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Kondo effect in a dissipative environment¹ CHUNG-TING KE, Duke University, HENOK MEBRAHTU, Micron Tech. Inc. , YURIY BOMZE, Duke University, ALEX SMIRNOV , North Carolina State University, GLEB FINKELSTEIN, Duke University — In this work, we study the competition between two many body-effects: Kondo effect and tunneling with dissipation. We work with nanotube quantum dots contacted by resistive leads, resulting in controlled dissipative environment for the tunneling electrons. Previously, we have demonstrated the existence of the quantum phase transition in a resonant level coupled to the dissipative environment in the spinless case. Here, we demonstrate that the Kondo effect can survive under weak enough dissipation strength.

¹NSF

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