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CoSe₂-based cathode Materials for Al-ion battery

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Mon. 16:00 | Seminar Room on the 1st floor

Abstract

Aluminum-ion batteries (AIBs) are regarded as the next generation of low-cost and high-capacity electrical energy storage systems. Compared to graphene-based cathodes, metal dichalcogenide cathodes can potentially provide AIBs with higher capacities. However, metal dichalcogenides suffer from poor cycling performance, hindering further development of high-capacity AIBs. Thus, to further improve the performance of AIBs, it is imperative to gain a deep understanding of the mechanisms behind the energy-storage and capacity-deterioration characteristics of these materials. Our recent work on metal selenide will be discussed in this talk.

Reference:

- [1] M.C. Lin, M. Gong, B. Lu, *et al.*, *Nature* 520, 324 (2015)
- [2] S. Wang, Z. Yu, J. Tu, *et al.*, *Adv. Energy Mater.*, 6, 1600137, (2016)
- [3] Y. Hu, D. Ye, B. Luo, *et al.*, *Adv. Mater.*, 30, 1703824 (2017).
- [4] T. Cai, L. Zhao, H. Hu, *et al.*, *Energy Environ. Sci.*, 2018, DOI: 10.1039/c8ee00822a

Prof. Wei Xing got his B.Eng., M.Eng., Ph.D. degrees from China University of Petroleum. Currently, he is a young scientist at the School of Science, China University of Petroleum. His research expertise is in functional materials for adsorption and new energy technologies. He has co-authored more than 100 papers in refereed journals. He has filed six patents on novel energy nanomaterials; these materials are very promising for energy storage and gas adsorption, etc. He has attracted more than 16 research grants from industrial partners, the National Natural Science Foundation of China, and Shandong Province. In recognition of his achievements in research, he was honored (twice) with a Distinguished Young Scientist and First-Level award in Natural Science by Shandong Province.

You are cordially invited to attend!

Special Guest Seminar