

List of publications by Renjun Duan

• Peer-reviewed research papers accepted and published

1. With Dongcheng Yang and Hongjun Yu: Compressible fluid limit for smooth solutions to the Landau equation, **Annales de l'Institut Henri Poincaré, Analyse Non Linéaire** (published online, 26 July 2024). DOI
2. With Shuangqian Liu and Tong Yang: The Boltzmann equation for plane Couette flow, **Journal of the European Mathematical Society** (published online, 16 December 2023). DOI
3. With Chuqi Cao and Zongguang Li: Time-velocity decay of solutions to the non-cutoff Boltzmann equation in the whole space, **Communications in Mathematical Analysis and Applications**, 3 (2024), no. 1, 61–120. DOI
4. With Ling-Bing He, Tong Yang, and Yu-Long Zhou: Solutions to the non-cutoff Boltzmann equation in the grazing limit, **Annales de l'Institut Henri Poincaré, Analyse Non Linéaire**, 41 (2024), no. 1, 1–94. DOI
5. With Shota Sakamoto and Yoshihiro Ueda: An $L_k^1 \cap L_k^p$ approach for the non-cutoff Boltzmann equation in $\mathbb{R}^3$, **SIAM Journal on Mathematical Analysis**, 56 (2024), no. 1, 762–800. DOI
6. With Gyoungun Ko and Donghyun Lee: The Boltzmann equation with a class of large-amplitude initial data and specular reflection boundary condition, **Journal of Statistical Physics**, 190 (2023), no. 12, Paper No. 189, 46 pp. DOI
7. With Dongcheng Yang and Hongjun Yu: Compressible Euler-Maxwell limit for global smooth solutions to the Vlasov-Maxwell-Boltzmann system, **Mathematical Models and Methods in Applied Sciences**, 33 (2023), no. 10, 2157–2221. DOI
8. With Zongguang Li: Global bounded solutions to the Boltzmann equation for a polyatomic gas, **International Journal of Mathematics**, 34 (2023), no. 7, Paper No. 2350036, 43 pp. DOI
9. With Dingqun Deng: Low regularity solutions for the Vlasov-Poisson-Landau/Boltzmann system, **Nonlinearity**, 36 (2023), no. 5, 2193–2248. DOI
10. With Dingqun Deng: Spectral gap formation to kinetic equations with soft potentials in bounded domain, **Communications in Mathematical Physics**, 397 (2023), no. 3, 1441–1489. DOI

11. With Shuangqian Liu: On smooth solutions to the thermostated Boltzmann equation with deformation, **Communications in Mathematical Analysis and Applications**, 1 (2022), no. 1, 152–212. DOI
12. With Shuangqian Liu, Tong Yang and Zhu Zhang: Heat transfer problem for the Boltzmann equation in a channel with diffusive boundary condition, **Chinese Annals of Mathematics, Series B**, 43 (2022), no. 6, 1071–1100. DOI
13. With Dongcheng Yang and Hongjun Yu: Asymptotics toward viscous contact waves for solutions of the Landau equation, **Communications in Mathematical Physics**, 394 (2022), 471–529. DOI
14. With Wei-Xi Li and Lvqiao Liu: Gevrey regularity of mild solutions to the non-cutoff Boltzmann equation, **Advances in Mathematics**, 395 (2022), Paper No. 108159. DOI
15. With Shuangqian Liu: The Boltzmann equation for uniform shear flow, **Archive for Rational Mechanics and Analysis**, 242 (2021), no. 3, 1947–2002. DOI
16. With Shuangqian Liu and Tong Yang: Global classical solutions for the Vlasov-Nordström-Fokker-Planck system, **SIAM Journal on Mathematical Analysis**, 53 (2021), no. 5, 6164–6190. DOI
17. With Haiyan Yin and Changjiang Zhu: A half-space problem on the full Euler-Poisson system, **SIAM Journal on Mathematical Analysis**, 53 (2021), no. 5, 6094–6121. DOI
18. With Shuangqian Liu: Compressible Navier-Stokes approximation for the Boltzmann equation in bounded domains, **Transactions of the American Mathematical Society**, 374 (2021), no. 11, 7867–7924. DOI
19. With Dongcheng Yang and Hongjun Yu: Small Knudsen rate of convergence to rarefaction wave for the Landau equation, **Archive for Rational Mechanics and Analysis**, 240 (2021), no. 3, 1535–1592. DOI
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21. With Hongjun Yu: The 3D Vlasov-Poisson-Landau system near 1D local Maxwellians, **Journal of Statistical Physics**, 182 (2021), no. 2, 33. DOI
22. With Shuangqian Liu and Zhu Zhang: Ion-acoustic shock in a collisional plasma, **Journal of Differential Equations**, 269 (2020), no. 4, 3721–3768. DOI
23. With Hongjun Yu: The Vlasov-Poisson-Landau system near a local Maxwellian, **Advances in Mathematics**, 362 (2020), 106956, 83 pp. DOI

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28. With Yoshihiro Ueda and Shuichi Kawashima: New structural conditions on decay property with regularity-loss for symmetric hyperbolic systems with non-symmetric relaxation, **Journal of Hyperbolic Differential Equations**, 15 (2018), no. 1, 149–174. DOI
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Conference papers and short surveys

- 85. With Shuangqian Liu, Shota Sakamoto, and Robert M.: Global solutions to the Boltzmann equation without angular cutoff and the Landau equation with Coulomb potential. *Regularity and asymptotic analysis for critical cases of partial differential equations*, 29–46, RIMS Kôkyûroku Bessatsu, B82, Res. Inst. Math. Sci. (RIMS), Kyoto, 2020. [URI](#)
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- 91. The Boltzmann equation near equilibrium states in $\mathbb{R}^n$, **Methods and Applications of Analysis**, 14 (2007), No. 3, 227–250. [DOI](#)

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- 92. With Tong Yang and Hui-Jiang Zhao: Global solutions to the Vlasov-Poisson-Landau system, 2011, [arXiv:1112.3261](#).
- 93. With Seiji Ukai, Tong Yang and Hui-Jiang Zhao: Optimal convergence rates to the stationary solutions for the Boltzmann equation with potential force, 2006.