

Abstract Submitted
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Dynamical Layer Decoupling in a Stripe-Ordered High- T_c Superconductor EDUARDO FRADKIN, UIUC, EREZ BERG, EUN-AH KIM, STEVE KIVELSON, Stanford University, VADIM OGANESYAN, Yale University, JOHN TRANQUADA, Brookhaven National Laboratory, SHOUCHEG ZHANG, Stanford University — In the stripe-ordered state of a strongly correlated two-dimensional electronic system, under a set of special circumstances, the superconducting condensate, like the magnetic order, can occur at a nonzero wave vector corresponding to a spatial period double that of the charge order. In this case, the Josephson coupling between near neighbor planes, especially in a crystal with the special structure of $\text{La}_{2-x}\text{Ba}_x\text{CuO}_4$, vanishes identically. We propose that this is the underlying cause of the dynamical decoupling of the layers recently observed in transport measurements at $x = 1/8$.

[1] E. Berg et al, PRL **99**, 127003 (2007)

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