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Abstract for an Invited Paper for the MAS21 Meeting of the American Physical Society

Monopole Superconducting Order and Phase Sensitive Characterizations¹

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Monopole superconductors, which can potentially be realized in doped magnetic Weyl semimetal materials, are characterized by exotic monopole harmonic symmetry in the superconducting pairing order. Because of the non-trivial Berry phase of the Cooper pair, its pairing order is topologically frustrated with the superconducting phase cannot be well defined over the entire Fermi surface. We further studied phase sensitive characterizations of the monopole pairing to distinguish it from known unconventional pairing symmetry.

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