**郑辉**



**性别：男 导师类型：博士生导师（水利）**

**职称：教授 学科方向：力学、水利**

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**个人简介：**2012年硕士毕业于河海大学（导师陈文教授），2016年博士毕业于德国锡根大学（导师张传增教授），之后在英国考文垂大学做博士后，2017年加入南昌大学力学实验中心，江西省省级高层次人才，校聘教授。主持国家自然基金面上项目、地区项目、青年项目各1项，担任SCI期刊《Engineering analysis with boundary element method》编委，《应用力学与数学》学报青年编委。主要从事数值模拟方法、声子晶体超材料、以及口腔力学等相关研究工作。

**讲授课程：**《工程力学》、《工程力学实验》、《弹性力学》

**科研项目/课题（限5项选填）**：

1，国家自然基金面上项目“基于非局部理论描述的三维纳米声子晶体波动特性无网格法研究” 12172159（主持，在研）

2，国家自然基金青年项目“复杂几何结构声子晶体高精度模拟的局部径向基函数无网格配点法研究” 项目批准号11702125（主持，已结题）

3，国家自然基金地区项目“基于CBCT和纳米CT的三维牙隐裂数值模拟分析 ”12362019（主持，在研）

4，教育部对台交流一般项目

5，江西省省级高层次人才项目

**部分论文专著（限10项选填）：**

1, **Zheng Hui**, Zhang Chuanzeng**\*,** Wang Yuesheng, Chen Wen, Sladek Jan, Sladek Vladimir. A local RBF collocation method for band structure computations of 2D solid/fluid and fluid/solid phononic crystals, International Journal for Numerical Methods in Engineering, 2017,110(5):467--500.

2, **Zheng Hui**, Zhang Chuanzeng**\***, Wang Yuesheng, Sladek Jan, Sladek Vladimir. A meshfree local RBF collocation method for anti-plane transverse elastic wave propagation analysis in 2D phononic crystals, Journal of Computational Physics, 2016, 305:997--1014.

3, **Zheng Hui,** Yang Zhenjun, Zhang Chuanzeng**\***, Tyrer Mark. A local radial basis function collocation method for band structure computation of phononic crystals with scatterers of arbitrary geometry. Applied Mathematical Modelling, 2018,60:447--459.

4, **Hui Zheng,** Zhenjun Yang, Chuanzeng Zhang**\***. A local radial basis function collocation method for band structure computation of 3D phononic crystals. Applied Mathematical Modeling, 2020, 77: 1954--1964

5, **Hui Zheng**, Chuanbing Zhou, Dong-Jia Yan**\***, Yue-Sheng Wang, Chuanzeng Zhang. A meshless collocation method for band structure simulation of nanoscale phononic crystals based on nonlocal elasticity theory. Journal of Computational Physics 2020. 408: 109268.

6, **H. Zheng**, M.X. Wu, C. Deng, Y. Shi. 3D elastic dental analysis by a local RBF collocation method. Applied Mathematical Modelling 2021; 99: 41-56.

7, **Hui Zheng**, Xujie Lu, Pengfei Jiang, Yabing Yang. Numerical simulation of 3D double-nozzles printing by considering a stabilized localized radial basis function collocation method. Additive Manufacturing 2022; 58: 103040.

8, Pengfei Jiang, **Hui Zheng\***, Jingang Xiong, Chuanzeng Zhang. A stabilized local RBF collocation method for incompressible Navier–Stokes equations. Computers and Fluids 2023; 265: 105988.

9, Xuebao Yan, **Hui Zheng\***, Dongjia Yan. [Analysis of the band structure of transient in-plane elastic waves based on the localized radial basis function collocation method](https://t.author.email.elsevier.com/r/?id=h5a4db2de,157aae00,f1ae6a5&e=dXRtX2NhbXBhaWduPVNUTUpfQVVUSF9TRVJWX1BVQkxJU0hFRCZ1dG1fbWVkaXVtPWVtYWlsJnV0bV9hY2lkPTgwNzkwNTE2JlNJU19JRD0mZGdjaWQ9U1RNSl9BVVRIX1NFUlZfUFVCTElTSEVEJkNNWF9JRD0mdXRtX2luPURNNDA5MjA1JnV0bV9zb3VyY2U9QUNfJnAxPVMwMzA3OTA0WDIzMDA0MTA5&s=CUMPJqa1Uv4-JYUZF3IfsXSxQ0wFJNivswSL0xhwIeM" \t "https://mail.ncu.edu.cn/cgi-bin/_blank). Applied Mathematical Modelling 2024; 125: 468-484.

10, Pengfei Jiang, **Hui Zheng\***, Jingang Xiong, Timon Rabczuk. An adaptive support domain for the in-compressible fluid flow based on the localized radial basis function collocation method. [Computers & Mathematics with Applications](https://www.sciencedirect.com/journal/computers-and-mathematics-with-applications%22%20%5Co%20%22Go%20to%20Computers%20%26%20Mathematics%20with%20Applications%20on%20ScienceDirect) 2024; 156: 29-41.