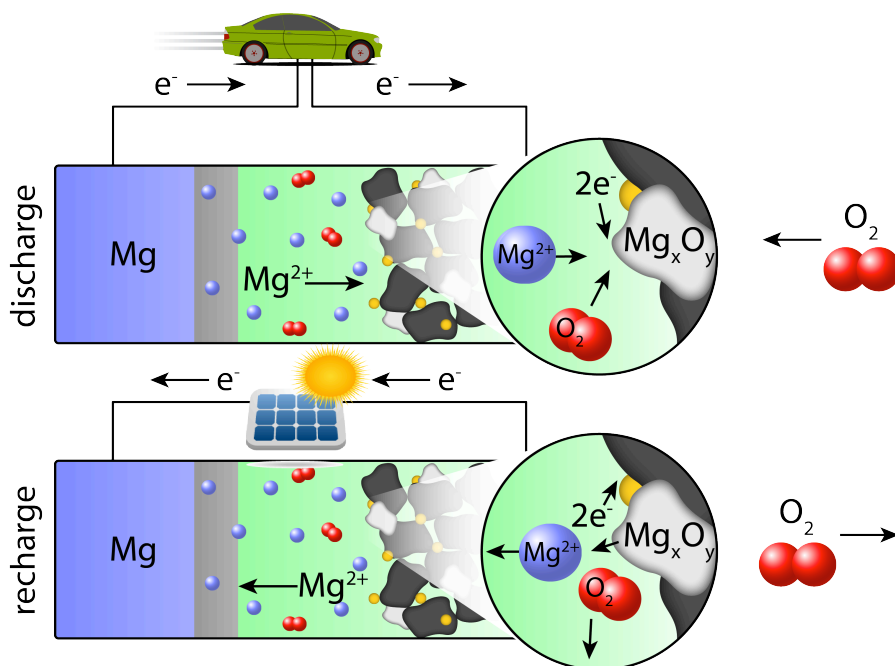


Rechargeable Next-Generation Magnesium/Oxygen Batteries

Gülin Vardar

Electrochemical energy storage devices that are robust, energy-dense, and cheap will accelerate the commercialization of electric vehicles. Magnesium/Oxygen (Mg/O_2) batteries are a promising system with the potential for very high energy densities. Furthermore, a rechargeable Mg/O_2 battery could be a cheaper and potentially safer alternative to lithium Li-ion batteries currently in use. The goal of this talk is to explore candidate magnesium electrolytes for use in Mg/O_2 batteries, and to assess the reaction mechanisms and performance of Mg/O_2 cells that employ these electrolytes.



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