

Particle Systems and their Large Deviations

<i>Nonlinear diffusion limit for a system with nearest neighbor interaction</i> (with M. Z. Guo and G. C. Papanicolaou), Comm. Math. Phys. 118 (1988) 31-59	3
<i>Hydrodynamics and large deviation for simple exclusion processes</i> (with C. Kipnis and S. Olla), Comm. Pure Appl. Math. 42 (1989) 115-137	32
<i>Large deviations from a hydrodynamic scaling limit</i> (with M. D. Donsker), Comm. Pure Appl. Math. 42 (1989) 243-270	55
<i>On the derivation of conservation laws for stochastic dynamics</i> , Analysis, et cetera, P. H. Rabinowitz and E. Zehnder, eds., Academic Press, 1990, 677-694	83
<i>Scaling limits for interacting diffusions</i> , Comm. Math. Phys. 135 (1991) 313-353	101
<i>Scaling limit for interacting Ornstein-Uhlenbeck processes</i> (with S. Olla), Comm. Math. Phys. 135 (1991) 355-378	142
<i>Entropy methods in hydrodynamical scaling</i> , Mathematical Physics, X, K. Schmüdgen, ed., Springer, 1992, 103-112	166
<i>Hydrodynamical limit for a Hamiltonian system with weak noise</i> (with S. Olla and H. T. Yau), Comm. Math. Phys. 155 (1993) 523-560	176
<i>Nonlinear diffusion limit for a system with nearest neighbor interactions - II</i> , Pitman Res. Notes Math. Ser., 283, K. D. Elworthy and N. Ikeda, eds., Longman Sci. Tech., 1993, 75-128	214
<i>Regularity of self-diffusion coefficient</i> , The Dynkin Festschrift, Progr. Probab. no. 34, M. I. Freidlin, ed., Birkhäuser, 1994, 387-397	268
<i>Entropy methods in hydrodynamic scaling</i> , Proceedings of the International Congress of Mathematicians, Vol. 1 (Zürich, 1994), S. D. Chatterjee, ed., Birkhäuser, 1995, 196-208	279
<i>Spectral gap for zero-range dynamics</i> (with C. Landim and S. Sethura- man), Ann. Probab. 24 (1996) 1871-1902	292
<i>The complex story of simple exclusion</i> , Itô's Stochastic Calculus and Prob- ability Theory, N. Ikeda, S. Watanabe, M. Fukushima and H. Kunita, eds., Springer, 1996, 385-400	324

<i>Nongradient models in hydrodynamic scaling</i> , Analysis, Geometry and Probability, Text Read. Math. 10, R. Bhatia, ed., Hindustan Book Agency, 1996, 397-416	340
<i>Relative entropy and mixing properties of interacting particle systems</i> (with A. F. Ramirez), J. Math. Kyoto Univ. 36 (1996) 869-875	360
<i>Diffusive limit of lattice gas with mixing conditions</i> (with H. T. Yau), Asian J. Math. 1 (1997) 623-678	367
<i>Large deviations for the symmetric simple exclusion process in dimensions $d \geq 3$</i> (with J. Quastel and F. Rezakhanlou), Probab. Theory Related Fields 113 (1999) 1-84	423
<i>Large deviations for interacting particle systems</i> , Perplexing Problems in Probability, Progr. Probab. 44, M. Bramson and R. Durrett, eds., Birkhäuser, 1999, 373-383	507
<i>Infinite particle systems and their scaling limits</i> , Mathematical Physics, A. Fokas, A. Grigoryan, T. Kibble and B. Zegarlinski, eds., Imp. Coll. Press, London, 2000, 306-315	518
<i>Lectures on hydrodynamic scaling</i> , Fields Inst. Commun. 27, S. Feng, A. T. Lawniczak and S. R. S. Varadhan, eds., American Mathematical Society, 2000, 3-40	528
<i>Scaling limits of large interacting systems</i> , The Mathematical Sciences After the Year 2000, K. Bitar, A. Chamseddine and W. Sabra, eds., World Sci. Publ., 2000, 144-158	566
<i>Asymptotic behavior of a tagged particle in simple exclusion processes</i> (with C. Landim and S. Olla), Bol. Soc. Brasil. Mat. (N.S.) 31 (2000) 241-275	581
<i>Large deviation and hydrodynamic scaling</i> , Adv. Stud. Pure Math., 31, Math. Soc. Japan, 2001, 265-286	616
<i>Symmetric simple exclusion process: regularity of the self-diffusion coefficient</i> (with C. Landim and S. Olla), Comm. Math. Phys. 224 (2001) 307-321	638
<i>Finite-dimensional approximation of the self-diffusion coefficient for the exclusion process</i> (with C. Landim and S. Olla), Ann. Probab. 30 (2002) 483-508	653
<i>Large deviations for the asymmetric simple exclusion process</i> , Adv. Stud. Pure Math., 39, Math. Soc. Japan, 2004, 1-27	679
<i>Diffusive behaviour of the equilibrium fluctuations in the asymmetric exclusion processes</i> (with C. Landim and S. Olla), Adv. Stud. Pure Math., 39, Math. Soc. Japan, 2004, 307 – 324	706

<i>On viscosity and fluctuation-dissipation in exclusion processes</i> (with C. Landim and S. Olla), J. Statist. Phys. 115 (2004) 323-363	724
<i>Large deviations for the current and tagged particle in 1d nearest neighbor symmetric simple exclusion</i> (with S. Sethuraman), To appear in Ann. Probab.	765
<i>List Of Publications of S.R.S. Varadhan</i>	809
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