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Abstract for an Invited Paper
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On Minority Carrier Scattering for Thermoelectrics

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Most of the past studies on thermoelectric materials have been focused on majority carriers and lattice phonons in heavily doped semiconductors. In this talk I will show that minority carriers, however, could have a significant impact on both electrical and thermal transport, especially at elevated temperatures. I will also describe means of improving thermoelectric performance of heavily doped semiconductors via selective minority carrier scattering. These results offer insights for understanding experimental findings and optimizing thermoelectric properties of narrow band-gap semiconductors.

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