

Abstract Submitted
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Electrodynamics of the 2D superconductor-insulator transition¹

PETER ARMITAGE, University of Geneva — Using microwave cavities and a novel cryogenic system we have probed the evolution of the low frequency electrodynamics of thin InO_x films across the nominal 2D field-tuned superconductor insulator quantum phase transition. Such a finite study allows us, at least in principle, to access the true phase coherent ($\hbar\omega > k_B T$) quantum critical behavior. A number of other interesting items are found including evidence for significant finite frequency superfluid density well into the “insulating” regime of the phase diagram. Various scenarios for frequency dependent scaling are also investigated.

¹(work done at the University of California, Los Angeles)

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