

Abstract Submitted
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Degeneracy and topology for the magnetic space group of CuBi_2O_4 ANDREAS SCHNYDER, Max Planck Institute for Solid State Research, YANG-HAO CHAN, Institute of Atomic and Molecular Sciences, Academia Sinica, CHING-KAI CHIU, Univ of Maryland-College Park — In the presence of antiferromagnetic order CuBi_2O_4 belongs to one of #56 magnetic space groups. Inversion-time-reversal symmetry leads to 2-fold degeneracy of all the energy bands in the entire Brillouin zones. It surprises us that non-symmorphic symmetries in the subgroup #56 space group protect 4-fold degeneracy in a symmetric line. We further investigate the topology and surface states of CuBi_2O_4 stemming from its magnetic space group.

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