

Abstract Submitted  
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**Surface states never die by surface impurities in topological insulators**<sup>1</sup> HAN-JIN NOH, Department of Physics Chonnam National University, JINWON JEONG, EN-JIN CHO, Dep. of Phys. Chonnam National University, HAN-KOO LEE, HYEONG-DO KIM, Pohang Accelerator Laboratory Pohang University of Science and Technology — The metallic surface states in topological insulators are one of the most distinguished features among the characters of this newly discovered quantum state of matter. These states, if properly exploited, may open a new era in spintronics and quantum computing. However, full characterization and understanding of the surface states toward these goals are still far from satisfactory. Here, we focus on the robustness of the metallic surface states in a topological insulator  $\text{Bi}_{0.9}\text{Sb}_{0.1}$ , and demonstrate their durability over magnetic/non-magnetic surface impurities by measuring the scattering rates of the quasiparticles via angle-resolved photoemission spectroscopy.

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