

Abstract Submitted
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An inclusive view of the pseudogap in high-temperature superconductors¹ JAMES STOREY, Victoria University of Wellington — A long-standing dispute in cuprate high-temperature superconductors concerns the origin of an energy gap, known as the pseudogap, which persists high above the superconducting transition temperature (T_c). Does it represent precursor superconductivity, or some other non-superconducting order? The answer is yes to both. By modelling a range of thermodynamic, transport and spectroscopic data I will demonstrate how these two scenarios explain different aspects of the unusual temperature and field dependences that have stubbornly defied explanation in terms of conventional mean-field theories. This implies that the phase diagram of the high- T_c cuprates is actually a blend of the two leading proposals, and that the two opposing sides of this dispute are each partially correct.

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