

Mini Review

## A Review on Application of LiFePO<sub>4</sub> based composites as electrode materials for Lithium Ion Batteries

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Li-ion batteries have been put forward a huge demand for further developing rate performance and cycle stability. Under the new emerging industrial revolution and the accelerating pace of life, the addition of carbon in the electrode active material has been proven an effective way to improve its rate performance and cycle life. In the review, the current researches on the morphology of LiFePO<sub>4</sub>, adding carbon, carbon sources and modified carbon (such as doping, ordered porous, etc.) on the performance of LiFePO<sub>4</sub> have been summarized. In general, the coating and mixing of carbon greatly promote the improvement of the rate performance and cycle stability of LIBs. The doping of various single element and multi-element atoms in carbon has great prospect for surface modification of electrode materials.

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**Keywords:** derived carbon, LiFePO<sub>4</sub>, rate performance, cycle life

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