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Symmetry breaking in topological insulators and high temperature superconductors GAYANATH FERNANDO, Univ of Connecticut - Storrs, KALUM PALANDAGE, Trinity College, Hartford CT, KUN FANG, Univ of Connecticut - Storrs, ARMEN KOCHARIAN, California State Univ., Los Angeles, CA — We study symmetry breaking in three dimensional topological insulators due to various magnetic and nonmagnetic 3d transition metal dopants such as Cr and V. In addition, variational cluster approximation based Hubbard-Rashba systems are studied in order to identify effects of correlations on various geometries. Spin-Hall effect in small clusters, such as ladders with various boundary conditions, is also addressed.

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