

Abstract Submitted
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STM/STS studies of the surface of Bi₂Se₃¹ MEGAN ROMANOWICH, STUART TESSMER, Michigan State University, SERGEI URAZH DIN, West Virginia University, DUCK-YOUNG CHUNG, JUNG-HWAN SONG, MERCOURI KANATZIDIS, Northwestern University — Building upon previous work,² we apply scanning tunneling microscopy/spectroscopy to characterize the surface of the topological insulator Bi₂Se₃. We see clover-like defect states in the topographic scans and a residual image that appears in conductance scans, which we attribute to Bi substitutions in Se lattice sites. Spectroscopy reveals features in the density of states consistent with the topological surface state, with the defect states appearing as an additional enhancement. We will discuss the interaction of the topological surface state with the defect states.

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²Urazhdin S. et al. Physical Review B 69, 085313 (2004); Physical Review B 66, 161306(R) (2002).

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