

Special Issue on
**Spectroscopy of Metal Chalcogenide Materials for Solar
Energy Conversion Applications**

CALL FOR PAPERS

The increasing demand for cost-effective, environmentally benign, and renewable energies has led to tremendous research and development in semiconductor materials for solar energy conversion applications with strong focus on nanostructured and heteronanostructured metal chalcogenides (*including* oxides). Metal chalcogenide nanostructures are more attractive than their bulk counterparts because of the prospect for tuneable photovoltaic and photocatalytic/photoelectrochemical properties. Accordingly, many facile, efficient, and robust synthetic methods have been developed to control the structure, composition, and morphology which enable tunability of optoelectronic properties. On that premise, advanced tools to characterize these nanostructures and probe their unique, dynamic, and complex electronic properties are essential.

We invite investigators to contribute review and original papers describing interesting findings in this field. Papers should focus on techniques for advanced structural characterization and investigation of electronic band structure, charge carrier dynamics, and transport. Findings should seek to establish unique structure-property relationships with an attempt to manipulate and improve optoelectronic properties including the effect of dopants. Though the primary focus is on chalcogenides, the issue is not limited to these but welcomes findings involving other materials with chalcogenides such as hybrid systems including perovskites.

Potential topics include but are not limited to the following:

- XRD (including *in situ*), absorption, photoelectron emission spectroscopy, quantitative SEM/TEM/STEM including X-ray and EELS, ICP-AES/MS, UV-vis, PL, FT-IR, Raman (including *in situ*), time dependent and transient absorption (femtosecond laser) spectroscopy, STM-STs, magnetic/electron spin spectroscopy including circular dichroism, and EPR

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

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