

Abstract Submitted  
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**A Tale of Two Theories: Quantum Griffiths Effects in Metallic Systems** ANTONIO CASTRO NETO, Boston University, BARBARA JONES, IBM Research Center — We show that two apparently contradictory theories on the existence of Griffiths-McCoy singularities in magnetic metallic systems are in fact mathematically equivalent. We discuss the generic phase diagram of the problem and show that there is a non-universal crossover temperature range  $T^* < T$  where power law behavior (Griffiths-McCoy behavior) is expected. For  $T < T^*$  power law behavior ceases to exist due to the destruction of quantum effects generated by the dissipation in the metallic environment. We show that  $T^*$  is an analogue of the Kondo temperature and is controlled by non-universal couplings.

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