

List of papers of S.G. Dani

1. Discrete groups with dense orbits (jointly with J.S. Dani), *J. Ind. Math. Soc.* 37 (1973), 183-195.
2. Kolmogorov automorphisms on homogeneous spaces, *Amer. J. Math.* 98 (1976), 119-163.
3. Dynamical systems on homogeneous spaces, *Bull. Amer. Math. Soc.* 82 (1976), 950-952.
4. Bernoullian translations and minimal horospheres on homogeneous spaces, *J. Ind. Math. Soc.* 39 (1976), 245-284.
5. Spectrum of an affine transformation, *Duke Math. J.* 44 (1977), 129-155.
6. Some mixing multiparameter dynamical systems, *J. Ind. Math. Soc.* 41 (1977), 1-15.
7. Sequential entropy of generalised horocycles, *J. Ind. Math. Soc.* 41 (1977), 17-25.
8. Invariant measures of horospherical flows on noncompact homogeneous spaces, *Invent. Math.* 47 (1978), 101-138.
9. Nilmanifolds with Anosov automorphisms, *J. Lond. Math. Soc.* 18 (1978), 553-559.
10. On invariant measures, minimal sets and a lemma of Margulis, *Invent. Math.* 51 (1979), 239-260.
11. Ergodic invariant measures of actions of $SL(2, \mathbb{Z})$, (jointly with M. Keane), *Ann. l'Inst. Henri Poincaré* 15 (1979), 79-84.
12. On affine automorphisms with a hyperbolic fixed point, *Topology* 19 (1980), 351-365.
13. A simple proof of Borel's density theorem, *Math. Zeits.* 174 (1980), 81-94.
14. Orbits of euclidean frames under discrete linear groups (jointly with S. Raghavan), *Israel J. Math.* 36 (1980), 300-320.
15. Strictly non-ergodic actions on homogeneous spaces, *Duke Math. J.* 47 (1980), 633-639.

16. Dynamics of horospherical flows, *Bull. Amer. Math. Soc.* 3 (1980), 1037-1039.
17. Invariant measures and minimal sets of horospherical flows, *Invent. Math.* 64 (1981), 357-385.
18. Dense orbits of affine automorphisms and compactness of groups, *J. Lond. Math. Soc.* 25 (1982), 241-245.
19. On ergodic quasi-invariant measures of group automorphisms, *Israel J. Math.* 43 (1982), 62-74.
20. On uniformly distributed orbits of certain horocycle flows, *Ergod. Th. Dynam. Syst.* 2 (1982), 139-158.
21. On ergodic averages for affine lattice actions on tori (jointly with S. Muralidharan), *Monatsh. Math.* 96 (1983), 17-28.
22. Harmonic ergodicity of actions of discrete linear groups, *Comp. Math.* 51 (1984), 105-114.
23. Uniform distribution of horocycle orbits for Fuchsian groups (jointly with John Smillie), *Duke Math. J.* 51 (1984), 185-194.
24. On orbits of unipotent flows on homogeneous spaces, *Ergod. Th. Dynam. Syst.* 4 (1984), 25-34.
25. Continuous equivariant images of lattice-actions on boundaries, *Ann. Math.* 119 (1984), 111-119.
26. On invariant finitely additive measures for automorphism groups of tori, *Trans. Amer. Math. Soc.* 287 (1985), 189-199.
27. A note on invariant finitely additive measures, *Proc. Amer. Math. Soc.* 93 (1985), 67-72.
28. Divergent trajectories of flows on homogeneous spaces and Diophantine approximation, *J. Reine Angew. Math.* 359 (1985), 55-89.
29. Dynamics of flows on homogeneous spaces: a survey, in: *Colloquio de Sistemas Dinamicos* (Ed: J. A. Seade and G. Sienna), (Proceedings of a conf., Guanajuato, 1983), *Aportaciones Mat.* 1, Soc. Mat. Mexicana, 1985, pp. 1-30.
30. On orbits of unipotent flows on homogeneous spaces, II, *Ergod. Th. Dynam. Syst.* 6 (1986), 167-182.

31. Orbits of horospherical flows, *Duke Math. J.* 53 (1986), 177-188.
32. Bounded orbits of flows on homogeneous spaces, *Comment. Math. Helv.* 61 (1986), 636-660.
33. Parabolic subgroups and factor compactness of measures on semisimple Lie groups (jointly with M. McCrudden), in: *Probability measures on Groups VIII* (Ed: H. Heyer), (Proceedings of a conf.: Oberwolfach, 1985), *Lect. Notes in Math.* 1210, Springer Verlag, 1986, pp. 34-40.
34. Flows with periodic factors on homogeneous spaces, *Monatsh. Math.* 103 (1987), 15-25.
35. Approaching new points by application of linear transformations, *Current Science* 56 (1987), 507-513.
36. Factors, roots and embeddability of measures on Lie groups (jointly with M. McCrudden), *Math. Zeits.* 199 (1988), 369-385.
37. On the factor sets of measures and local tightness of convolution semigroups over Lie groups (jointly with M. McCrudden), *J. Theor. Probability* 1 (1988), 357-370.
38. On orbits of endomorphisms of tori and the Schmidt game, *Ergod. Th. and Dynam. Syst.* 8 (1988), 523-529.
39. Dense orbits of horospherical flows, in: *Dynamical Systems and Ergodic Theory*, Banach Center Publications 23, PWN Scientific Publ., Warsaw, 1989.
40. Embedding infinitely divisible probability measures on the affine group (jointly with M. McCrudden), in: *Probability Measures on Groups IX* (Ed: H. Heyer), (Proceedings of a conf.: Oberwolfach, 1988), *Lect. Notes in Math.* 1379, Springer Verlag, 1989, pp. 36-49.
41. Values of quadratic forms at primitive integral points (jointly with G.A. Margulis), *Comptes Rendus Acad. Sci. Paris*, 308, Serie I, (1989), 199-203.
42. Values of quadratic forms at primitive integral points (jointly with G.A. Margulis), *Invent. Math.* 98 (1989), 405-424.
43. On badly approximable numbers, Schmidt games and bounded orbits of flows, in: *Number Theory and Dynamical Systems* (Ed: M.M. Dodson and J.A.G. Vickers), (Proceedings of a conf.: York, 1987), Cambridge Univ. Press 1990, pp. 69-86.

44. Orbit closures of generic unipotent flows on homogeneous spaces of $SL(3, \mathbb{R})$ (jointly with G.A. Margulis), *Math. Ann.* 286 (1990), 101-128.
45. Values of quadratic forms at integral points: an elementary approach (jointly with G.A. Margulis), *L'Enseignement Math.* 36 (1990), 143-174.
46. Use of symmetry in certain problems of Diophantine approximation, *Bull. of the Bombay Math. Coll.* 7 (1990), 41-55.
47. A remark on recurrent dynamical systems, *J. Ind. Math. Soc.* 56 (1991), 1-6.
48. Asymptotic behaviour of trajectories of unipotent flows on homogeneous spaces (jointly with G.A. Margulis), *Proc. (Math. Sci.) Ind. Acad. Sci.* 101 (1991), 1-17.
49. A characterisation of the Cauchy type of distributions on boundaries of semisimple groups, *J. Theor. Probability* 4 (1991), 625-629.
50. Contraction subgroups and semistable measures on p -adic Lie groups (jointly with Riddhi Shah), *Math. Proc. Cambr. Phil. Soc.* 110 (1991), 299-306.
51. On automorphism groups of connected Lie groups, *Manuscr. Math.* 74 (1992), 445-452.
52. Invariance groups and convergence of types of measures on Lie groups, *Math. Proc. Cambr. Phil. Soc.* 112 (1992), 91-108.
53. On the limit distributions of orbits of unipotent flows and integral solutions of quadratic inequalities (jointly with G.A. Margulis), *Comptes Rendus Acad. Sci. Paris*, 314, Serie I, (1992), 699-704.
54. Embeddability of infinitely divisible distributions on linear Lie groups (jointly with M. McCrudden), *Invent. Math.* 110 (1992), 237-261.
55. On infinitely divisible distributions on certain finitely generated groups (jointly with Riddhi Shah), *Math. Zeits.* 212 (1993), 631-636.
56. Limit distributions of orbits of unipotent flows and values of quadratic forms (jointly with G.A. Margulis), *Advances in Soviet Mathematics* 16 (1993), 91-137.
57. A proof of Margulis' theorem on values of quadratic forms, independent of the axiom of choice, *L'enseignement Math.* 40 (1994), 49-58.
58. Small values of quadratic forms at integral points, *Research Bull. of the Punjab Univ.* 44 (1994) 271-294.

59. Harmonious orbits of linear transformations (jointly with K. Gowri Navada), *Monatsh. Math.* 121 (1996), 181-188.
60. Studying values of quadratic forms through dynamics, in: *Current Trends in Mathematics and Physics; A Tribute to Harish-Chandra* (Ed: S.D. Adhikari), Narosa Publishing House, New Delhi, 1995, pp. 45-52.
61. Flows on homogeneous spaces and diophantine approximation, *Proceedings of the International Congress of Mathematicians, Zurich 1994*, Birkhauser, Basel, 1995, pp. 780-789.
62. Infinitely divisible probabilities on discrete linear groups (jointly with M. McCrudden), *J. Theor. Probability* 9 (1996), 215-229.
63. Flows on homogeneous spaces; a review, in: *Ergodic Theory of \mathbb{Z}^d -actions* (Ed: Mark Pollicott and Klaus Schmidt), Cambridge University Press, 1996, pp. 63-112.
64. Collapsible probability measures and concentration functions on Lie groups, (jointly with Riddhi Shah), *Math. Proc. Cambridge Phil. Soc.* 122 (1997), 105-113.
65. Scattering of products of random matrices, in: *Analysis, Geometry and Probability* (ed: R. Bhatia), pp. 33-53, Hindustan Book Agency, New Delhi, 1996.
66. Actions on spaces of measures on Lie groups and convergence of types, in: *Dynamical Systems and Related Topics: Collection of articles dedicated to Academician D.V. Anosov* (Ed: V. Ryzhikov and A. M. Stepin), *Proc. Steklov Inst. of Math.* 256 (1997), 250-258.
67. Topological equivalence and rigidity of flows on certain solvmanifolds (jointly with D. Benardete), *Ergod. Th. and Dynam. Syst.* 19 (1999), 559-569.
68. Asymptotics of measures under group automorphisms (jointly with C.R.E. Raja), *Proceed. of the Internat. Colloq. on Lie groups and Ergodic Theory*, Tata Institute of Fundamental Research, Mumbai, pp. 59-73, Narosa Publishing House, New Delhi, 1998.
69. A note on Tortrat groups (jointly with C.R.E. Raja), *J. Theor. Probability* 11 (1998), 571-576.
70. On dynamics of toral automorphisms and the Schmidt game, *Bull. of the Bombay Math. Colloq.* 13 (1997), 12-21.

71. Dynamical systems on homogeneous spaces, in: Dynamical Systems, Ergodic Theory and Applications (Ed. Ya.G. Sinai), Encyclopaedia of Mathematical Sciences, Vol. 100, Part III, pp. 264-359, Springer Verlag, 2000.
72. On values of linear and quadratic forms at integral points, in: Number Theory (Ed. R.P. Bambah, V.C. Dumir, R.J. Hans-Gill), Hindustan Book Agency and Indian National Science Academy, 2000.
73. A criterion for exponentiality in certain Lie groups (jointly with M. McCrudden), *J. Algebra* 238 (2001), 82-98.
74. On automorphism groups acting ergodically of connected locally compact groups, *Sankhya* 62 (2000), 360-366.
75. Contractible measures and Levy's measures on Lie groups (jointly with Riddhi Shah), in: Probability on Algebraic Structures (Ed. G. Budzban P. Feinsilver and A. Mukherjea), Contemporary Mathematics 261 (2000), 3-13.
76. On ergodic \mathbb{Z}^d -actions on Lie groups by automorphisms, *Israel J. Math.* 126 (2001), 327-344.
77. On conjugacy classes of closed subgroups and stabilizers of Borel actions of Lie groups, *Ergod. Th. Dynam. Syst.* 22 (2002), 1697-1714.
78. On the Oppenheim conjecture on values of quadratic forms, *Essays on Geometry and Related topics* (Memoires Dédiés à André Haefliger), Monographie de L'Enseignement Math., No. 38, Geneva, 2001, pp. 257-270.
79. On orbits of $SL(2, \mathbb{Z})_+$ and values of binary quadratic forms on positive integral pairs (jointly with A. Nogueira), *J. Number Th.* 95 (2002), 313-328.
80. Some two-step and three-step nilpotent Lie groups with small automorphism groups, *Trans. Amer. Math. Soc.* 355 (2003), 1491-1503.
81. On stabilizers of continuous actions of Lie groups, In: Algebraic Groups and Arithmetic, (Dedicated to Prof. M.S. Raghunathan), Tata Inst. of Fund. Res. Stud. Math. 17, Narosa Publishing House, New Delhi (International distribution by American Mathematical Society), 2004.
82. Affinely infinitely divisible distributions and the embedding problem (jointly with Klaus Schmidt), *Math. Res. Lett.* 9 (2002), 607-620.

83. On the embedding problem for infinitely divisible distributions on certain Lie groups with toral center (jointly with M. McCrudden and S. Walker), *Math. Zeits.* 245 (2003), 781-790; Erratum, *Math. Zeits.* 252 (2006), 457-458.
84. Pythagorean triples in the Sulvasutras, *Current Science* 85 (2003), 219-224.
85. Anosov automorphisms on compact nilmanifolds associated with graphs (jointly with Meera G. Mainkar), *Trans. Amer. Math. Soc.* 357 (2005), 2235-2251.
86. Asymptotic behaviour of measures under automorphisms, in *Probability Measures on Groups: Recent Directions and Trends* (Proceedings of CIMPA-TIFR School, Mumbai 2002), Narosa Publishing House, New Delhi, (international distribution by the American Mathematical Society), 2006; pp. 149-178.
87. Asymptotic behaviour under iterated random linear transformations (jointly with Riddhi Shah), *Math. Res. Lett.* 11 (2004), 467-480.
88. Dynamical properties of linear and projective transformations and their applications, *Indian J. Pure and Applied Math.*, 35, 1365-1394 (2004).
89. Addendum to our paper "Affinely infinitely divisible distributions and the embedding problem" (jointly with Klaus Schmidt), *Math. Res. Lett.* 12 (2005), 817-820.
90. Locally compact groups with dense orbits under \mathbb{Z}^d -actions by automorphisms, (jointly with Nimish A. Shah and George A. Willis), *Ergod. Th. Dynam. Syst.* 26 (2006), 1443-1465.
91. Convolution roots and embeddings of probability measures on Lie groups (jointly with M. McCrudden), *Adv. Math.* 209 (2007), 198-211.
92. On invariant measures of the Euclidean algorithm, (jointly with A. Nogueira), *Ergod. Th. Dynam. Syst.* 27 (2007), 417-425.
93. Diophantine approximation and dynamics of unipotent flows on homogeneous spaces (expository article on the work of Margulis), *Pure and Applied Math. Quarterly* 4 (2008), 147-166.
94. Simultaneous diophantine approximation with quadratic and linear forms, *J. Mod. Dyn.* 2 (2008) (issue dedicated to G.A. Margulis), 129-138.
95. Fine structure of real numbers, *Mathematics Newsletter of the Ramanujan Mathematical Society* 17 (2007), 70-76.

96. Factors, roots and embeddings of measures on Lie groups, an expanded text version of a talk given at the conference “Perspectives in Mathematical Sciences” held at ISI Bangalore (4-8 February 2008); accepted for publication in the Proceedings of the conference.

Unpublished Preprints which are referred to in literature:

1. On isotropy subgroups of functions and ergodic decomposition, 1981.
2. Bounded geodesics on manifolds of negative curvature, 1986.
3. Concentration functions of probability measures on Lie groups (jointly with Riddhi Shah), 1996.

Other Preprints

1. Ergodic theory in India, 1998; (this was prepared for a compilation related to a conference at Institute of Mathematical Sciences, in December 1997).
2. Cumulative effect of random linear transformations, 2005.
3. On $SL(n, \mathbb{Z})_+$ -orbits on \mathbb{R}^n and positive integral solutions of linear inequalities (jointly with A. Nogueira), July 2008.

Book Reviews

1. Ergodic Theory and Semisimple Groups, by R.J. Zimmer, Birkhauser verlag, 1984, in: J. Indian Inst. Sci. 66 (1986), 58-61.
2. Ergodic Theory and Semisimple Groups, by R.J. Zimmer, Birkhauser verlag, 1984, in: Math. Reviews, 86j, 22014.
3. Ergodic Theory of Random Transformations, by Yuri Kifer, Birkhauser verlag, 1986, in: J. Indian Inst. Sci. 66 (1986), 580-582.
4. Seminar on Geometric Measure Theory, by R. Hardt and L. Simon, Birkhauser verlag, 1986, in: J. Indian Inst. Sci. 67 (1987), 226-227.
5. Dynamical Systems on Homogeneous Spaces, by A.N. Starkov, American Mathematical Society, 2000 (English translation from Russian original), in Math. Reviews 2001m, 37013.
6. Ergodic Theory and Topological Dynamics of Group Actions on Homogeneous Spaces, by M.B. Bekka and M. Mayer, Cambridge University Press, 2000, in: Math. Reviews 2002c, 37002.
7. Geometry: Our Cultural Heritage, by Audun Holme, Springer Verlag, 2002, in Current Science 84, No. 7, 10 April 2003, 944