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Condensation bottleneck as the driver of pseudogap physics in cuprates¹ R.S. MARKIEWICZ, I.G. BUDA, P. MISTARK, A. BANSIL, Northeastern Univ — We extend our previous GW calculations on cuprates [T. Das, R.S. Markiewicz, and A. Bansil, Advances in Physics 63, 151-266 (2014)] to include vertex corrections via self-consistent renormalization. We find that the antiferromagnetic transition is bottlenecked, as a continuous manifold of competing q-vectors attempts to soften at the same time. The resulting extended range of short-range order strongly resembles pseudogap physics. We discuss the strikingly different phenomena found for different cuprates, and try to determine their origins.

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