中国科学院
固体物理研究所

学术报告（10号，周四）

题目： Development of New Materials for Next Generation Rechargeable Batteries

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地点： Room 520, New building

报告摘要:

Carbon-based paper-like flexible materials for batteries have been studied in our group. To improve the practical capacity of the free-standing electrode materials, an electrochemically active second phase with higher capacity can be incorporated into the carbon-based paper-like films. To develop mechanically flexible and bendable lithium batteries, soft and free-standing cathode materials are also required. We have prepared and investigated free-standing conducting polypyrrole–based cathode materials .The Li–S battery is a very attractive energy storage system owing to its high theoretical specific capacity of 1672 mAh g−1 and theoretical power density of 2600 Whk g−1. Sulfur-carbon composites and sulfur-conducting polymer composites were prepared investigated as cathode materials for Li/S batteries . The rechargeable lithium-oxygen battery currently enjoys great scientific interest because theoretically, it can store significantly more energy, which exceeds that possible with lithium ion batteries. Cobalt-based and palladium-based cathode materials were synthesised and investigated.

报告人简介：Jiazhao Wang is a Professor at the Institute for Superconducting and Electronic Materials, University of Wollongong, Australia. She obtained her Ph.D. degree from the University of Wollongong in 2003. Her research activities are focused on electrochemical energy storage in batteries, including Li-ion batteries, Li-Air batteries, Li-S batteries, Na-ion batteries and Lead-acid. She has won 26 research grants including 16 Australian Research Council (ARC) grants as a chief investigator. She has successfully managed and completed 5 ARC projects as a team leader. She has published more than 170 refereed journal papers. She has been serving as a regular referee for more than 40 prestigious international journals.

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