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Spin-charge Separated Excitations in a Topological Insulator DUNG-HAI LEE, YING RAN, ASHVIN VISHWANATH, University of California, Berkeley — We construct a simple, controllable, two dimensional model based on a topological band insulator. It has many attractive properties. The main conclusions are: (1) The quasiparticles exhibit spin-charge separation. (2) It suggests an alternative way to classify  $Z_2$  topological insulator without resorting to the sample boundary. (3) The quasiparticle condensation triggers a phase transition from a spin liquid to an insulating easy-plane ferromagnet.

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