



## 教授名录-吕战鹏

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吕战鹏, 男, 博士, 研究员, 博士生导师, 上海大学材料科学与工程学院材料研究所, 日本东北大学客座教授。1984-1991年就读于华中理工大学化学系, 1988年获学士学位, 1991年获硕士学位。1996年毕业于中科院上海冶金研究所, 获博士学位。1991-1993在华中理工大学任助教; 1996-2001在上海材料研究所任工程师及高级工程师; 2001-2003在日本东北大学任JSPS海外特别研究员; 2003-2005任日本东北大学21世纪COE研究员; 2005-2011年任日本东北大学副教授。发表学术论文一百三十余篇, 其中SCI收录论文四十余篇。2000年入选上海市青年科技启明星计划, 2012年入选上海市浦江人才计划。担任中文核心期刊《腐蚀科学与防护技术》及《腐蚀与防护》编委。当选为中国腐蚀与防护学会第九届理事会常务理事, 上海市核学会第十届理事会理事兼核材料专业委员会主任委员, 上海市腐蚀科学技术学会理事。

## 主要研究领域

核电站材料的腐蚀与环境促进开裂, 磁场对金属腐蚀及电极过程的作用

## 主持的主要国家与省部级科研项目

- [1] 国家自然科学基金面上项目, “预形变、晶界碳化物和氢影响核电镍基合金应力腐蚀开裂的耦合作用机制”, 2018-2021.
- [2] 国家自然科学基金面上项目, “磁场对铁局部腐蚀自催化过程的影响”, 2016-2019.
- [3] 教育部博士点基金博导类项目, “核电用奥氏体合金高温水应力腐蚀裂纹扩展速率控制基元过程”, 2013 -2015.
- [4] 上海市科委国际合作项目, “灾害冲击影响核电站关键材料服役性能的安全审评研究”, 2013-2015.
- [5] 上海市浦江人才计划, “核电用材料强化机制与高温水化学交互作用下的应力腐蚀开裂动力学”, 2012-2014.
- [6] 日本学术振兴会科学研究费, “材料的弹塑性各向异性对高温水中应力腐蚀破裂的力学电化学交互作用机制”, 2008-2010
- [7] 日本学术振兴会科学研究费, “应力腐蚀裂纹扩展热激活基元过程的动力学解析”, 2006-2007
- [8] 国家科技部社会公益专项基金项目, “核电材料环境促进开裂安全审评依据研究”, 2001-2003.
- [9] 上海市科委启明星计划项目, “铁镍基合金碱性应力腐蚀机理”, 2000~2002
- [10] 上海市自然科学基金, “离子束辐照方法模拟辐照应力腐蚀的研究”. 2000~2002.
- [11] 国家自然科学基金面上项目, “磁场对腐蚀金属界面反应的作用规律”, 1999-2001.

## 主要论文

- [1] Q. Xiong, H.J. Li, Z.P. Lu, J.J. Chen, Q. Xiao, J.R. Ma, X.K. Ru Characterization of microstructure of A508III/309L/308L weld and oxide films formed in deaerated high-temperature water, Journal of Nuclear Materials, 2018(498) 227-240.
- [2] X.K. Ru, Z.P. Lu, J.J. Chen, G.D. Han, J.L. Zhang, P.F. Hu, X. Liang. Effects of iron content in Ni-Cr-xFe alloys and immersion time on the oxide films formed in a simulated PWR water environment, Journal of Nuclear Materials, 2017(497) 37-53.
- [3] H.J. Li, Q. Xiong, Z.P. Lu, J.J. Chen, Q. Xiao, X.K. Ru, S.C. Lin, J.R. Ma, Z. Chen, A magnetic field induced undulated surface and the shift of the active/passivation transition threshold of iron in a sulfuric acid solution, Corrosion Science, 2017(129) 179-191.

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联系方式:

上海大学材料科学与工程学院 材料研究所

上海市延长路149号269信箱, 邮编200072

联系电话: +86-21-56336107

E-mail: [zplu@t.shu.edu.cn](mailto:zplu@t.shu.edu.cn)

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上海大学 材料科学与工程学院 上海市延长路149号  
邮编: 200072 电话(传真): 86-21-56332475 联系我们