

Lifshits, Mikhail A.; Shi, Zhan

Functional large deviations for Burgers particle systems. (English) Zbl 1121.35146
Commun. Pure Appl. Math. 60, No. 1, 41-66 (2007).

A Burgers particle system, i.e. a one-dimensional system of sticky particles with discrete white-noise-type initial data (not necessary Gaussian) is considered. The paper describes functional large deviations for the state of the system at any given time.

Reviewer: [Nikita E. Ratanov \(Bogotá\)](#)

MSC:

[35R60](#) PDEs with randomness, stochastic partial differential equations
[35Q53](#) KdV equations (Korteweg-de Vries equations)
[82C22](#) Interacting particle systems in time-dependent statistical mechanics
[76F20](#) Dynamical systems approach to turbulence

Cited in 1 Document

Keywords:

[particle systems](#), [cluster](#); [large deviation](#)

Full Text: [DOI](#)

References:

- [1] Avellaneda, *Comm Math Phys* 169 pp 45– (1995)
- [2] Avellaneda, *Comm Math Phys* 172 pp 13– (1995)
- [3] Bertoin, *J Math Pures Appl* (9) 79 pp 173– (2000)
- [4] Some properties of Burgers turbulence with white or stable noise initial data. *Lévy processes*, 267–279. Birkhäuser-Boston, Boston, 2001. · [Zbl 0984.60078](#) · [doi:10.1007/978-1-4612-0197-7_12](#)
- [5] Borovkov, *Teor Veroyatn i Primen* 12 pp 635– (1967)
- [6] *Theor Probab Appl* 12 pp 575– (1967)
- [7] Borovkov, *Uspekhi Mat Nauk* 38 pp 227– (1983)
- [8] *Russian Math Surveys* 38 pp 259– (1983)
- [9] Exponential tightness and projective systems in large deviation theory. *Festschrift for Lucien Le Cam*, 143–156. Springer, New York, 1997. · [doi:10.1007/978-1-4612-1880-7_9](#)
- [10] ; *Large deviations techniques and applications*. 2nd ed. Springer, New York, 1998. · [Zbl 0896.60013](#) · [doi:10.1007/978-1-4612-5320-4](#)
- [11] E, *Comm Math Phys* 177 pp 349– (1996)
- [12] Frachebourg, *J Fluid Mech* 417 pp 323– (2000)
- [13] Lifshits, *Ann Probab* 33 pp 53– (2005)
- [14] Martin, *J Statist Phys* 84 pp 837– (1996)
- [15] Mogulskii, *Teor Veroyatnost i Primenen* 21 pp 309– (1976)
- [16] *Theor Probab Appl* 21 pp 300– (1976)
- [17] Ryan, *Comm Pure Appl Math* 51 pp 47– (1998)
- [18] Shandarin, *Rev Modern Phys* 61 pp 185– (1989)
- [19] Vergassola, *Astron Astrophys* 289 pp 325– (1994)
- [20] Zeldovich, *Astron Astrophys* 5 pp 84– (1970)

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.