Mini Review

Recent Research and Advances of Gradient Graphene and 3D Collectors for Lithium Metal Anode

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Lithium metal anode is one of the most important potential materials in lithium-ion battery system because of its high energy density. In this paper, the problems of lithium metal anode are reviewed. Then, the application of 3D collector on lithium metal anode is summarized. 3D conductive collector is an effective way to solve this problem. The uniform deposition of lithium metal is realized by using high specific surface and low current density. The lipophilic performance of three-dimensional conducting collector was optimized by doping and lithium melting techniques. Finally, the research progress of gradient 3D graphene is investigated. Based on the literature survey, we believe that gradient 3D graphene is expected to be applied to lithium metal anode.

Keywords: Lithium metal anode; Gradient 3D graphene; 3D collector; Lithium dendrite

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