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Phase Diagrams for Stripe Phases with a Spin gap AKBAR JAEFARI, SIDDHARTHA LAL, EDUARDO FRADKIN, University of Illinois — We consider the problem of competing orders in a stripe phase with a large spin gap. In developing the phase diagram, we discuss the phases arising from the stabilization of the Superconducting (SC) and Charge Density Wave (CDW) orders by inter-stripe couplings. This is particularly relevant for stripe phases in High Temperature Superconductivity arising from the Josephson tunneling between neighboring stripes, and is essentially a problem of dimensional crossover. Using inter-chain Mean Field Theory, we present results for the gaps, critical temperatures, and critical exponents in terms of the inter-chain couplings and interaction parameters of the model.

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