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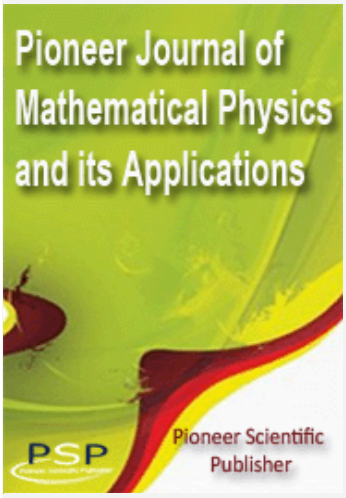

A NEW STUDY OF POLARON SCATTERING PHENOMENA IN BULK SEMICONDUCTOR DEVICES

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Abstract

It is shown that polaron scattering affects substantially the low-field electrical transport electron in bulk materials. It is found that the electron mobility decreases monotonically as the temperature increases. The important subcategories of polarons-large polarons, small polarons, and bipolarons are considered in turn, along with the basic formulas and qualitative behaviors.

Keywords and phrases: polaron scattering affects, bulk semiconductor devices.