**Cubic Topological Kondo Insulators**

VICTOR ALEXANDROV, Rutgers University, MAXIM DZERO, Kent State University, PIERS COLEMAN, Rutgers University — Current theories of Kondo insulators employ the interaction of conduction electrons with localized Kramers doublets originating from a tetragonal crystalline environment, yet all Kondo insulators are cubic. Here we develop a theory of cubic topological Kondo insulators involving the interaction of spin quartets with a conduction sea. The spin quartets greatly increase the potential for strong topological insulators, entirely eliminating the weak-topological phases from the diagram. We show that the relevant topological behavior in cubic Kondo insulators can only reside at the lower symmetry X or M points in the Brillouin zone, leading to a three Dirac cones in ARPES measurements. [the work is accepted for publication in PRL]

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