

姓名	何文明	职称	教授
学位	理学博士	电子邮箱	he_wenming@aliyun.com
研究方向	偏微分方程数值解	现任职务	无
学术论著	[1]Wenming He and Hailong Guo, Optimal maximum norm estimates for virtual element methods, SIAM J. Numer. Anal.,60(2022),1251 – 1280. [2] Wenming He, Zhimin Zhang*, Supconvergence of Bi-k Degree Rectangular Elements at Vertexes for the Poisson Problem, Math. Comp., 86(2017):306, 1693–1718. [3] Wenming He, Runchang Lin, and Zhimin Zhang*, Ultraconvergence of finite element method by Richardson extrapolation for elliptic problems with constant coefficients, SIAM J. Numer. Anal., 54(2016):4, 2302–2322. [4] Wenming He*, Zhimin Zhang, and Jingsong Zou, Ultraconvergence of high order FEMs for elliptic problems with variable coefficients, Numer. Math., 136(2017),215–248 [5] Wenming He, Zhimin Zhang, and Jingsong Zou*, Maximum-norms error estimates for high-order finite volume schemes over quadrilateral meshes, Numer. Math.,138(2018), 473–500 [6] Wenming He*, Jiangman Shen, and Junzhi Cui, The Local ultraconvergence for high-degree Galerkin finite element methods, J. Math. Anal. Appl., 446 (2017), 62–86. [7]A novel post-processed finite element method and its convergence for partial differential equations, Journal of Computational and Applied Mathematics, 2025.01 [8]Wenming He and Hao Dong, The estimation of the electromagnetic coupling effect for the transverse isotropic laminated multi-ferroic rectangular plates, Composite Structures,282 (2022):15, 115066. [9] Wenming He*, Zhimin Zhang, and Ren Zhao, The highest superconvergence of the tri-linear element for Schrodinger operator with singularity, J. Sci. Comput., 66(2016),1–18.		

- [10] **Wenming He**, The local ultraconvergence of high-order finite element method for second order elliptic problems with constant coefficients over a rectangular partition, *Numer. Methods Partial Differential Equations*, 35 (2019), 2044–2055.
- [11] **Wenming He**, Runchang Lin, and Zhimin Zhang*, Local ultraconvergence of linear and bilinear finite element method for second order elliptic problems, *J. Comput. Appl. Math.*, <https://doi.org/10.1016/j.cam.2020.112715>.
- [12] Wenming He, Xiong Liu, and Jin Xiao, Local ultraconvergence of high order finite element methods by interpolation postprocessing technique for elliptic problems with constant coefficients, *Computers & Mathematics with Applications*, <http://doi.org/10.1016/j.camwa.2019.11.016>.
- [13] **Wenming He***, Junzhi Cui, and Qiding Zhu, The local superconvergence of the linear finite element method for the Poisson problem, *Numer. Methods Partial Differential Equations*, 30 (2014), 930–946.
- [14] **Wenming He***, Junzhi Cui, and Qiding Zhu, The local superconvergence of the quadratic triangular element for the Poisson problem in a polygonal domain, *Numer. Methods Partial Differential Equations*, 30(2014), 1854–1876.
- [15] **Wenming He***, Xiaofei Guan, and Junzhi Cui, The Local superconvergence of the trilinear element for the three-dimensional Poisson problem, *J. Math. Anal. Appl.*, 388 (2012), 863–872.
- [16] **Wenming He***, Weiqiu Chen, Local superconvergence of the derivative for tensor-product block FEM, *Numer. Methods Partial Differential Equations*, 28(2012), 457–475.
- [17] **Wenming He**, A new superconvergence and extrapolation for second order triangular element *Appl. Math. Comput.* 174 (2006) ,300–315.
- [18] **Wenming He**, Error estimates for finite element method about elliptic problem singular righthand side, *Appl. Math. Comput.* , 188 (2007) ,824–832.
- [19] Wenming He, High effective finite element algorithm for elliptic partial differential Equation, *Appl. Math. Comput.* , 187 (2007), 1567–1573.
- [20] **Wenming He***, Junzhi Cui, Error estimate of the homogenization solution for elliptic problems with small periodic coefficients on $L^\infty(\Omega)$, *SCIENCE CHINA Mathematics*, 53(2010):5, 1231–1252.

- [21] **Wenming He***, Junzhi Cui, A pointwise estimate on the 1-order approximation of $G_{x_0}^\varepsilon$, IMA J. Appl. Math., 70 (2005), 241–269.
- [22] **Wenming He**, Junzhi Cui, A finite element method for elliptic problems with rapidly oscillating coefficients, BIT Numerical Mathematics, 47 (2007), 77–102.
- [23] **Wenming He***, Junzhi Cui, A local error estimate for the method of multiscale asymptotic expansions for elliptic problem with rapidly oscillating coefficients, J. Math. Anal. Appl., 329 (2007), 547–556.
- [24] **Wenming He***, Junzhi Cui, A new approximate method for second order elliptic problems with rapidly oscillating coefficients based on the method of multiscale asymptotic expansions, J. Math. Anal. Appl. 335 (2007) , 657–668.
- [25] Wenming He*, Junzhi Cui, Asymptotic expansion method for the two point boundary value problem with small periodic structure, Appl. Math. Comput. , 161 (2005), 667–678.
- [26] Wenming He, Junzhi Cui, The Estimate of the multi-scale homogenization method for Green's function on Sobolev space $W^{1,q}(\Omega)$, Communication in Pure and Applied Analysis, 11(2012),501–516.
- [27] **Wenming He***, Changsheng Lin, and Junzhi Cui, Finite element approximation of Green function $G_{x_0}^\varepsilon$ based on the method of multi-scale asymptotic expansions, Appl. Math. Comput. , 174(2006) , 199–222.
- [28] **Wenming He**, Asymptotic expansion method for some nonlinear two point boundary value problems with rapidly oscillating coefficients, Nonlinear Analysis-Real World Applications, 8 (2007) ,1390–1397.
- [29] **Wenming He**, Asymptotic expansions of one-dimensional second order Helmholtz equation with rapidly oscillating coefficient, Appl. Math. Comput., 188(2007) , 1921–1929.
- [30] **Wenming He**, Weiqiu Chen, and Hua Qiao*, In-plane vibration of rectangular plates with periodic inhomogeneity: Natural frequencies and their adjustment, Composite Structures,105(2013), 134–140.
- [31] **Wenming He**, Hua Qiao*, and Weiqiu Chen, Analytical solutions of heterogeneous rectangular plates with transverse small periodicity, Composites Part B: Engineering, 43 (2012), 1056–1062.

	[32] Wenming He, Weiqiu Chen, and Hua Qiao*, Frequency estimate and adjustment of composite beams with small periodicity , Composites Part B: Engineering , 45 (2013) ,742–747. [33] Wenming He, Weiqiu Chen, and Hua Qiao*, Two-scale analytical solutions of multilayered composite rectangular plates with in-plane small periodic structure, European Journal of Mechanics A/Solids, 40 (2013), 123–130. [34] Wenming He, Xiaofei Guan, and Jiao Tan, The method of multiscale asymptotic expansions and its corresponding finite element algorithm for the problem of heat exchange in composite plane wall, International Journal of Modern Physics B, 24 (2010):17,3425–3438. [35]Wenming He, Xiaofei Guan, and Xinjun Zhang, The method of multiscale asymptotic expansions for the problem of heat exchange in composite plane wall with stationary random fields, International Journal of Modern Physics B, 25(2011): 1, 143–151. [36] Wenming He, Yongping Feng, and Xiaofei Guan, Some estimates for a multiscale finite element algorithm for elliptic problems with rapidly oscillating coefficients, International Journal of Modern Physics B, 25(2011):20, 2729–2739.
科研项目	近年主持的主要科研项目 1 国家自然科学基金面上项目：界面问题的高效虚拟元法（12371397）（直接经费 43.5 万），起止时间：2024.01-2027.12 2 国家自然科学基金面上项目：具有奇性的多物理场耦合的电磁复合材料及其结构的多尺度模型与数值模拟方法研究（11671304）（直接经费 48 万），起止时间：2017.01-2020.12（结题） 3 国家自然科学基金面上项目:多铁性材料及其结构性能预测的多尺度模型与数值模拟方法研究（11171257）（直接经费 46 万），起止时间：2012.01-2015.12 (已结题)

	4 广东省自然科学基金面上项目：具有奇性的近似不可压的线弹性体的高效虚拟元方法(2023A1515010803)（10 万)2023.01-2025.12 5 浙江省自然科学基金项目:具有奇性的偏微分方程的高精度有限元算法研究（6 万） 2015.01-2017.12 6 浙江省自然科学基金项目：具有多尺度特征的多铁性材料与结构性能预报（6 万） 2010.01-2012.12 7 浙江省中青年学科带头人培育项目（6 万） 多尺度方法在材料学中的应用 8 全国博士后基金面上资助项目：多铁性材料性能的多尺度模拟（3 万） 2019.04-2010.12
主讲课程	复变函数、离散数学、数据结构、数值分析、微积分
工作经历	1998. 07-2000. 08，湖南师范大学，理学院 2003. 06-2017. 12 温州大学数学与信息科学学院 (2009. 1-2011. 12 浙江大学航空航天学院博士后（在职）) 2018. 2-2024. 8，岭南师范学院数学与统计学院 2024. 9-至今，广东财经大学，统计与数学学院
访学经历	2013-2017 年多次访问北京计算科学中心以及中科院数学与系统科学研究院
学术与社会兼职	国家自然科学基金通讯评审专家以及广东、北京、湖南、吉林、广西等多个省份的自然科学基金及自然科学奖的评审专家、多个 SCI 杂志的审稿人
个人荣誉	2013 年入选浙江省中青年学科带头人