

Abstract Submitted  
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**Superconductivity in strongly repulsive fermions: the role of kinetic-energy frustration**<sup>1</sup> LEONID ISAEV, GERARDO ORTIZ, Indiana University Bloomington, CRISTIAN BATISTA, T-4, LANL — We discuss a physical mechanism of a non-BCS nature which can stabilize a superconducting state in a *strongly repulsive* electronic system. By considering the 2D Hubbard model with spatially modulated electron hoppings, we demonstrate how kinetic-energy frustration can lead to robust d-wave superconductivity at *arbitrarily* large on-site repulsion. This phenomenon should be observable in experiments using fermionic atoms, e.g.  $^{40}\text{K}$ , in specially prepared optical lattices.

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