

DOI: 10.1038/ncomms2844

Corrigendum: Topological crystalline insulators in the SnTe material class

Timothy H. Hsieh, Hsin Lin, Junwei Liu, Wenhui Duan, Arun Bansil & Liang Fu

Nature Communications 3:982 doi:10.1038/ncomms1969 (2012); Published 31 Jul 2012; Updated 21 May 2013

In the Discussion section of this Article, we incorrectly claimed that an in-plane magnetic field will generate Dirac mass terms for the surface states. Instead, the in-plane magnetic field merely shifts the location of the Dirac points. The $k \cdot p$ Hamiltonian in the presence of an in-plane field (B_1 , B_2) (in the local basis defined in the Article) is

$$H_{sf,B} = \nu_{\perp} k_1 s_2 - \nu_{\parallel} k_2 s_1 + g_1 \mu_B B_1 s_1 + g_2 \mu_B B_2 s_2 \tag{10}$$

$$= \nu_{\perp} (k_1 + \frac{g_2 \mu_{\rm B} B_2}{\nu_{\perp}}) s_2 - \nu_{\parallel} (k_2 - g_1 \mu_{\rm B} \frac{B_1}{\nu_{\parallel}}) s_1 \tag{11}$$

where $\mu_{\rm B}$ is the Bohr magneton and $g_{1,2}$ is the g-factor of Dirac surface states.