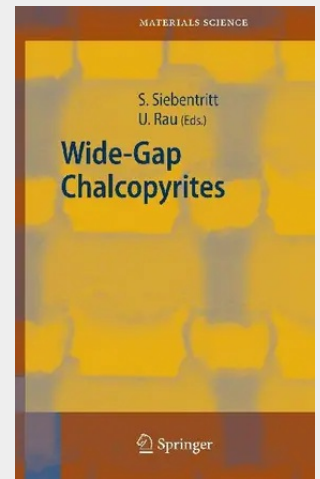


Wide-Gap Chalcopyrites

Chalcopyrites, in particular those with a wide band gap, are fascinating materials in terms of their technological potential in the next generation of thin-film solar cells and in terms of their basic material properties. They exhibit uniquely low defect formation energies, leading to unusual doping and phase behavior and to extremely benign grain boundaries. This book collects articles on a number of those basic material properties of wide-gap chalcopyrites, comparing them to their low-gap cousins. They explore the doping of the materials, the electronic structure and the transport through interfaces and grain boundaries, the formation of the electric field in a solar cell, the mechanisms and suppression of recombination, the role of inhomogeneities, and the technological role of wide-gap chalcopyrites.

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