

Abstract Submitted
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Two types of superconducting domes in unconventional superconductors TANMOY DAS, Indian Institute of Science, CHRISTOS PANAGOPOULOS, Nanyang Technological University — We will present a comprehensive analysis of the superconducting (SC) properties and phase diagrams across several families of unconventional superconductors, including the cuprates, heavy-fermions, organics and the recently discovered pnictides, chalcogenides, and oxybismuthides. We find that all these families possess two types of SC domes, both unconventional but with distinct SC and normal state properties. The lower T_c dome arises with or without a quantum critical point (QCP), but not always associated with a non-Fermi liquid (NFL) background. On the contrary, the higher- T_c dome stems from a NFL or strange metal phase without an intervening QCP. Our analysis suggests that NFL physics may be a generic route to higher- T_c superconductivity. [1] T. Das, C. Panagopoulos, *New J. Phys.* 18, 103033 (2016); arXiv:1512.08186.

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