

Abstract Submitted  
for the MAR10 Meeting of  
The American Physical Society

**Two-Qubit Disentanglement and Decoherence from Classical Random Telegraph Noise**<sup>1</sup> DONG ZHOU, ALEX LANG, ROBERT JOYNT, University of Wisconsin-Madison — We consider the two-qubit disentanglement due to classical random telegraph noise where the qubits do not interact and have tunable working points. Using a new mathematical method that is suited to treat all working points, we show that entanglement sudden death and revival are dependent on several factors, such as qubit working point, noise coupling strength and initial state entanglement. For extended Werner states, the concurrence is related to the difference of two functions: one is related to dephasing and the other longitudinal relaxation. A physical interpretation based on a generalized Bloch sphere representation is given.

<sup>1</sup>Financial support was provided by the National Science Foundation, Grant Nos. NSF-ECS-0524253 and NSF-FRG- 0805045, by the Defense Advanced Research Projects Agency QuEST program, and by ARO and LPS Grant No. W911NF-08-1-0482.

Dong Zhou  
University of Wisconsin-Madison

Date submitted: 18 Nov 2009

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