

Abstract Submitted
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Mapping the Orbital Texture of the Topological Insulator Bi₂Se₃ YUE CAO, JUSTIN WAUGH, SEUNG RYONG PARK, QIANG WANG, THEODORE REBER, University of Colorado at Boulder, SUNG-KWAN MO, Advanced Light Source, Lawrence Berkeley National Laboratory, MATTHEW BRAHLEK, NAMRATA BANSAL, SEONGSHIK OH, Rutgers, the State University of New Jersey, GENDA GU, Brookhaven National Laboratory, DANIEL DESSAU, University of Colorado at Boulder — The orbital texture of the topological insulator Bi₂Se₃ was observed with ARPES using linearly polarized light. The topological state features a superposition of all three p orbitals. We compare the measured orbitals to the existing density functional theory calculations in the literature. This illustrates some of the unusual properties of this topological state and helps clarify the origin of the currently conflicting results from the spin resolved ARPES measurements.

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