

PUBLICATIONS OF SANDRA CERRAI

Book

1. SANDRA CERRAI, *Second order PDE's in finite and infinite dimensions. A probabilistic approach*, x+330 pp. Lecture Notes in Mathematics 1762 (2001), Springer Verlag.

Articles in research journals

2. SANDRA CERRAI: *Normal deviations from the averaged motion for some reaction-diffusion equation with fast oscillating perturbation*, Journal de Mathématiques Pures et Appliqués 91 (2009), pp. 614-647.
3. SANDRA CERRAI: *A Khasminskii type averaging principle for stochastic reaction-diffusion equations*, Annals of Applied Probability 19 (2009), pp. 899-948.
4. SANDRA CERRAI, MARK FREIDLIN: *Averaging principle for a class of SPDE's*, Probability Theory and Related Fields 144 (2009), pp. 137-177.
5. SANDRA CERRAI, PHILIPPE CLÉMENT: *Schauder estimates for a degenerate second order elliptic operator on a cube*, Journal of Differential Equations 242 (2007), pp. 287-321.
6. SANDRA CERRAI, MARK FREIDLIN: *Smoluchowski-Kramers approximation for a general class of SPDE's*, Journal of Evolution Equations 6 (2006), pp. 657-689.

7. SANDRA CERRAI, MARK FREIDLIN: *On the Smoluchowski-Kramers approximation for a system with an infinite number of degrees of freedom*, Probability Theory and Related Fields 135 (2006), pp. 363-394.
8. SANDRA CERRAI: *Stabilization by noise for a class of stochastic reaction-diffusion equations*, Probability Theory and Related Fields 133 (2005), pp. 190-214.
9. SANDRA CERRAI, PHILIPPE CLÉMENT: *Erratum to "Schauder estimates for a class of second order elliptic operators on a cube"*, Bulletin des Sciences Mathématiques 129 (2005), p. 368.
10. SANDRA CERRAI, MICHAEL RÖCKNER: *Large deviations for invariant measures of stochastic reaction-diffusion systems with multiplicative noise and non-Lipschitz reaction term*, Annales de l'Institut Henri Poincaré (Probabilités et Statistiques) 41 (2005), pp. 69-105.
11. SANDRA CERRAI, PHILIPPE CLÉMENT: *Well-posedness of the martingale problem for some degenerate diffusion processes occurring in dynamics of populations*, Bulletin des Sciences Mathématiques 128 (2004), pp. 355-389.
12. SANDRA CERRAI, MICHAEL RÖCKNER: *Large deviations for stochastic reaction-diffusion systems with multiplicative noise and non-Lipschitz reaction term*, Annals of Probability 32 (2004), pp. 1-40.
13. SANDRA CERRAI, MICHAEL RÖCKNER: *Large deviations for invariant measures of general stochastic reaction-diffusion systems*, Comptes Rendus Acad. Sci. Paris S. I Math. 337 (2003), pp. 597-602.
14. SANDRA CERRAI: *Stochastic reaction-diffusion systems with multiplicative noise and non-Lipschitz reaction term*, Probability Theory and Related Fields 125 (2003), pp. 271-304.
15. SANDRA CERRAI, PHILIPPE CLÉMENT: *Schauder estimates for a class of second order elliptic operators on a cube*, Bulletin des Sciences Mathématiques 217 (2003), pp. 669-688.
16. SANDRA CERRAI, PHILIPPE CLÉMENT: *On a class of degenerate elliptic operators arising from the Fleming-Viot processes*, Journal of Evolution Equations 1 (2001), pp. 243-276.

17. SANDRA CERRAI: *Stationary Hamilton-Jacobi equations in Hilbert spaces and applications to a stochastic optimal control problem*, SIAM Journal on Control and Optimization 40 (2001), pp. 824-852.
18. SANDRA CERRAI: *Optimal control problems for stochastic reaction-diffusion systems with non Lipschitz coefficients*, SIAM Journal on Control and Optimization 39 (2001), pp. 1779-1816.
19. SANDRA CERRAI: *Analytic semigroups and degenerate elliptic operators with unbounded coefficients: a probabilistic approach*, Journal of Differential Equations 166 (2000), pp. 151-174.
20. SANDRA CERRAI: *Ergodicity for stochastic reaction-diffusion systems with polynomial coefficients*, Stochastics and Stochastics Reports 67 (1999), pp. 17-51.
21. SANDRA CERRAI: *Differentiability of Markov semigroup for stochastic reaction-diffusion equations and applications to control*, Stochastic Processes and their Applications 83 (1999) pp.15-37.
22. SANDRA CERRAI: *Smoothing properties of transition semigroups relative to SDEs with value in Banach spaces*, Probability Theory and Related Fields 113 (1999) pp. 85-114.
23. SANDRA CERRAI: *Kolmogorov equations in Hilbert spaces with non smooth coefficients*, Communications in Applied Analysis 2 (1998) pp. 271-298.
24. SANDRA CERRAI: *Differentiability with respect to initial datum for solutions of SPDE's with no Fréchet differentiable drift term*, Communications in Applied Analysis 2 (1998) pp. 249-270.
25. SANDRA CERRAI: *Some results for second order elliptic operators having unbounded coefficients*, Differential and Integral Equations 11 (1998) pp. 561-588.
26. SANDRA CERRAI: *Invariant measures for a class of SDE's with drift term having polynomial growth*, Dynamic Systems and Applications 5 (1996), 353-370.
27. SANDRA CERRAI: *Elliptic and parabolic equations in \mathbb{R}^n with coefficients having polynomial growth*, Communications in Partial Differential Equations 21 (1996) 281-317.

28. SANDRA CERRAI, FAUSTO GOZZI: *Strong solutions of Cauchy problems associated to weakly continuous semigroups*, Differential and Integral Equations 8 (1995) 465-486.
29. SANDRA CERRAI: *Weakly continuous semigroups in the space of functions with polynomial growth*, Dynamic Systems and Applications 4 (1995) 351-372.
30. SANDRA CERRAI: *A Hille Yosida theorem for weakly continuous semigroups*, Semigroup Forum 49 (1994) 349-367.

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31. SANDRA CERRAI: *Ergodic properties of reaction-diffusion equations perturbed by a degenerate multiplicative noise*, Operator Theory: Advances and Applications vol. 168 (2006), Birkhäuser Verlag Basel, pp. 45-59.
32. SANDRA CERRAI: *Asymptotic behavior of systems of SPDE's with multiplicative noise*, Stochastic Partial Differential Equations and Applications VII, Lecture Notes in Pure and Applied Mathematics vol. 245 (2006), Chapman and Hall/CRC Press, pp. 61-75.
33. SANDRA CERRAI, *Classical solutions for Kolmogorov equations in Hilbert spaces*, Third Seminar on Stochastic Analysis, Random Fields and Applications, Ascona, Progress in Probability 52, Birkhäuser Verlag, (2002), pp. 55-72.
34. SANDRA CERRAI, *A generalization of the Bismut-Elworthy formula*, Evolution Equations and their Applications in Physical and Life Sciences, edited by G. Lumer and L. Wiess, Lecture Notes in Pure and Applied Mathematics Vol. 215, Marcel Dekker (2000).

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35. SANDRA CERRAI, MARK FREIDLIN: *Fast transport asymptotics for stochastic RDE's with boundary noise*, submitted to Annals of Probability.
36. SANDRA CERRAI, MARK FREIDLIN: *Approximation of quasi-potentials and exit problems for multidimensional RDE's with noise*, submitted to Transactions of the AMS.

37. SANDRA CERRAI: *Averaging for stochastic RDE equations with non-Lipschitz coefficients.*

Theses

SANDRA CERRAI, *Transition semigroups corresponding to stochastic dynamical systems with unbounded coefficients*, PhD Thesis, advisor Prof. Giuseppe Da Prato, Scuola Normale Superiore, Pisa, 1998.

SANDRA CERRAI, *Equazioni paraboliche in dimensione infinita* (Parabolic equations in infinite dimensions), MSc Thesis, advisor Prof. Giuseppe Da Prato, University of Pisa, 1992.