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教育背景

2005 年 3 月 -2008 年 7 月　**博士研究生**, 西安交通大学理学院, 理学博士.

2002 年 9 月 -2005 年 3 月　**硕士研究生**, 西安交通大学理学院, 理学硕士.

1998 年 9 月 -2002 年 7 月　**本科**, 西安交通大学理学院, 理学学士.

经历

工作经历

2019 年 1 月 –至今　**教授，硕士生导师**, 温州大学数理学院.

2010 年 11 月 –2018 年 12 月　**副教授，硕士生导师**, 温州大学数学与信息科学学院 (数电学院, 数理学院).

2008 年 7 月 –2010 年 10 月　**讲师**, 温州大学数学与信息科学学院.

学术交流经历

2009 年 7 月　**访问学者**, 中国科学院数学与系统科学研究院计算数学研究所.

2015 年 3 月 -2015 年 9 月　**访问学者**, 香港城市大学.

2017 年 7 月　**访问学者**, 香港城市大学.

教学经历

2008 年 9 月 –至今　**讲授课程**.

- 数学分析 (本科生)
- 高等数学 (本科生)
- 数学物理方程 (本科生)
- 微分方程基础 (研究生)

- 应用微分方程 (研究生)
- 有限元方法 (研究生)

研究方向

1. 非线性抛物方程的数值算法
2. Navier-Stokes 方程的理论和数值算法
3. 有限元方法

荣誉和奖励

1. 浙江省高校优秀青年教师资助计划 (2009)
2. 温州市“551 人才工程”第三层次 (2010)
3. 温州市“551 人才工程”第二层次 (2012)
4. 浙江省高校中青年学科带头人 (2013)
5. 温州大学新湖青年学者 (2018)
6. 温州大学瓯江特聘教授 CII 类 (2020)

主持和参与项目

学术项目

2018 年 1 月 –2021 年 12 月 **变密度不可压缩 Navier-Stokes 方程具有保结构形式的若干高效分裂算法研究**, 国家自然科学基金 *(*面上项目*)*, (11771337).

主持

2016 年 1 月 –2018 年 12 月 **变密度不可压缩 Navier-Stokes 方程数值方法的研究**, 浙江省自然科学基金 *(*一般项目*)*, (LY16A010017).

主持

2012 年 1 月 –2013 年 12 月 **Navier-Stokes 型变分不等问题的两重网格及其后处理算法的研究**, 浙江省自然科学基金 *(*一般项目*)*, (LY12A01015).

主持

2010 年 1 月 –2012 年 12 月 **旋转障碍下不可压缩粘性流体数值方法的研究**, 国家自然科学基金 *(*青年项目*)*, (10901122).

主持

教改项目

2012 年 –2015 年 **《数学物理方程》教学改革与探索**, 温州大学教学改革项目.
主持

论文

学术论文

[1] Rong An, Yonglin Li and Weiwei Sun, Optimal error analysis of the normalized tangent plane FEM for Landau-Lifshitz-Gilbert equation, **IMA Journal of Numerical Analysis**, to appear, 2024.

[2] Rong An and Weiwen Wan, Uniform error analysis of an exponential IMEX-SAV method for the incompressible flows with large Reynolds number based on grad-div stabilization, **Communications in Nonlinear Science and Numerical Simulation**, 140 (2025) 108386.

[3] Yundan Zhao and Rong An, Optimal error analysis of Euler and BDF2 semi-renormalized FEMs for the Landau-Lifshitz-Slonczewski equation, **Advances in Applied Mathematics and Mechanics**, DOI: 10.4208/aamm.OA-2023-0119, 2024.

[4] Yihan Lu, Rong An and Yuan Li, Two-level Arrow–Hurwicz iteration methods for the steady bio-convection flows, **Communications in Nonlinear Science and Numerical Simulation**, 139 (2024) 108318.

[5] Weiwen Wan and Rong An, Convergence analysis of Euler and BDF2 grad-div stabilization methods for the time-dependent penetrative convection model, **AIMS Mathematics**, 9(2024), pp.453-480.

[6] Yuan Li and Rong An, Error analysis of a unconditionally stable BDF2 finite element scheme for the incompressible flows with variable density, **Journal of Scientific Computing**, 95(2023) ♯ 73.

[7] Lexiang Yan and Rong An, Two-level finite element methods for the steady bio-convection flows problem, **Computers and Mathematics with Applications**, 146(2023), pp.126-136.

[8] Rong An and Weiwei Sun, Analysis of projection finite element methods for the Landau-Lifshitz equation, **IMA Journal of Numerical Analysis**, 42(2022), pp.2336–2360.

[9] Yuan Li and Rong An, Unconditionally optimal error analysis of a linear Euler FEM scheme for the Navier–Stokes equations with mass diffusion, **Journal of Scientific Computing**, 90(2022) ♯ 47.

[10] Yuan Li and Rong An, Temporal error analysis of a new Euler semi-implicit scheme for the incompressible Navier-Stokes equations with variable density, **Communications in Nonlinear Science and Numerical Simulation**, 109(2022) ♯ 106330.

[11] Shuaifei Hu, Guomei Zhao and Rong An, Temporal convergence of extrapolated BDF-2 scheme for the Maxwell-Landau-Lifshitz equations, **Computers and Mathematics with Applications**, 119(2022), pp.278-287.

[12] Zheqian Tang and Rong An, Error analysis of the second-order BDF finite element scheme for the thermally coupled incompressible magnetohydrodynamic system, **Computers and Mathematics with Applications**, 118(2022), pp.110-119.

[13] Yanhua Mei and Rong An, Error estimates of second-order BDF Galerkin finite element methods for a coupled nonlinear Schrödinger system, **Computers and Mathematics with Applications**, 122(2022), pp.117-125.

[14] Rong An, Huadong Gao and Weiwei Sun, Optimal error analysis of Euler and Crank–Nicolson projection finite difference schemes for Landau–Lifshitz equation, **SIAM Journal on Numerical Analysis**, 59(2021), pp.1639-1662.

[15] Yuan Li and Rong An, Temporal error analysis of Euler semi-implicit scheme for the magnetohydrodynamics equations with variable density, **Applied Numerical Mathematics**, 166(2021), pp.146-167.

[16] Rong An, Chao Zhang and Yuan Li, Temporal convergence analysis of an energy preserving projection method for a coupled magnetohydrodynamics equations, **Journal of Computational and Applied Mathematics**, 386(2021), ♯ 113236.

[17] Jingke Wu, Rong An and Yuan Li, Optimal H^1 error analysis of a fractional step finite element scheme for a hybrid MHD system, **Journal of Applied Analysis and Computation**, 11(2021), pp.1535-1556.

[18] Bolin Chen and Rong An, Unconditionally optimal convergence analysis of second-order BDF scheme for Landau-Lifshitz equation, **Journal of Applied Analysis and Computation**, 11(2021), pp.1391-1404.

[19] Guomei Zhao and Rong An, Optimal error analysis of partially-updated projection FEM scheme for the Landau-Lifshitz equation based on the Crank-Nicolson discretization, **Journal of Applied Analysis and Computation**, 11(2021), pp. 3115–3132.

[20] Rong An, Error analysis of a new fractional-step method for the incompressible Navier-Stokes equations with variable density, **Journal of Scientific Computing**, 84(2020), Article number:3.

[21] Rong An, Iteration penalty method for the incompressible Navier-Stokes equations with variable density based on the artificial compressible method, **Advances in Computational Mathematics**, 46(2020), Article number:5, 29pages.

[22] Rong An, Error analysis of a time-splitting method for incompressible flows with variable density, **Applied Numerical Mathematics**, 150(2020), pp.384-395.

[23] Rong An, Can Zhou and Jian Su, A new higher order fractional-step method for the incompressible Navier-Stokes equations, **Advances in Applied Mathematics and Mechanics** , 12(2020), pp.362-385.

[24] Rong An and Jian Su, Optimal error estimates of semi-implicit Galerkin method for time-dependent nematic liquid crystal flows, **Journal of Scientific Computing**, 74(2018), pp.979-1008.

[25] Yuan Li, Yanjie Ma and Rong An, Decoupled, semi-implicit scheme for a coupled system arising in magnetohydrodynamics problem, **Applied Numerical Mathematics**, 127(2018), pp.142-163.

[26] Rong An and Yuan Li, Error analysis of first-order projection method for time-dependent magnetohydrodynamics equations, **Applied Numerical Mathematics**, 112(2017), pp.167-181.

[27] Rong An and Can Zhou, Error analysis of a fractional-step method for magneto-hydrodynamics equations, **Journal of Computational and Applied Mathematics**, 313(2017), pp.168-184.

[28] Hailong Qiu, Rong An, Liquan Mei and Changfeng Xue, Two-step algorithms for the stationary incompressible Navier-Stokes equations with friction boundary conditions, **Applied Numerical Mathematics**, 120(2017), pp.97-114.

[29] Caidi Zhao, Guowei Liu and Rong An, Global well-posedness and Pullback attractors for an incompressible non-Newtonian fluid with infinite delays, **Differential Equations and Dynamical Systems**, 25(2017), pp.39-64.

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[41] Rong An and Xian Wang, Two-level Brezzi-Pitk?ranta discretization method based on Newton iteration for Navier-Stokes equations with friction boundary conditions, **Abstract and Applied Analysis**, 2014, Article ID 474160, 14 pages.

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[44] 安荣, 李媛, 具有梯度限制的四阶障碍问题的增广 Lagrange 迭代方法, **计算数学**, 35(2013), pp.11-20.

[45] Yuan Li and Rong An, Two-level iteration penalty methods for Navier-Stokes equations with friction boundary conditions. **Abstract and Applied Analysis**, 2013, Article ID 125139, 17 pages.

[46] Rong An and Kaitai Li, Approximation for Navier-Stokes equations around a rotating obstacle, **Applied Mathematics Letters**, 25(2012), pp.209-214.

[47] Yuan Li and Rong An, Penalty finite element method for Navier-Stokes equations with nonlinear slip boundary conditions. **International Journal for Numerical Methods in Fluids**, 69(2012), pp.550-566.

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[49] Yuan Li and Rong An, Semi-discrete stabilized finite element methods for Navier-Stokes equations with nonlinear slip boundary conditions based on regularization procedure, **Numerische Mathematik**, 117(2011), pp.1-36.

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[51] Rong An, Yuan Li and Kaitai Li, Fundamental solution of rotating generalized Stokes problem in R^3, **Acta Mathematicae Applicatae Sinica, English Series**, 27(2011), pp.761-768.

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[57] Rong An, Discontinuous Galerkin Finite Element Method for the Fourth-Order Obstacle Problem, **Applied Mathematics and Computation**, 209(2009), pp.351-355.

[58] 安荣, 张正策, 李媛, 李开泰, 具有指数增长的非线性 P-双调和问题解的存在性和非存在性, **数学年刊**, 30(2009), pp.1-12.

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[65] 李媛, 安荣, 李开泰, 一个新 Pohozaev 恒等式及其在四阶拟线性椭圆方程中的应用, **西安交通大学学报 (自然科学版)**, 41(2007), pp.1245-1247.

指导硕士生

2010 级 邱海龙

2011 级 王贤

2012 级 刘安, 张雨晴

2015 级 周粲

2016 级 龚欢

2017 级 张超

2018 级 武静珂, 陈柏霖

2019 级 傅天添, 赵果玫

2020 级 唐哲谦, 胡帅飞, 梅燕华

2021 级 严乐祥, 万唯文, 赵云丹

2022 级 卢奕含, 田耕耘

2023 级 李健, 徐轩

2024 级 鲁歆林, 叶杞

指导本科生竞赛

2017 年 美国大学生数学建模竞赛二等奖

2011, 2018 年 全国研究生数学建模竞赛三等奖

2019 年 第十届全国大学生数学竞赛决赛 (数学类) 三等奖

科研获奖

- 王玮明, 赵才地 安荣, 等　种群动力学和流体力学中若干偏微分方程问题的定性和算法研究, **浙江省自然科学奖三等奖**, 2015 年