

Abstract Submitted  
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**STM imaging of electronic waves on the surface of Bi<sub>2</sub>Te<sub>3</sub>: topologically protected surface states and hexagonal warping effects** ZHANYBEK ALPICH SHEV, Stanford University, JAMES ANALYTIS, JIUN-HAW CHU, IAN FISHER, YULIN CHEN, ZHI-XUN SHEN, ALAN FANG, AHARON KAPITULNIK, Stanford University, KGB GROUP TEAM, FISHER GROUP TEAM, SHEN GROUP TEAM — Scanning tunneling spectroscopy studies on high-quality Bi<sub>2</sub>Te<sub>3</sub> crystals exhibit perfect correspondence to ARPES data, hence enabling identification of different regimes measured in the local density of states (LDOS). Oscillations of LDOS near a step are analyzed. Within the main part of the surface band oscillations are strongly damped, supporting the hypothesis of topological protection. At higher energies, as the surface band becomes convex, oscillations appear which disperse with a particular wave-vector that may result from an unconventional hexagonal warping term.

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