

Abstract Submitted
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Quantum well states in Rashba semiconductor BiTeI¹ YANG HE, ZHIHUI ZHU, Harvard University, MOHAMMAD HAMIDIAN, Harvard University; Cornell University, PENGCHENG CHEN, YAU CHUEN YAM, JENNIFER HOFFMAN, Harvard University; The University of British Columbia — BiTeI displays large Rashba-type spin splitting in both valence and conduction bands. In this work, we use scanning tunneling microscopy to reveal the bipolar nature of BiTeI, confirming the previously observed p-n junction electronic structure. We also discover two-dimensional quantum well states both below and above the semiconducting gap on the Te-terminated surface. This work sheds light on the origin of the giant Rashba splitting in the system.

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