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Topological Confinement and Superconductivity[1] KHALED AL-HASSANIEH, CRISTIAN BATISTA, PINAKI SENGUPTA, Los Alamos National Laboratory, ADRIAN FEIGUIN, University of Maryland — We derive a Kondo Lattice model with a correlated conduction band from a two-band Hubbard Hamiltonian. This mapping allows us to describe the emergence of a robust pairing mechanism in a model that only contains repulsive interactions. The mechanism is due to topological con?nement and results from the interplay between antiferromagnetism and delocalization. By using Density-Matrix-Renormalization Group (DMRG) we demonstrate that this mechanism leads to dominant superconducting correlations in a 1D-system. [1] K. A. Al-Hassanieh, C. D. Batista, P. Sengupta, and A. E. Feiguin, preprint arXiv:0808.3735.

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