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[502] Interfacial electron-phonon coupling at a WS₂/hBN interface

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The interfacial coupling between electronic states in a two-dimensional system and bosonic excitations in an adjacent substrate are still poorly characterized in van der Waals heterostructures. Here, we investigate the nature of such interactions in the electronic states of a WS_2/hBN stack via angle-resolved photoelectron spectroscopy. We resolve dispersing satellites separated from the intense quasiparticle WS_2 valence band by energies comparable to Γ phonon modes in hBN. We derive a spectral function model to describe the interfacial coupling between charges in the WS_2 layer and the lattice vibrations of the polar hBN substrate, which we employ to provide a qualitative estimation of the interaction strength.

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