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教育背景

1988 - 1992 博士研究生, 北京大学数学科学学院
导师: 应隆安教授

工作经历

2001- 常务副主任, 北京大学科学与工程计算中心
1999- 系主任, 北京大学数学科学学院科学与工程计算系
1996- 教授, 北京大学数学科学学院
1994 - 1996 副教授, 北京大学数学科学学院
1992 - 1994 讲师, 北京大学数学科学学院

研究领域

复杂流体的多尺度建模与计算
多尺度分析与计算
移动网格方法及其应用

所获荣誉与奖励

2007 与汤涛、李若和汤华中合作的项目“基于调和映射的移动网格方法及其应用”获得教育部高校科学技术奖自然科学一等奖
2002 国家杰出青年基金
2002 长江学者
1999 冯康科学计算奖

学术兼职

2006 - 学术委员会副主任, 北京应用物理与计算数学研究所计算物理实验室
2004 - 副理事长, 中国工业与应用数学学会(CSIAM)
2004 - 学术委员会主任, 中国工业与应用数学学会(CSIAM)
2006 - 学术委员会委员, “大规模科学与工程计算”国家重点实验室
2002 - 2006 副理事长, 中国计算数学学会
2001 - 2006 学术委员会副主任, “大规模科学与工程计算”国家重点实验室
2005 - 兼职教授, 吉林大学
2004 - 兼职教授, 湘潭大学
2004 - 兼职教授, 苏州大学
1999 - 2001 兼职教授, 清华大学

学术交流

2004 访问学者, Applied and Computational Mathematics, Princeton University (3 个月)
2002 访问学者, Applied and Computational Mathematics, Princeton University (2 个月)
1999 访问学者, Department of Applied Mathematics, California Institute of Technology (2 个月)
1997 访问学者, Department of Applied Mathematics, California Institute of Technology (10 个月)
1995 访问学者, Department of Applied Mathematics, California Institute of Technology (11 个月)

杂志编委

2007 Journal of Computational Mathematics (JCM)
2006 Communications in Computational Physics (CiCP)
2005 Communications in Mathematical Sciences (CMS)
2005 SIAM Journal on Numerical Analysis (SINUM)

部分研究论文

复杂流体的多尺度建模与计算

1. Dan Hu, Pingwen Zhang and Weinan E, *Continuum theory of a moving membrane*, **Physical Review E** 75 (4): Art. No. 041605 Part 1 Apr. (2007)
2. Haijun Yu and Pingwen Zhang, *A kinetic-hydrodynamic simulation of microstructure of liquid crystal polymers in plane shear flow*, **Journal of Non-Newtonian Fluid Mechanics** 141 (2-3): 116-127 Feb. 15 (2007)
3. Tiejun Li and Pingwen Zhang, *Mathematical analysis of multi-scale models of complex fluids*, **Communications in Mathematical Sciences** 5 (1): 1-51 Mar. (2007)
4. Dongzhuo Zhou, Pingwen Zhang and Weinan E, *Modified models of polymer phase separation*, **Physical Review E** 73 (6): Art. No. 061801 Part 1 Jun. (2006)
5. Hui Zhang and Pingwen Zhang, *Local existence for the FENE-dumbbell model of polymeric fluids*, **Archive for Rational Mechanics and Analysis**, 181 (2): 373-400 Jul. (2006)
6. Tiejun Li and Pingwen Zhang, *Convergence analysis of BCF method for Hookean dumbbell model with finite difference scheme*, **Multiscale Modeling & Simulation**, 5 (1): 205-234 (2006)
7. Hailiang Liu, Hui Zhang and Pingwen Zhang, *Axial symmetry and classification of stationary solutions of Doi-Onsager equation on the sphere with Maier-Saupe potential*, **Communications in Mathematical Sciences**, 3: 201-218, (2005)
8. Chong Luo, Hui Zhang and Pingwen Zhang, *The structure of equilibrium solutions of one-dimensional Doi equation*, **Nonlinearity**, 18, 379-389, (2005)

多尺度分析与计算

1. Pingbing Ming and Pingwen Zhang, *Analysis of the heterogeneous multiscale method for parabolic homogenization problems*, **Mathematics of Computation** 76 (257): 153-177 (2007)
2. Weinan E, Pingbing Ming and Pingwen Zhang, *Analysis of the heterogeneous multiscale method for elliptic homogenization problems*, **Journal of the American Mathematical Society** 18 (1): 121-156, (2005)
3. Weinan E, Tiejun Li and Pingwen Zhang, *Well-posedness for the dumbbell model of polymeric fluids*, **Communications in Mathematical Physics**, 248 (2): 409-427, (2004)

移动网格方法及其应用

1. Yana Di, Ruo Li, Tao Tang, and Pingwen Zhang, *Moving mesh methods for singular problems on a sphere using perturbed harmonic mappings*, **SIAM Journal on Scientific Computing**, 28, 1490-1508 (2006)
2. Yana Di, Ruo Li, Tao Tang and Pingwen Zhang, *Moving mesh finite element methods for the incompressible Navier-Stokes equations*, **SIAM Journal on Scientific Computing**, 26 (3): 1036-1056, (2005)
3. Huazhong Tang, Tao Tang and Pingwen Zhang, *An adaptive mesh redistribution method for nonlinear hamiltonian-jacobi equations in two and three dimensions*, **Journal of Computational Physics**, 188 (2) 543 - 572, (2003)
4. Rou Li, Tao Tang and Pingwen Zhang, *A moving mesh finite element algorithm for singular problems for two and three space dimensions*, **Journal Computational Physics**, 177, 365-393 (2002)
5. Rou Li, Tao Tang and Pingwen Zhang, *Moving mesh methods in multiple dimensions based on harmonic maps*, **Journal of Computational Physics**, 170, 562-588 (2001)

其它

1. Xia Ji, Tiao Lu T, Wei Cai and Pingwen Zhang, *Discontinuous Galerkin time domain (DGTD) methods for the study of 2-D waveguide-coupled microring resonators*, **Journal of Lightwave Technology**, 23 (11): 3864-3874 (2005)
2. Tiao Lu, Wei Cai and Pingwen Zhang, *Discontinuous Galerkin time-domain method for GPR simulation in dispersive media*, **IEEE Transactions on Geoscience and Remote Sensing**, 43 (1): 72-80, (2005)
3. Tiao Lu, Pingwen Zhang and Wei Cai, *Discontinuous Galerkin methods for dispersive and lossy Maxwell's equations and PML boundary conditions*, **Journal of Computational Physics**, 200 (2): 549-580, (2004)
4. Thomas Y. Hou and Pingwen Zhang, *Convergence of a boundary integral method for 3-D water waves*, **Discrete and Continuous Dynamical Systems Series B**, Vol. 2, Number 1, 1-34 (2002)
5. Zhenhuan Teng and Pingwen Zhang, *Optimal L^1 -rate of convergence for viscosity method and monotone scheme to piecewise constant solution with shocks*, **SIAM Journal on Numerical Analysis**, Vol. 34, 3, 959-978, (1997)
6. Thomas Y. Hou, Zhenhuan Teng and Pingwen Zhang, *Well-posedness for linearized motion of 3-D water waves far from equilibrium*, **Communications in Partial Differential Equations**, 21 (9 & 10), 1551-1585, (1996)
7. Zhenhuan Teng, Long-an Ying and Pingwen Zhang, *Convergence of variable-elliptic-vortex method for Euler equations*, **SIAM Journal on Numerical Analysis**, Vol 32 No. 3, 754-774, (1995)
8. Long-an Ying and Pingwen Zhang, *Fully discrete convergence estimates for vortex methods in bounded domains*, **SIAM Journal on Numerical Analysis**, Vol 31, No. 2, 344-361, (1994).