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Fermi Surface Topology and Spin-polarized Surface States in Pd3Bi2Se2

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Topological superconductors are of great interest in the study of quantum materials due to their unique properties and potential applications in the fields like quantum computation and spintronics. Pd Bi Se , a topological superconductor with a superconducting transition temperature of 0.80 K, is a promising candidate. Although it has been theoretically identified as a nontrivial topological material, direct experimental evidence is still lacking. In this work, we will present ARPES and Spin-ARPES studies on Pd Bi Se , focusing on its Fermi surface topology, surface states, and spin-polarized states at low temperatures. These insights will contribute to a deeper understanding of its electronic structure and fundamental properties, which are critical for advancing research on topological superconductors.

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