



Phase Change and Ovonic Nanomaterials: Structure, Properties, and Applications

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Chalcogenide phase-change materials are characterized by unique properties that can be exploited for data-storage applications. Phase-change memories (PCMs) work by reversibly and rapidly switching a phase-change material from an ordered crystalline state with high electrical conductivity to an amorphous disordered state with low conductivity. An electrical/optical pulse thermally induces the transition between the two states. To fully utilize the potential of the phase-change materials, a comprehensive understanding of the relationship between the atomic structure before and after the switching phenomena and its solid-state properties is necessary. Moreover, multi-level memories and the realization of neuromorphic computing is achievable due to the excellent scalability, fast switching speed and low energy consumption of PCMs.

This Special Issue will publish research and review papers on the fundamentals and applications of phase-change materials. It should provide an overview of the state-of-the-art developments from experimental and theoretical points of view. It is my pleasure to invite you to submit a manuscript for this Special Issue.





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Message from the Editor-in-Chief

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