

Special Issue on
Nanostructured Transition Metal Compounds for New Energy

CALL FOR PAPERS

In recent years, nanostructured transition metal compounds (TMCs) have attracted much attention due to their distinctive structure and unique properties, which make these materials potentially suitable for applications in solar cells, fuel cells, capacitors, Li-ion batteries, biosensors, capacitors, hydrogen generation, organic matter decomposition, and pollution control. Synthesis and investigation of these nanostructured TMCs are beneficial not only for the understanding of the fundamental phenomena in 1D, 2D, and 3D systems, but also for development of new-generation new energy devices with high performance.

Advances in introducing nanostructured TMCs into more ordered structures through more controlled preparation manner not only have helped researchers to better understand growth mechanism but also have expanded their application fields. This special issue aims to enhance the fundamental understanding of nanostructured TMCs. We are specifically interested in papers elaborating the calculation and simulation that combined with the preparation and characterization of nanostructured TMCs. The research on novel nanostructure and morphologies, new applications or functions of composition, morphology, and structure of TMCs in nanoscale is also encouraged.

Original research articles, review articles, communications, research news, and progress reports on the synthesis, characterization, properties, and applications of nanostructured TMCs are invited to contribute to this special issue.

Potential topics include but are not limited to the following:

- ▶ Nanomaterials with novel morphology
- ▶ Oriented array of nanostructured TMCs
- ▶ Roles of composition, morphology, and structure of nanostructured TMCs
- ▶ Novel synthetic approaches or hybrid heterostructures
- ▶ Nanostructured TMCs for new energy applications (solar cells, fuel cells, capacitors, Li-ion batteries, biosensors, capacitors, and hydrogen generation)
- ▶ Nanostructured TMCs for organic matter decomposition and pollution control
- ▶ Fabrication and processing of new energy devices
- ▶ Nanostructured substrates for energy applications
- ▶ Renewable green energy nanotechnologies
- ▶ First-principle density functional theory (DFT) calculation
- ▶ Ab-initio Car-Parrinello molecular dynamics (CPMD) simulation
- ▶ New applications

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/jnt/nst/>.

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Manuscript Due

Friday, 7 April 2017

First Round of Reviews

Friday, 30 June 2017

Publication Date

Friday, 25 August 2017