR 2002e:16027
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43. *Erratum: "Irreducible tori in semisimple groups,"* (with G. Prasad), Intern. Math. Res. Notices, 2002, No. 17, 919-921 MR 2003f:20083b
44. *Bounded generation of some *S*-arithmetic orthogonal groups* (with I. Erovenko), C.R. Acad. Sci. **333**(2001), 395-398 MR 2002g:20083
45. *Finite quotients of the multiplicative group of a finite dimensional division algebra are solvable* (with Y. Segev and G. Seitz), Journal of the AMS **15**(2002), 929-978 MR 2003k:16031 (featured review)
46. *Subnormal subgroups of the groups of rational points of reductive algebraic groups* (with G. Prasad), Proc. AMS **130**(2002), 2219-2227 MR MR 2003c:20055
47. *Existence of irreducible  $\mathbb{R}$ -regular elements in Zariski-dense subgroups* (with G. Prasad), Math. Res. Lett. **10**(2003), 21-32 MR 2004b:20069
48. *Strong approximation in tori, generalized arithmetic progressions and the congruence subgroup problem* (with G. Prasad), Preprint (2002)
49. *Algebraic and abstract simple groups: old and new*, Preprint (2002)
50. *The Margulis-Platonov conjecture and 2-generation of finite simple groups*, Math. Z. **252**(2006), 295-313 MR2207799 (2007b:20098)
51. *Zariski-dense subgroups and transcendental number theory*, (with G. Prasad), Math. Res. Lett. **12**(2005), 239-249 MR 2150880 (2006d:11086)

52. *Bounded generation of  $S$ -arithmetic subgroups of isotropic orthogonal groups over number fields*, (with I. Erovenko), *J. Number Theory* **119**(2006), 28-48 MR2228949 (2007h:20046)
53. *Nonabelian free subgroups in homomorphic images of valued quaternion division algebras*, (with L. Rowen and Y. Segev), *Proc. AMS* **134**(2006), 3107-3114 MR 2231891 (2007d:16035)
54. *On the existence of isotropic forms of semi-simple algebraic groups over number fields with prescribed local behavior*, (with G. Prasad), *Adv. math.* **207**(2006), 646-660 MR 2271021 (2007j:20072)
55. *Number-theoretic techniques in the theory of Lie groups and differential geometry*, (with G. Prasad), *Proc. Intern. Congr. Chinese Math.*, 2007, vol. I, 216-232
56. *Weakly commensurable arithmetic groups, lengths of closed geodesics and isospectral locally symmetric spaces*, (with G. Prasad), available as preprint 07-063 of SFB 701 (Bielefeld, Germany), or at arXiv:0705.2891. To appear in *Publ. math. IHES*.
57. *A local-global principle for embeddings of fields with involution into simple algebras with involution*, (with G. Prasad), available as preprint 08-054 of SFB 701 (Bielefeld, Germany), or at arXiv:0806.0596. To appear in *Comment. math. Helv.*
58. *Developments on the congruence subgroup problem after the work of Bass, Milnor and Serre*, (with G. Prasad), available as preprint 08-089 of SFB 701 (Bielefeld, Germany), or at arXiv:0809.1622. To appear in Milnor's collected works.
59. *On the fields generated by the lengths of closed geodesics in hyperbolic 2-manifolds*, (with G. Prasad), Preprint (2008)
60. *On centrality of the congruence kernel*, (with G. Prasad), in preparation