Canadian Association of Physicists
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Contribution ID: **3573** Type: **Invited Speaker / Conférencier(ère) invité(e)**

(I) The Surprising role of Phonons in the Extreme Mobility of Topological Semimetals

Tuesday, June 20, 2023 8:30 AM (30 minutes)

Topological semimetals display a range of novel transport phenomena, including enormous magnetoresistance and mobilities. Using Raman spectroscopy we have uncovered a novel mechanism for phonons to play a central role in this phenomena. Specifically we demonstrate the phonon-electron scattering time far exceeds the phonon-phonon. As such the momentum and energy typically lost to the lattice is returned to the electron bath. I will also briefly discuss the key material properties that make this discovery possible.

Keyword-1

Topological Semimetals

Keyword-2

Raman Scattering

Keyword-3

Transport

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