

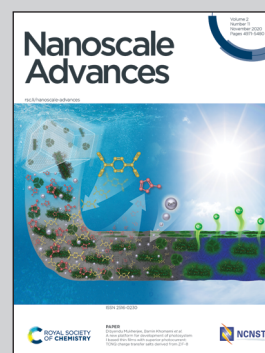


Showcasing research from Professor Guang Zhu's laboratory, Key Laboratory of Spin Electron and Nanomaterials of Anhui Higher Education Institutes, Suzhou University, Suzhou 234000, P. R. China.

A carbon-coated shuttle-like $\text{Fe}_2\text{O}_3/\text{Fe}_{1-x}\text{S}$ heterostructure derived from metal-organic frameworks with high pseudocapacitance for ultrafast lithium storage

Carbon-coated $\text{Fe}_2\text{O}_3/\text{Fe}_{1-x}\text{S}$ heterostructure is synthesized by annealing Fe-based metal-organic frameworks and sublimed sulfur as precursors. When evaluated as anode material for lithium ions batteries (LIBs), it exhibits excellent lithium ions storage performance and outstanding cycling stability at very high current density. The extraordinary performances for lithium ions storage can be attributed to its high electrical conductivity and enhanced pseudocapacitive contribution from surface effects. The current strategy is promising to synthesize the carbon-coated heterostructure derived from metal-organic frameworks for next-generation energy-storage application.

As featured in:



See Guang Zhu, Haifeng Xu *et al.*, *Nanoscale Adv.*, 2020, 2, 5201.