Qian Yuan

Curriculum Vitae

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Education

2016–2019 **Ph.D. in Mathematics**, *The Chinese University of Hong Kong*, Hong Kong, China.

2012–2016 **M.S. in Mathematics**, *Nanjing University*, Nanjing, China.

2008–2012 **B.S. in Mathematics**, *Nanjing University*, Nanjing, China.

Professional Appointments

2021-now Assistant Professor, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, Beijing, China

2019–2021 Postdoc, Academy of Mathematics and Systems Science, Chinese Academy of Sciences, Beijing, China

Publications

1. Huang, Feimin; Xin, Zhouping; Xu, Lingda; **Yuan, Qian**. Nonlinear asymptotic stability of compressible vortex sheets with viscosity effects. *arXiv:2308.06180*.
2. **Yuan, Qian**. Nonlinear asymptotic stability of planar viscous shocks for 3D compressible Navier-Stokes equations with periodic perturbations. *arXiv:2212.13414*.
3. **Yuan, Qian**. Planar Viscous Shocks with Periodic Perturbations for Scalar Multi-Dimensional Viscous Conservation Laws. *SIAM J. Math. Anal.* 55 (2023), no. 3, 1499–1523.
4. Huang, Feimin; Xu, Lingda; **Yuan, Qian**. Asymptotic stability of planar rarefaction waves under periodic perturbations for 3-d Navier-Stokes equations. *Adv. Math.* 404 (2022), Paper No. 108452, 27 pp.
5. **Yuan, Qian**; Yuan, Yuan. Periodic perturbations of a composite wave of two viscous shocks for 1-D full compressible Navier-Stokes equations. *SIAM J. Math. Anal.* 54 (2022), no. 3, 2876–2905.
6. Huang, Feimin; **Yuan, Qian**. Stability of planar rarefaction waves for scalar viscous conservation law under periodic perturbations. *Methods Appl. Anal.* 28 (2021), no. 3, 337–353.
7. Xin, Zhouping; **Yuan, Qian**; Yuan, Yuan. Asymptotic stability of shock profiles and rarefaction waves under periodic perturbations for 1-D convex scalar viscous conservation

laws. *Indiana Univ. Math. J.* 70 (2021), no. 6, 2295–2349.

8. Huang, Feimin; **Yuan, Qian**. Stability of large-amplitude viscous shock under periodic perturbation for 1-d isentropic Navier-Stokes equations. *Comm. Math. Phys.* 387 (2021), no. 3, 1655–1679.
9. **Yuan, Qian**; Yuan, Yuan. On Riemann solutions under different initial periodic perturbations at two infinities for 1-d scalar convex conservation laws. *J. Differential Equations* 268 (2020), no. 9, 5140–5155.
10. Xin, Zhouping; **Yuan, Qian**; Yuan, Yuan Asymptotic stability of shock waves and rarefaction waves under periodic perturbations for 1-D convex scalar conservation laws. *SIAM J. Math. Anal.* 51 (2019), no. 4, 2971–2994.

Awards

2022	Member of the 12th Youth Innovation Promotion Association of Chinese Academy of Sciences
2022	The 14th "Chen Jingrun Future Star" Project, by Academy of Mathematics and Systems Science

Grants

2023.01-2025.12	National Natural Science Foundation of China (PI, ongoing)
2022.10-2027.12	CAS Project for Young Scientists in Basic Research (Participant, ongoing)
2022.01-2026.12	Youth Innovation Promotion Association of Chinese Academy of Sciences (PI, ongoing)
2019.08-2021.05	Fellowships of China Postdoctoral Science Foundation (PI, completed)

Conference Talks

2023 Aug.	The 10th ICIAM "Compressible fluid dynamics and related PDE topics", Tokyo, Japan
2022 Dec.	New Advances in Modern Partial Differential Equations, Hubei, China
2022 Oct.	The Eighth Japan-China Workshop on "Mathematical Topics from Fluid Mechanics", via zoom
2021 Oct.	CSIAM "Mathematical Theory in Fluid Mechanics", Anhui, China
2020 Nov.	The 7th Partial Differential Equations Forum for Young Researchers, Guangdong, China

Research Interests

Partial differential equations in fluid mechanics, especially for the stability of wave phenomena in gas dynamics.