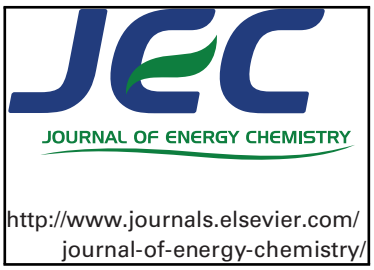

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Review

A review of electrocatalyst characterization by transmission electron microscopy

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Abstract

At present, the development of highly efficient electrocatalysts with more rational control of microstructures (e.g. particle size, morphology, surface structure, and electronic structure) and chemical composition is needed and remained great challenges. Transmission electron microscopy (TEM) can offer the information about the microstructures and chemical compositions of the electrocatalysts on nano and atomic scale, which enables us to establish the synthesis-structure-performance relationship and further direct the design of new electrocatalysts with high performance. In this minireview paper, a brief introduction on the basic characterization of electrocatalysts with TEM, followed by the studying of dynamic evolution of the electrocatalysts in electrochemical reactions with identical location-TEM, is discussed.

Keywords: Electrocatalyst, Microstructure, TEM, Dynamic process, IL-TEM