

Mg₂Si as a New Anode Material for Mg-ion Batteries

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Next-generation batteries are being pursued to attain alternative energy storage systems based on Earth-abundant elements. Magnesium metal battery is one of the next-generation battery candidates due to the merits of Earth abundance of Mg and theoretically high volumetric capacity. Mg₂Si is a new alloy anode material candidate due to high theoretical specific capacity, 1398 mAh/g. To date, however, no one reported its reversible Mg storage ability. We present for the first time the ability of a reversible electrochemical demagnesiumation and magnesiumation of Mg₂Si anode utilizing thin film model electrode. Anode-electrolyte interfacial reaction will be discussed in the meeting.

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