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Space group protection of Dirac manifolds: a roadmap towards topological semimetal materials ADRIEN BOUHON, ANNICA BLACK-SCHAFFER, Uppsala Univ — Combining space group representation theory and multi-band Berry phase arguments we derive simple algebraic rules that can be used to predict global protection of Dirac points, Dirac lines, and Dirac surfaces as a function of the space group. This approach leads to many robust predictions concerning real material candidates.

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