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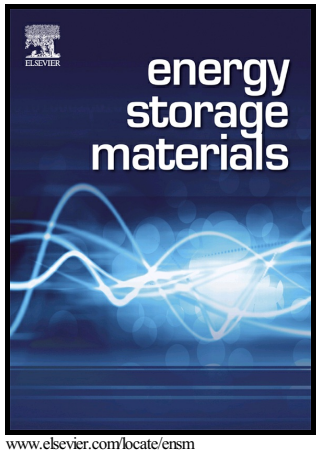

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CoO Nanofiber Decorated Nickel Foams as Lithium Dendrite Suppressing Host Skeletons for High Energy Lithium Metal Batteries

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Abstract

Lithium metal is considered to be the most promising anode for the next-generation lithium batteries. However, dendrite growth due to uneven Li plating during battery cycling leads to short circuit and safety hazards, as well as shorted cycling life for the battery, which is the vital obstacle for the practical application of Li metal anode in lithium batteries. We report a CoO nanofiber decorated Ni foam (CONF) skeleton used as a 3D conductive host to suppress the dendrite formation for composite Li anode (CONF-Li) fabricated by thermal infusion method. The uniformly distributed CoO nanofibers on the Ni foam can improve the lithiophilicity of Ni foam, and decrease the local current inhomogeneity of the anode, leading to a mild and uniform

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