

STEFANO OLLA - PUBLICATIONS LIST

- Books



- (1) *Fluctuations in Markov Processes, martingale approximation and time symmetry*, with T. Komorowski and C. Landim, **Grundlehren der mathematischen Wissenschaften** 345, Springer, August 31, 2012.

- Publications in international journals:

- (1) A. Iacobucci, S. Olla, G. Stoltz, *Thermo-mechanical transport in rotor chains*, **J. Stat.Phys.**, 183, n. 26, 2021. <https://doi.org/10.1007/s10955-021-02748-8>
- (2) T. Komorowski, S. Olla, M. Simon. *Hydrodynamic limit for a chain with thermal and mechanical boundary forces*. **Electronic Journal of Probability**, 26, 1-49, 2021. <https://doi.org/10.1214/21-EJP581>
- (3) T. Komorowski, S. Olla, *Kinetic limit for a chain of harmonic oscillators with a point Langevin thermostat*, **J. Funct. Anal.**, 279, n.12, 108764, 2020 <https://doi.org/10.1016/j.jfa.2020.108764>
- (4) S. Marchesani, S. Olla, *On the existence of L^2 -valued thermodynamic entropy solutions for a hyperbolic system with boundary conditions*, **Comm. Partial Diff. Eq.**, 45, n. 9, 1072–1087 (2020), <https://doi.org/10.1080/03605302.2020.1750426>.
- (5) W De Roeck, F. Huveneers, S. Olla, *Subdiffusion in one-dimensional Hamiltonian chains with sparse interactions*, **J. Stat. Phys.**, 180, 678698, (2020) <https://doi.org/10.1007/s10955-020-02496-1>
- (6) T. Komorowski, S. Olla, L. Ryzhyk, H Spohn *High frequency limit for a chain of harmonic oscillators with a point Langevin thermostat.*, **Arch. Rational Mech. An.**, 237, 497543 (2020). <https://doi.org/10.1007/s00205-020-01513-7>.
- (7) T. Komorowski, S. Olla, L. Ryzhyk, *Fractional Diffusion limit for a kinetic equation with an interface*, **Annals of Probability**, Vol. 48, No. 5, 22902322, (2020), <https://doi.org/10.1214/20-AOP1423>
- (8) A. De Masi, I. Merola, S. Olla, *Interface fluctuation in non-equilibrium stationary states: the SOS approximation*, **J. Stat. Phys.**, 180, 414426 (2020), <https://doi.org/10.1007/s10955-019-02450-w>
- (9) S. Olla, Lu Xu, *Equilibrium fluctuation for an anharmonic chain with boundary conditions in the Euler scaling limit*, **Nonlinearity**, 33, N. 4, 1466, 2020. <https://doi.org/10.1088/1361-6544/ab60da>
- (10) T. Komorowski, S. Olla, M. Simon, *An open microscopic model of heat conduction: evolution and non-equilibrium stationary states*, **Communications in Mathematical Sciences**, 18, vol. 3, 751-780, (2020). <https://dx.doi.org/10.4310/CMS.2020.v18.n3.a8>

- (11) A. De Masi, S. Olla, *Quasi Static Large deviations*, **Annals H. Poincare, Probabilités et statistiques**, Vol. 56, No. 1, 524542, 2020, <https://doi.org/10.1214/19-AIHP971>
- (12) Y. Biondi, S. Olla, *Financial accumulation implies ever-increasing wealth inequality*, **J.Economic Interaction and Coordination**, 2020, <https://doi.org/10.1007/s11403-020-00281-7>
- (13) S. Olla, *Role of conserved quantities in Fourier law for diffusive mechanical systems*, 2019, **Comptes Rendus Physique**, 20, vol.5, 429-441; <https://doi.org/10.1016/j.crhy.2019.08.001>
- (14) G. Basile, T. Komorowski, S. Olla, *Diffusive limits for a kinetic equation with a thermostatted interface*, **Kinetic and Related Models**, AIMS, (2019), 12(5): 1185-1196, <https://doi.org/10.3934/krm.2019045>.
- (15) P. D. Hislop, K. Kirkpatrick, S. Olla, J. Schenker, *Transport of a Quantum Particle in a time-dependent white noise potential*, **J. Math. Phys.** 60, 083303 (2019); <https://doi.org/10.1063/1.5054017>.
- (16) A. De Masi, S. Olla, E. Presutti, *A note on Fick's law with phase transitions*, **J. Stat. Phys.**, 2019, 175 (1), 203-211. <https://doi.org/10.1007/s10955-019-02250-2>.
- (17) Li-Cheng Tsai, S. Olla, *Exceedingly Large Deviations for the TASEP*, **Electronic Journal of Probability**, **24**, n.16, 1-71, 2019. <https://doi.org/10.1214/19-EJP278>.
- (18) C. Bernardin, F. Huveneers, S. Olla, *Hydrodynamic Limits for the Disordered Harmonic Chain*, **Comm.Math.Phys**, (2019), **365**, 1, pp 215-237. <https://doi.org/10.1007/s00220-018-3251-4>
- (19) S. Marchesani, S. Olla, *Hydrodynamic Limit for an anharmonic chain under boundary tension*, **Nonlinearity** (2018), **31**, n. 11, 4979. doi.org/10.1088/1361-6544/aad675.
- (20) A. Dembo, M. Jara, S. Olla, *The Infinite Atlas Process: convergence to equilibrium*, **Ann.Inst. H. Poincaré, Probabilités et Statistiques**, **55**, 2, (2019), 607-619. <https://doi.org/10.1214/17-AIHP875>.
- (21) *Convergence rates for nonequilibrium Langevin dynamics*, with A. Iacobucci, G. Stoltz, **Annales Mathématiques du Québec**, 43 (1), pp.73-98. (2019) <https://doi.org/10.1007/s40316-017-0091-0>
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- (30) M. Simon, S. Olla, *Microscopic derivation of an adiabatic thermodynamic transformation*, **Braz. J. Probab. Stat.**, 29, (2015), no. 2, 540–564.
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- (33) S. Olla, *Microscopic Derivation of an Isothermal Thermodynamic Transformation*, From Particle Systems to Partial Differential Equations, C. Bernardin and P. Goncalves (eds.), Springer Proceedings in Mathematics and Statistics 75, Springer-Verlag Berlin Heidelberg, (2014). <https://doi.org/10.1007/978-3-642-54271-8>,
- (34) G. Basile, S. Olla, *Energy Diffusion in Harmonic System with Conservative Noise*, **J.Stat.Phys**, 155, 6, 1126-1142, (2014). <https://doi.org/10.1007/s10955-013-0908-4>
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- (3) *Energy Diffusion and Superdiffusion in Oscillators Lattice nandwork*, in *New Trends in Mathematical Physics*, V. Sidoravicious ed., Springer 2009. <http://fr.arxiv.org/abs/0809.1496>, Proceedings of the **International Conference of Mathematical-Physics**, Rio de Janeiro 2006.
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 - (5) *On the Polaron Asymptotics at Finite Couplings Constant*, with L. Accardi, in Quantum Probability and Applications II, **Lecture Notes in Mathematics 1136**, 1-8, Springer (1985).
- Chapters in Books:
 - (1) G. Basile, C. Bernardin, M. Jara, T. Komorowski, S. Olla, *Thermal conductivity in harmonic lattices with random collisions*, in "Thermal transport in low dimensions: from statistical physics to nanoscale heat transfer", S. Lepri ed., **Lecture Notes in Physics 921**, chapter 5, Springer 2016. <https://doi.org/10.1007/978-3-319-29261-8-5>
- Other publications:
 - (1) *Central Limit Theorems for Tagged Particles and for Diffusion in Random Environment*. Notes du cours donné à *Etàts de la recherche: Milieux Aléatoires*, 23-25 Novembre 2000, **Panorama and Synthèses 12**, 2001.
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- Editor of proceedings
 - (1) *Stochastic Dynamics out of Equilibrium*, with G. Giacomin, E. Saada, H.Spohn, G. Stoltz, Springer Proceeding in Mathematics and Statistics **282**, 2019.
 - (2) *Probability and Analysis in Interacting Physical Systems*, with P.Fritz, W. König, C. Mukherjee, In honor of S.R.S. Varadhan, Springer Proceeding in Mathematics and Statistics **283**, 2019.
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 - (2) Anna De Masi, Stefano Marchesani, Stefano Olla, Lu Xu, *Quasi-static limit for the asymmetric simple exclusion*, 2021, <https://arxiv.org/abs/2103.08019>

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- (2) T. Komorowski, S. Olla, *Superdiffusion of energy in 2-dimensional chains with conservative noise*.
- (3) *Non-equilibrium Macroscopic Dynamics of Chains of Anharmonic Oscillators*, with C. Bernardin, monographie.

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