

Abstract Submitted
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Quantum Critical Transitions in Spin and Charge Ordered Systems CORENTIN MORICE, University of Cambridge, PREMALA CHANDRA, Rutgers University, STEPHEN E. ROWLEY, SIDDHARTH S. SAXENA, University of Cambridge — This talk will focus on search and discovery of novel forms of quantum order in ferroelectric and multiferroic systems. Materials tuned to the neighbourhood of a zero temperature phase transition often show the emergence of novel quantum phenomena. Much of the effort to study these new emergent effects, like the breakdown of the conventional Fermi-liquid theory in metals has been focused in narrow band electronic systems. But Spin or Charge ordered phases in insulating systems can also be tuned to absolute zero. Close to such a zero temperature phase transition, physical quantities like susceptibility change into unconventional forms due to the fluctuations experienced in this region giving rise to new kinds ordered states.

Corentin Morice
University of Cambridge

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