Special Issue

Deposition of Metals and Their Application in Catalytic Processes of Energy Interest

Message from the Guest Editor

Recently, supported metal nanocatalysts' catalytic performance can be tuned by changing the composition, morphology, crystal plane structure, and metal–oxide interface structure of metal nanoparticles. During the catalytic reaction, the existence of the interface plays a role in regulating the activity, selectivity, and stability of the reaction. Combining interfaces or active sites with different functions at the nanoscale can obtain multifunctional synergistic catalysts. However, it is difficult for traditional catalyst preparation methods to achieve fine control of the composition and microstructure of multi-interface catalysts. As a result, it is difficult to achieve precise matching of functional centers. This Special Issue focuses on how to precisely tune the composition and microstructure of catalysts via deposition synthesis and design a novel and efficient catalyst for energy conversion. The Special Issue is expected to promote the application of metal nanocatalysts in the energy field through precise synthesis, suitable modification, advanced characterization, and theoretical calculation.

Guest Editor

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Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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