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Electronic Structure and Optical Properties of Twisted Bilayer Black Phosphorus¹ TING CAO, ZHENGLU LI, DIANA Y. QIU, STEVEN G. LOUIE, Physics Department, UC Berkeley and Lawrence Berkeley National Lab — Using first-principles calculations, we find that the electronic structure and optical properties of bilayer black phosphorus can be modified significantly through changing the interlayer twist angle. We demonstrate the origin of these twist angle dependent effects, and connect our predicted results to experimental measurements.

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