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Absence of quantum phase transition in two-state quantum dot[1]

XIN WANG, ANDREW J. MILLIS, Columbia University — We use continuous-time quantum Monte Carlo methods to study a model of a spinless-fermion two state quantum dot which was argued in Ref. [1] to exhibit a quantum phase transition. We find instead a smooth behavior as parameters are varied. The generalization of the model to the spinful case is also presented. [1] D. I. Golosov and Y. Gefen, *Phys. Rev. B* **74**, 205316 (2006).

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