潘星宏

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个人简介

潘星宏, 副研究员.2010 年 9 月至 2017 年 3 月硕博连读于南京大学数学系, 师从南京大学尹会成教授, 取得理学博士学位. 2014 年 12 月至 2016 年 12 月赴加州大学河滨分校进行为期两年博士联合培养项目, 联合培养导师为张旗教授. 现为南京航空航天大学副研究员, 入选 2018 年江苏省“双创博士”人才计划. 主要研究方向包含不可压 Navier-Stokes 方程解的正则性和唯一性问题, 定常 Navier-Stokes 方程无粘极限, 带时间衰减阻尼 Euler 方程适定性. 主持江苏省自然科学基金青年基金一项, 国家自然科学基金青年基金, 面上项目各一项, 参与国家自然科学基金重点项目一项. 目前在 Arch. Ration. Mech. Anal., J. Funct. Anal., J. Diff. Equ., SIAM JMA, Sci. China Math., Calc. Var. PDE, Commun. Contemp. Math., Disc. Cont. Dyn. Syst., 等杂志发表多篇 SCI 论文.

教育背景

南京大学, 博士，数学与应用数学，导师：尹会成 2010.09 -- 2017.03

美国加州大学河滨分校，数学系，联合培养博士, 导师：张旗 2014.12 -- 2016.12

南京大学, 学士，数学与应用数学 2006.09 -- 2010.06

工作经历

南京航空航天大学，数学学院，副研究员 2022.07 -- 至今

南京航空航天大学，数学学院，专聘副研究员 2022.01 -- 2022.06

南京航空航天大学，理学院，讲师 2017.04 -- 2021.12

科研经历

韩国中央大学, 访问学者, 邀请人: Prof. Dongho Chae 2023.11 - 2023.12

北京大学, 访问学者, 邀请人: 章志飞教授 2019.01 - 2019.02

社会兼职

江苏省数学会理事 2023.10--至今

美国数学会 MathSciNet 评论员 2020.01--至今

研究方向

- 流体动力学;
- 非线性偏微分方程理论.

会议报告

- 第十二届 AIMS 动力系统, 微分方程及其应用国际会议,2018 年 7 月, 台湾台北, 分会场 25 分钟邀请报告;
- 第十一届偏微分方程青年学术论坛, 2024.05.11, 安徽师范大学: On Leray's problem with the Navier-slip boundary condition.

科研项目

- Navier-Stokes 方程无粘极限及相关问题研究, 国家自然科学基金面上项目,2025.01-2028.12, 主持;
- 中央高校基本科研业务费,2023.01-2024.12, 主持;
- 高雷诺数及宏观微观流体力学方程的数学理论，国家自然科学基金重点项目，2021.01-2025.12，参与;
- 具轴对称 Navier-Stokes 方程解的性态研究，国家青年科学基金项目，2019.01-2021.12，主持;

- 轴对称 Navier-Stokes 方程 D 解衰减性和消失性研究，省自然科学基金青年基金，2018.07-2021.06，主持;

人才计划

- 江苏省双创计划，双创博士，省中组部.

学术论文（部分）

1. **Pan, Xinghong**; Xu, Chaojiang Global tangentially analytical solutions of the 3D axially symmetric Prandtl equations. *Chinese Ann. Math. Ser. B* 45 (2024), no. 4, 573–596.
2. **Pan, Xinghong**; Xu, Chao-Jiang Global Gevrey-2 solutions of the 3D axially symmetric Prandtl equations. *Anal. Appl. (Singap.)* 22 (2024), no. 7, 1195–1253.
3. **Pan, Xinghong**; Xu, Chao-Jiang Long-time existence of Gevrey-2 solutions to the 3D Prandtl boundary layer equations. *Commun. Math. Sci.* 22 (2024), no. 5, 1203–1250.
4. **Pan, Xinghong** Globally analytical solutions of the compressible Oldroyd-B model without retardation. *SIAM J. Math. Anal.* 56 (2024), no. 4, 4854–4869.
5. Li, Zijin; **Pan, Xinghong**; Yang, Jiaqi On Leray's problem in an infinitely long pipe with the Navier-slip boundary condition. *Sci. China Math.* 67 (2024), no. 4, 819–854.
6. Li, Zijin; **Pan, Xinghong**; Yang, Xin; Zeng, Chulan; Zhang, Qi S.; Zhao, Na Finite speed axially symmetric Navier-Stokes flows passing a cone. *J. Funct. Anal.* 286 (2024), no. 10, Paper No. 110393, 116 pp.
7. Li, Zijin; **Pan, Xinghong**; Yang, Jiaqi Constrained large solutions to Leray's problem in a distorted strip with the Navier-slip boundary condition. *J. Differential Equations* 377 (2023), 221–270.
8. Ji, Zi-han; **Pan, Xinghong** Prodi-Serrin regularity criterion for the 3D MHD-Boussinesq system with zero resistivity and zero thermal diffusivity. (Chinese) *Appl. Math. J. Chinese Univ. Ser. A* 38 (2023), no. 3, 339–346.
9. Li, Zijin; **Pan, Xinghong** Asymptotic properties of generalized D-solutions to the stationary axially symmetric Navier-Stokes equations. *Commun. Contemp. Math.* 25 (2023), no. 5, Paper No. 2250013, 26 pp.
10. Li, Zijin; **Pan, Xinghong** BKM-type blow-up criterion of the inviscid axially symmetric Boussinesq system involving a single component of velocity. *Z. Angew. Math. Phys.* 74 (2023), no. 1, Paper No. 9, 19 pp.
11. Zhang, Qi S.; *Pan, Xinghong* A review of results on axially symmetric Navier-Stokes equations, with addendum by X. Pan and Q. Zhang. *Anal. Theory Appl.* 38 (2022), no. 3, 243–296.
12. **Pan, Xinghong** On global smooth solutions of the 3D spherically symmetric Euler equations with time-dependent damping and physical vacuum. *Nonlinearity* 35 (2022), no. 6, 3209-3244.
13. **Pan, Xinghong** Global regularity of solutions for the 3D non-resistive and non-diffusive MHD-Boussinesq system with axisymmetric data. *Acta Appl. Math.* 180 (2022), Paper No. 6, 18 pp.
14. **Pan, Xinghong**; Xu, Jiang; Zhu, Yi Global existence in critical spaces for non Newtonian compressible viscoelastic flows. *J. Differential Equations* 331 (2022), 162–191.
15. Li, Zijin; **Pan, Xinghong** One component regularity criteria for the axially symmetric MHD-Boussinesq system. *Discrete Contin. Dyn. Syst.* 42 (2022), no. 5, 2333–2353.
16. Li, Zijin; **Pan, Xinghong** A single-component BKM-type regularity criterion for the inviscid axially symmetric Hall-MHD system. *J. Math. Fluid Mech.* 24 (2022), no. 1, Paper No. 16, 19 pp.
17. **Pan, Xinghong** Global existence and asymptotic behavior of solutions to the Euler equations with time-dependent damping. *Appl. Anal.* 100 (2021), no. 16, 3546–3575.
18. Dong, Hongjie; **Pan, Xinghong** On conormal derivative problem for parabolic equations with Dini mean oscillation coefficients. *Discrete Contin. Dyn. Syst.* 41 (2021), no. 10, 4567–4592.
19. **Pan, Xinghong** Liouville theorem of D-solutions to the stationary magnetohydrodynamics system in a slab. *J. Math. Phys.* 62 (2021), no. 7, Paper No. 071503, 14 pp.
20. Li, Zijin; **Pan, Xinghong** Liouville theorem of the 3D stationary MHD system: for D-solutions converging to non-zero constant vectors. *NoDEA Nonlinear Differential Equations Appl.* 28 (2021), no. 2, Paper No. 12, 14 pp.

21. **Pan, Xinghong** Stability of smooth solutions for the compressible Euler equations with time-dependent damping and one-side physical vacuum. *J. Differential Equations* 278 (2021), 146–188.
22. **Pan, Xinghong** Global existence and convergence to the modified Barenblatt solution for the compressible Euler equations with physical vacuum and time-dependent damping. *Calc. Var. Partial Differential Equations* 60 (2021), no. 1, Paper No. 5, 43 pp.
23. Dong, Hongjie; **Pan, Xinghong** Time analyticity for inhomogeneous parabolic equations and the Navier-Stokes equations in the half space. *J. Math. Fluid Mech.* 22 (2020), no. 4, Paper No. 53, 20 pp.
24. Carrillo, Bryan; **Pan, Xinghong**; Zhang, Qi S. Zhao, Na Decay and vanishing of some D-solutions of the Navier-Stokes equations. *Arch. Ration. Mech. Anal.* 237 (2020), no. 3, 1383–1419.
25. **Pan, Xinghong**; Li, Zijin Liouville theorem of axially symmetric Navier-Stokes equations with growing velocity at infinity. *Nonlinear Anal. Real World Appl.* 56 (2020), 103159, 8 pp.
26. Carrillo, Bryan; **Pan, Xinghong**; Zhang, Qi S. Decay and vanishing of some axially symmetric D-solutions of the Navier-Stokes equations. *J. Funct. Anal.* 279 (2020), no. 1, 108504, 49 pp.
27. **Pan, Xinghong** A Liouville theorem of Navier-Stokes equations with two periodic variables. *J. Math. Anal. Appl.* 485 (2020), no. 2, 123854, 7 pp.
28. Li, Zijin; **Pan, Xinghong** On the vanishing of some D-solutions to the stationary magnetohydrodynamics system. *J. Math. Fluid Mech.* 21 (2019), no. 4, Paper No. 52, 13 pp.
29. **Pan, Xinghong**; Xu, Jiang Global existence and optimal decay estimates of the compressible viscoelastic flows in L^p critical spaces. *Discrete Contin. Dyn. Syst.* 39 (2019), no. 4, 2021–2057.
30. Li, Zijin; **Pan, Xinghong** Some remarks on regularity criteria of axially symmetric Navier-Stokes equations. *Commun. Pure Appl. Anal.* 18 (2019), no. 3, 1333–1350.
31. **Pan, Xinghong**; Zhu, Lu The combined quasineutral and low Mach number limit of the Navier-Stokes-Poisson system. *Z. Angew. Math. Phys.* 70 (2019), no. 1, Paper No. 29, 21 pp.
32. **Pan, Xinghong**; Zhu, Lu The incompressible limit for compressible MHD equations in Lp type critical spaces. *Nonlinear Anal.* 170 (2018), 21–46.
33. **Pan, Xinghong** A regularity condition of 3d axisymmetric Navier-Stokes equations. *Acta Appl. Math.* 150 (2017), 103–109.
34. **Pan, Xinghong** Blow up of solutions to 1-d Euler equations with time-dependent damping. *J. Math. Anal. Appl.* 442 (2016), no. 2, 435–445.
35. **Pan, Xinghong** Regularity of solutions to axisymmetric Navier-Stokes equations with a slightly supercritical condition. *J. Differential Equations* 278 (2021), 146–188.
36. **Pan, Xinghong** Global existence of solutions to 1-d Euler equations with time-dependent damping. *Nonlinear Anal.* 132 (2016), 327–336.

其他

in MathSciNet, **in** arXiv, **in** Github, **in** ResearchGate,