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Signatures of the chiral anomaly in phonon dynamics PIERRE RINKEL, PEDRO L. S. LOPES, ION GARATE, Univ of Sherbrooke — Discovered in high-energy physics, the chiral anomaly has recently made way to materials science by virtue of Weyl semimetals. Thus far, the main efforts to probe the chiral anomaly in quantum materials have concentrated on electronic phenomena. Here, we show that the chiral anomaly can have a notable impact in phonon properties, including phonon dispersion, infrared absorption, and Raman scattering. Remarkably, in enantiomorphic Weyl semimetals, the chiral anomaly leads to a magnetically induced effective phonon charge with an unusual and potentially measurable resonance.

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