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摘要: We report on the characterization of two-dimensionally confined phonon-polaritons at terahertz frequencies in suspended waveguides using Raman scattering. The cross-sectional dimensions of the waveguides are commensurate with the wavelength of the phonon-polariton in forward scattering leading to Raman spectra that depend strongly on the physical size of the waveguide. We use finite element numerical computations to predict the polariton frequencies and find excellent agreement with measurements. Our observations and analysis advance the understanding of polariton propagation in guiding geometries and also have significant practical implications in integrated terahertz generation and stimulated Raman amplification.
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