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教育经历:

2012.9-2017.7 中国科学院兰州化学物理研究所 物理化学, 理学博士;

2008.9-2012.7 临沂大学 应用化学, 理学学士。

工作经历:

2017.7-2024.1 长江师范学院, 讲师;

2024.1 至今 鲁东大学物理与光电工程学院, 讲师。

目前研究领域:

高端装备润滑材料与摩擦物理化学;

界面摩擦电与物理。

科研项目:

重庆市自然科学基金面上项目, cstc2020jcyj-msxmX0462, 主持, 结题。

固体润滑国家重点实验室开放课题, LSL-1806, 主持, 结题。

重庆市教育委员会科学技术研究项目, KJQN201801415, 主持, 结题。

获得奖励情况和荣誉称号:

事业单位年度考核优秀奖 (2021);

朱李月华优秀博士生奖 (2017);

中国科学院大学“三好学生” (2017);

雅富顿润滑科技奖学金 (2016)。

主讲课程:

《材料分析检测技术》、《材料现代测试方法》《材料现代测试方法实验》

代表性成果:

1. **L. Zhu***, J. Dong, Q. Zeng, M. Chao, K. Gong, W. Li, X. Wang. A comprehensive study of amino acids based ionic liquids as green lubricants for various contacts. *Tribology International*, **2021**, 162, 107137.

2. **L. Zhu**, J. Dong, Q. Zeng, M. Chao, W. Li, K. Gong, X. Wang. Study of two green phosphonium-based ionic liquids lubricants for steel/steel contact. *Lubrication Science*, **2022**, 34, 467-479.

3. **L. Zhu**, J. Dong, Q. Zeng. High temperature solid/liquid lubrication behaviours of DLC films. *Lubrication Science*, **2021**, 33, 229-245.

4. **L. Zhu**, G. Zhao, X. Wang. Investigation on three oil-miscible ionic liquids as antiwear additives for polyol esters at elevated temperature. *Tribology International*, **2017**, 109, 336-345.

5. **L. Zhu**, X. Wu, G. Zhao, X. Wang. Tribological characteristics of bisphenol AF bis(diphenyl phosphate) as an antiwear additive in polyalkylene glycol and polyurea grease for significantly improved lubrication. *Applied Surface Science*, **2016**, 363, 145-153.

6. **L. Zhu**, J. Dong, H. Zhang, C. Xu, X. Zhao, Y. Yao, Q. Zeng. Nitrogen-doped carbon nanotubes encapsulated Bi nanobuds for lithium based high-performance energy storage devices. *Journal of Alloys and Compounds*, **2021**, 856, 158204.

7. **L. Zhu**, J. Dong, Y. Ma, Y. Jia, C. Peng, W. Li, M. Zhang, K. Gong, X. Wang*. Synthesis and investigation of halogen-free phosphonium based ionic liquids for lubrication applications. *Tribology Transactions*, **2019**, 62, 943-954.

8. **L. Zhu**, Q. Zhao, X. Wu, G. Zhao, X. Wang. A novel phosphate ionic liquid plays dual role in synthetic ester oil: From synthetic catalyst to anti-wear additive. *Tribology International*, **2016**, 97, 192-199.

9. **L. Zhu**, X. Wu, G. Zhao, X. Wang. Effect of a new phosphate compound (BAFDP) addition on the lubricating performance of engine oils at elevated temperatures. *Tribology International*, **2016**, 4, 383-391.

10. **L. Zhu**, X. Wu, G. Zhao, X. Wang. Tribological characteristics of bisphenol S bis(diphenyl phosphate) as a high-performance antiwear additive in lubricating greases at elevated temperature. *Lubrication Science*, **2016**, 28, 433-448.

11. J. Dong, **L. Zhu**, P. Guo, C. Xu, X. Zhao, H. Guo, C. Hu, Q. L. Song. A bio-inspired total current nanogenerator. *Energy & Environmental Science*, **2023**, 16, 1071.

12. J. Dong, C. Xu, **L. Zhu**, X. Zhao, H. Zhou, H. Liu, G. Xu, G. Wang, G. Zhou, Q. Zeng, Q. Song. A high voltage direct current droplet-based electricity generator inspired by thunderbolts. *Nano Energy*, **2021**, 90, 106567.

13. H. Zhou, J. Dong, H. Liu, **L. Zhu**, C. Xu, X. He, S. Zhang, Q. Song. The coordination of displacement and conduction currents to boost the instantaneous power output of a water-tube triboelectric nanogenerator. *Nano Energy*, **2022**, 95, 107050.

发明专利

1. 王晓波, 朱丽丽。一种长链烷基咪唑磷酸酯离子液体及其制备方法和应用。发明专利, 公开号 CN105254663A, 已授权。

参加学术会议和学术兼职

1. 第六届西部青年摩擦学论坛, 2019年6月15日, 陕西宝鸡, 邀请报告。
2. 中科院兰州化物所润滑节能材料与技术前沿论坛, 2018年10月20日, 甘肃兰州, 会议嘉宾。
3. 第十七届全国催化学术会议, 2014年10月13-17日, 浙江杭州, 墙报。
4. 担任 Coatings 杂志 Guest Editor for Special Issue “Recent Advancement in Surface Modification of Metallic and Composite Materials”。