

Abstract Submitted  
for the MAR09 Meeting of  
The American Physical Society

**Transient Current Spectroscopy of a Si Quantum Dot**<sup>1</sup> MING XIAO, HONGWEN JIANG, UCLA — We present a transient current spectroscopy study of a Si-MOS based quantum dot. The study was conducted in the few electron region. A voltage pulse pumped the electrons into an excited orbital state and the non-equilibrium transient current through the dot was recorded. The evolution of the excited state as a function of magnetic field shows signatures of a transition from a spin singlet state to a triplet state of an electron pair. A pump-and-probe technique was employed to set a lower limit of the triplet-singlet relaxation time. The work was sponsored by United States Department of Defense.

<sup>1</sup>The work was sponsored by United States Department of Defense.

Ming Xiao  
UCLA

Date submitted: 20 Nov 2008

Electronic form version 1.4