

Ewelina Zatorska

List of publications

Preprints

45. N. Chaudhuri, L. Navoret, C. Perrin, E. Zatorska: Hard congestion limit of the dissipative Aw-Rascle system. *arXiv:2209.12449*.
44. N. Chaudhuri, E. Feireisl, E. Zatorska: Nonuniqueness of weak solutions to the dissipative Aw-Rascle model. *arXiv:2208.02547*.
43. Z. Brzeźniak, G. Dhariwal, E. Zatorska: Sequential stability of weak martingale solutions to stochastic compressible Navier-Stokes equations with viscosity vanishing on vacuum. *arXiv:2201.02070*.

Published articles

42. N. Chaudhuri, P. Mucha, E. Zatorska: A new construction of weak solutions to compressible Navier-Stokes equations. To appear in *Mathematische Annalen*, (2023).
41. N. Chaudhuri, P. Gwiazda, E. Zatorska: Analysis of the generalised Aw-Rascle model. *Comm. PDEs*, 48(3) 440–477, (2023).
40. F. Fanelli, E. Zatorska: Low Mach number limit for degenerate Navier-Stokes equations in presence of strong stratification. *Comm. Math. Phys.*, 400, 1463–1506 (2023)
39. M. Pokorný, A. Wróblewska-Kamińska, E. Zatorska: Two-phase compressible/incompressible Navier–Stokes system with inflow-outflow boundary conditions. *J. Math Fluid Mech.*, 24(87) (2022).
38. D. Breit, E. Feireisl, M. Hofmanova, E. Zatorska: Compressible Navier–Stokes system with transport noise. *SIAM J. Math. Anal.*, 54(4), 937-972 (2022).
37. Y. Li, E. Zatorska: Remarks on weak-strong uniqueness for two-fluid model. *Geometric Potential Analysis, De Gruyter* (2022).
36. T. Piasecki, E. Zatorska: Maximal Regularity for Compressible Two-Fluid System. *J. Math Fluid Mech.*, 24(9) (2022).
35. Y. Li, E. Zatorska: On weak solutions to the compressible inviscid two-fluid model *J. Differential Equations*, 299, 33-50, (2021).
34. J. Barré, P. Dobson, M. Ottobre, E. Zatorska: Fast non mean-field networks: uniform in time averaging *SIAM J. Math. Anal.*, 53(1), 937-972 (2021).
33. J.A. Carrillo, A. Wróblewska-Kamińska, E. Zatorska: Pressureless Euler with nonlocal interactions as a singular limit of degenerate Navier-Stokes system. *J. Math. Anal. Appl.*, 492(1) (2020).
32. Y. Li, E. Zatorska: Large time behaviour for a compressible two-fluid model with algebraic pressure closure and large initial data *Nonlinearity*, 33(8):4075-4094 (2020).
31. J. Barré, P. Degond, D. Peurichard, E. Zatorska: Modelling pattern formation through differential repulsion. *Networks & Heterogeneous Media*, 15(3), 307-352 (2020).

30. T. Piasecki, Y. Shibata, E. Zatorska: On the maximal $L_p - L_q$ regularity of solutions to a general linear parabolic system. *J. Differential Equations*, 268 (7), 3332-3369 (2020).
29. T. Piasecki, Y. Shibata, E. Zatorska: On the strong dynamics of compressible two-component mixture flow. *SIAM J. Math. Anal.*, 51(4):2793-2849, (2019).
28. T. Piasecki, Y. Shibata, E. Zatorska: On the isothermal compressible multi-component mixture flow: the local existence and maximal $L_p - L_q$ regularity of solutions. *Nonlinear Analysis*, 189, 111571, (2019).
27. D. Bresch, P. B. Mucha, E. Zatorska: Finite-Energy Solutions for Compressible Two-Fluid Stokes System. *Arch. Ration. Mech. Anal.*, 232(2):987-1029, (2019).
26. J.A. Carrillo, A. Wróblewska-Kamińska, E. Zatorska: On long-time asymptotic for viscous hydrodynamic models of collective behaviour with damping and nonlocal interactions. *Math. Models Methods Appl. Sci. Vol. 29, No. 1, 31-63* (2019).
25. P. Degond, P. Minakowski, E. Zatorska: Transport of congestion in two-phase compressible/incompressible flows. *Nonlinear Analysis Real World Applicatios*, Vol. 42, 485-510 (2018).
24. P. Degond, P. Minakowski, L. Navoret, E. Zatorska: Finite Volume approximations of the Euler system with variable congestion. *Computers & Fluids*, Vol. 169, 23-39 (2018).
23. J. Barré, J. A. Carrillo, P. Degond, D. Peurichard, E. Zatorska: Particle interactions mediated by dynamical networks: assessment of macroscopic descriptions. *Journal of Nonlinear Science*, Vol. 28, Issue 1, 235-268 (2018).
22. N. Vauchelet, E. Zatorska: Incompressible limit of the Navier-Stokes model with growth term. *Nonlinear Analysis*, Vol. 163, 34-59 (2017).
21. J. Barré, P. Degond, E. Zatorska: Kinetic theory of particle interactions mediated by dynamical networks. *Multiscale Model. Simul. (SIAM)*, 15(3), 1294-1323, (2017).
20. J. A. Carrillo, Y-P. Choi, E. Zatorska: On the pressureless damped Euler-Poisson equations with non-local forces: Critical thresholds and large-time behavior. *Math. Models Methods Appl. Sci. Vol. 26, No. 12, 2311-2340* (2016).
19. D. Maltese, M. Michalek, P. B. Mucha, A. Novotný, M. Pokorný, E. Zatorska: Existence of weak solutions for compressible Navier-Stokes equations with entropy transport. *J. Differential Equations*, Vol. 261, no. 8, 4448-4485 (2016).
18. E. Feireisl, R. Klein, A. Novotný, E. Zatorska: On singular limits arising in the scale analysis of stratified fluid flows. *Math. Models Methods Appl. Sci. Vol. 26, No. 3, 419-443* (2016).
17. B. Haspot, E. Zatorska: From the highly compressible Navier-Stokes equations to the Porous Medium equation - rate of convergence. *DCDS-A Vol. 36, No. 6, 3107-3123* (2016).
16. P. B. Mucha, M. Pokorný, E. Zatorska: Heat-conducting, compressible mixtures with multicomponent diffusion: construction of a weak solution. *SIAM J. Math. Anal.*, Vol. 47, No. 5, 3747-3797 (2015).
15. E. Zatorska: Mixtures: sequential stability of variational entropy weak solutions. *J. Math. Fluid Mech. Vol. 17, No. 3, 437-461* (2015).
14. V. Giovangigli, M. Pokorný, E. Zatorska: On the steady flow of reactive gaseous mixture. *Analysis (Berlin) Vol. 35, No. 4, 319-341* (2015).

13. D. Bresch, B. Desjardins, E. Zatorska: Two-velocity hydrodynamics in Fluid Mechanics, Part II: Existence of global κ -entropy solutions to compressible Navier-Stokes system with degenerate viscosities. *J. Math. Pures Appl.* Vol. 104, No. 4, 801–836 (2015).
12. D. Bresch, V. Giovangigli, E. Zatorska: Two-velocity hydrodynamics in Fluid Mechanics, Part I: Well posedness for zero Mach number systems. *J. Math. Pures Appl.*, Vol. 104, No. 4, 762–800 (2015).
11. C. Perrin, E. Zatorska: Free/Congested Two-Phase Model from Weak Solutions to Multi-Dimensional Compressible Navier–Stokes Equations. *Commun. PDEs*, 40: 1558–1589 (2015).
10. P. B. Mucha, E. Zatorska: Multicomponent Mixture Model. The Issue of Existence via Time Discretization. *Commun. Math. Sci.*, Vol. 13, No. 8, 1975–2003 (2015).
9. D. Bresch, C. Perrin, E. Zatorska: Singular limit of a Navier–Stokes system leading to a free/congested zones two-phase model. *C. R. Math. Acad. Sci. Paris* 352, No. 9, 685–690 (2014).
8. P. B. Mucha, M. Pokorný, E. Zatorska: Approximate solutions to a model of two-component reactive flow. *Discrete Contin. Dyn. Syst. Ser. S*, 7(5): 1079–1099 (2014).
7. P. B. Mucha, M. Pokorný, E. Zatorska: Chemically reacting mixtures in terms of degenerated parabolic setting. *J. Math. Phys.*, 54, 071501 (2013).
6. E. Zatorska: On the flow of chemically reacting gaseous mixture. *J. Differential Equations*, 253, 3471–3500 (2012).
5. E. Zatorska: Analysis of semidiscretization of the compressible Navier–Stokes equations. *J. Math. Anal. Appl.*, 386, 559–580 (2012).
4. E. Zatorska: On the steady flow of multicomponent, compressible, chemically reacting gas. *Nonlinearity*, 24, 3267–3278 (2011).
3. E. Zatorska: Analysis of nonlocal model of compressible fluid in 1-D. *Math. Methods Appl. Sci. Sciences*, 34, 198–212 (2011).

Book chapters

2. P. Minakowski, P. B. Mucha, J. Peszek, E. Zatorska: Singular Cucker-Smale Dynamics. *Active Particles*, Vol. 2, Springer, (2019).
1. M. Pokorný, P. B. Mucha, E. Zatorska: Existence Of Stationary Weak Solutions For The Heat Conducting Flows. *Handbook of Mathematical Analysis in Mechanics of Viscous Fluids*, 1–68 (2016).