

熊金钢

联系方式

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个人信息

生日 1984年10月28日 (农历闰10月)
籍贯 江西省九江市

工作经历

2020.9 – 教授 (破格晋升), 数学科学学院, 北京师范大学
2016.9 – 2020.9 副教授, 数学科学学院, 北京师范大学
2015.1 – 2016.8 讲师, 数学科学学院, 北京师范大学
2012.7 – 2015.1 Simons 博士后, 北京国际数学研究中心, 北京大学
合作导师: 田刚院士

教育经历

2007-2012 博士, 北京师范大学
论文: 分数阶的 Nirenberg 问题
导师: 李岩岩 (Rutgers University)
保继光 (北京师范大学)
2010-2012 联合培养博士生, Rutgers University
2003-2007 本科, 长春师范学院

学术访问

1. 2019/8 – 2020/7, 美国罗格斯大学
2. 2018/3, 新加坡国立大学

3. 2017/7, 18/2, 19/7, 香港科技大学
4. 2013/11, 巴黎七大和巴黎十二大, 法国 Hadamard 基金资助
5. 2013/05, 美国罗格斯大学

科研基金

- 2024/01 – 2028/12, 国家杰出青年科学基金项目, 280万元, 在研, 主持
2020/01 – 2022/12, 国家优秀青年科学基金项目, 120万元, 结题, 主持
2017/01 – 2021/12, 重点项目, 230万元, 结题, 参与
2016/01 – 2019/12, 国家自然科学基金面上项目, 50万元, 结题, 参与
2016/01 – 2018/12, 青年科学基金面上项目, 20.2万元, 结题, 主持
2012/12 – 2014/12, 中国博士后科学基金一等资助, 8万元, 结题, 主持

荣誉与奖励

- 2023 国家杰出青年科学基金资助
2022 彭年杰出教学奖
2019 国家优秀青年科学基金资助
2018 教育部高校优秀成果奖二等(第三完成人, 共三人)
2013 北京市优秀博士学位论文
2012 中国博士后科学基金一等资助 (No. 2012M520002)

科研方向

非线性分析与偏微分方程

科研论文

1. Hölder regularity for the linearized porous medium equation in bounded domains (with T. Jin). Preprint.
2. Asymptotic analysis of harmonic maps with prescribed singularities (with Q. Han, M. Khuri and G. Weinstein). Preprint.
3. Stability of the separable solutions for a nonlinear boundary diffusion problem (with T. Jin and X. Yang). Preprint.

4. Optimal regularity and fine asymptotics for the porous medium equation in bounded domains (with T. Jin and X. Ros-Oton). Preprint.
5. Regularity of solutions to the Dirichlet problem for fast diffusion equations (with T. Jin). Preprint.
6. Regularity of viscosity solutions of the σ_k -Loewner-Nirenberg problem (with Y.Y. Li and L. Nguyen). Proc. London Math. Soc. 127 (2023), no. 4, 1–34.
7. Asymptotic behavior of solutions to the Yamabe equation with an asymptotically flat metric (with Z.-C. Han and L. Zhang). J. Funct. Anal. 285 (2023), 109982.
8. Bubbling and extinction for some fast diffusion equations in bounded domains (with T. Jin). Trans. Amer. Math. Soc. Ser. B 10 (2023), 1287–1332.
9. Blow up limits of the fractional Laplacian and their applications to the fractional Nirenberg problem (with X. Du, T. Jin and H. Yang). Proc. Amer. Math. Soc. 151 (2023), no. 11, 4693–4701.
10. Optimal boundary regularity for fast diffusion equations in bounded domains (with T. Jin). Amer. J. Math. 145 (2023), no. 1, 151–220.
11. Singular extinction profiles of solutions to some fast diffusion equations (with T. Jin). J. Funct. Anal. 283 (2022), 109595.
12. Isolated singularities of solutions to the Yamabe equation in dimension 6 (with L. Zhang). Int. Math. Res. Not. (IMRN) Vol. 2022, No. 12, 9571 – 9597.
13. On a Rayleigh-Faber-Krahn inequality for the regional fractional Laplacian (with T. Jin and D. Kriventsov). Ann. Appl. Math. 37 (2021), 363–393.
14. Sharp Sobolev inequalities involving boundary terms revisited (with Z. Tang and N. Zhou). Calc. Var. Partial Differential Equations 60 (2021), no. 6, Paper No. 160, 26 pp.
15. Asymptotic symmetry and local behavior of solutions of higher order conformally invariant equations with isolated singularities (with T. Jin). Ann. Inst. Henri Poincaré, Analyse Nonlineaire 38 (2021), 1167–1216.
16. Existence of entire solutions of Monge-Ampère equations with prescribed asymptotic behaviors (with J. Bao, Z. Zhou). Calc. Var. Partial Differential Equations 58 (2019), no. 6, Paper No. 193, 12 pp.
17. Compactness of conformal metrics with constant Q -curvature. I (with Y.Y. Li). Adv. Math 345 (2019), 116–160.

18. On the isoperimetric quotient over scalar-flat conformal classes (with T. Jin). *Comm. Partial Differential Equations* 43 (2018), no. 12, 1737–1760.
19. A derivation of the sharp Moser-Trudinger-Onofri inequalities from the fractional Sobolev inequalities. *Peking Math J.* 1 (2018), no. 2, 221–229.
20. On a conformally invariant integral equation involving Poisson kernel. *Acta Mathematica Sinica, English Series* 34 (2018), no. 4, 681–690.
21. Minimizers for the fractional Sobolev inequality on domains (with R. L. Frank, T. Jin). *Calc. Var. Partial Differential Equations* 57 (2018), no. 2, Art. 43, 31 pp.
22. Compactness of solutions to nonlocal elliptic equations (with M. Niu, Z. Peng). *J. Funct. Anal.* 275(2018), 2333–2372.
23. The critical semilinear elliptic equation with boundary isolated singularities. *J. Differential Equations* 263 (2017), no. 3, 1907–1930.
24. On local behavior of singular positive solutions to nonlocal elliptic equations (with T. Jin, O S. de Queiroz, Y. Sire). *Calc. Var. Partial Differential Equations* 56 (2017), no. 1, Art. 9, 25 pp.
25. Classification theorems for solutions of higher order boundary conformally invariant problems, I (with L. Sun). *J. Funct. Anal.* 271 (2016), 3727–3764.
26. The Nirenberg problem and its generalizations: A unified approach (with T. Jin, Y.Y. Li). *Math. Ann.* 369 (2017), no. 1-2, 109–151.
27. Schauder estimates for nonlocal fully nonlinear equations (with T. Jin). *Ann. Inst. Henri Poincaré, Analyse Nonlineaire.* 33 (2016), 1375–1407.
28. Schauder estimates for solutions of linear parabolic integro-differential equations (with T. Jin). *Discrete Contin. Dyn. Syst.* 35 (2015), no 12, 5977–5998.
29. Solutions of some Monge-Ampère equations with isolated and line singularities (with T. Jin). *Adv. Math* 289 (2016), 114–141.
30. Boundary Gradient Estimates for Parabolic and Elliptic Systems from Linear Laminates (with H. Dong). *Int. Math. Res. Not. (IMRN)* 2015 (2015), 7734–7756.
31. A sharp Sobolev trace inequality involving the mean curvature on Riemannian manifolds (with T. Jin). *Trans. Amer. Math. Soc.* 367 (2015), 6751–6770.
32. On a fractional Nirenberg problem, part II: existence of solutions (with T. Jin, Y.Y. Li). *Int. Math. Res. Not. (IMRN)* 2015 (2015), no. 6, 1555–1589.

33. Existence and asymptotics for solutions of a non-local Q -curvature equation in dimension three (with T. Jin, A. Maalaoui, L. Martinazzi). *Calc. Var. Partial Differential Equations* 52 (2015), no. 3-4, 469–488.
34. A fractional Yamabe flow and some applications (with T. Jin). *J. Reine Angew. Math.* 696 (2014), 187–223.
35. On a fractional Nirenberg problem, part I: blow up analysis and compactness of solutions (with T. Jin, Y.Y. Li). *J. Eur. Math. Soc. (JEMS)* 16 (2014), no. 6, 1111–1171.
36. Local analysis of solutions of fractional semi-linear elliptic equations with isolated singularities (with L. Caffarelli, T. Jin, Y. Sire). *Arch. Ration. Mech. Anal.* 213 (2014), no. 1, 245–268.
37. A Liouville theorem for solutions of degenerate Monge-Ampère equations (with T. Jin). *Comm. Partial Differential Equations* 39 (2014), no. 2, 306–320.
38. Sharp constants in weighted trace inequalities on Riemannian manifolds (with T. Jin). *Calc. Var. Partial Differential Equations* 48 (2013), no. 3-4, 555–585.
39. Sharp regularity for elliptic systems associated with transmission problems (with J. Bao). *Potential Anal.* 39 (2013), no. 2, 169–194.
40. $C^{1,1}$ estimates for elliptic equations with partial and piecewise continuous coefficients. *Methods Appl. Anal.* 18 (2011), no. 4, 373–389.
41. A Harnack inequality for fractional Laplace equations with lower order terms (with J. Tan). *Discrete Contin. Dyn. Syst.* 31 (2011), no. 3, 975–983.
42. The obstacle problem for Monge-Ampère type equations in non-convex domains (with J. Bao). *Commun. Pure Appl. Anal.* 10 (2011), no. 1, 59–68.
43. On Jörgens, Calabi, and Pogorelov type theorem and isolated singularities of parabolic Monge-Ampère equations (with J. Bao). *J. Differential Equations* 250 (2011), no. 1, 367–385.

专业服务

《美国数学会》评论员, 为以下杂志审稿: *Adv. Math.*; *Amer. J. Math.*; *Analysis & PDE*; *Ann. SNSPCS.*; *Calc. Var. PDE.*; *Comm. PDE*; *Int. Math. Res. Notices.*; *J. Diff. Equations.*; *J. Funct. Anal.*; *J. London Math. Soc.*; *Nonlinearity*; *Peking Math. J.*; *Rev. Mat. Iberoam.*; *Sciences China Math.* 等

最后更新: 2023年9月