

Abstract Submitted
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Calculation of effective magnetic field of phonon dynamics in the Born Oppenheimer approximation BANGGUO XIONG, LIFA ZHANG, QIAN NIU, Univ of Texas, Austin — Phonon dynamics with an effective magnetic field can lead to phonon hall effect. We study the effect magnetic field on phonon dynamics due to the coupling to electrons in the Born Oppenheimer approximation. Symmetry properties of the effective magnetic field are discussed in crystals. Two methods to calculate the effective magnetic field are brought up, with model calculations on the honey comb lattice. The application of the methods can be directly applied in first principle calculation.

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