Topology Of Crystalline Insulators And Superconductors

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Controlling topology and symmetry, we can realize exotic surface states that are not possible in conventional insulators and superconductors. Based on a systematic classification of topological crystalline insulators and superconductors, I will explain recently discovered exotic surface states in topological materials. In particular, I will discuss exotic Mobius twisted surface states in Z2 and Z4 topological nonsymmorphic crystalline insulators and superconductor, and Majorana quartets in superconducting states of doped Dirac semimetals.