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Catalytic Properties of Nanostructured Electrodic Materials

Guest Editor:

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Message from the Guest Editor

Electrocatalysis of nanostructured materials is a well-consolidated research field, and it is, without any doubt, one of the hottest and fastest-growing areas, crosswise among several disciplines, including chemistry and materials science.

Electrode supports and active metal phases structured at the nano-level have been shown to deeply affect the activity, selectivity, and stability of an electrocatalyst. In this framework, the support texture and its surface functionalization are of primary importance, as well as the interaction with the active phase in the form of nanostructures of a different dimension, morphology, and chemistry. Therefore, the ability to trigger the electrode properties at the atomic level allows to decline different material in a plethora of applications. A lot has been done, but so far, nanostructured electrodes have opened up exciting new possibilities for future applications in a number of areas, including the energy conversion and storage field, bioelectrochemical and chemical sensors, as well as in environmental preservation and new fine chemicals synthesis.