

Abstract:**Divalent ion chemistry for energy storage: Zn and Mg**

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Divalent ion chemistry presents new opportunities for large scale energy storage. It could potentially be more cost-effective, safer, and eco-friendly. However, current divalent ion battery technologies are far from mature. Significant progress on scientific discovery (new chemistry, new mechanisms, etc.) and engineering innovation (new materials, new systems, etc.) are needed. In this paper, we will present our new understanding on storage mechanisms of two divalent ion chemistries: Zn and Mg. The conversion type reaction of Zn chemistry and new molecular storage of Mg^{2+} will be discussed.

Short-bio:

Dr. Yuyan Shao is a Senior Scientist at Pacific Northwest National Laboratory. His research is on electrochemical materials and systems for energy storage and conversion. He is active in fundamental study and high-performance electrodes and electrolytes for batteries, fuel cells, and carbon-neutral fuels, etc. He has published ~100 papers which have received 9000 citations.

