

Abstract Submitted  
for the MAR11 Meeting of  
The American Physical Society

**Dynamics of an RF-driven Josephson junction near the bifurcation point** AMRIT POUDEL, MAXIM VAVILOV, University of Wisconsin-Madison — We investigate the dynamics of an RF driven Josephson junction coupled to thermal heat bath. We present a stochastic semiclassical equation of motion for the junction, obtained from a microscopic Hamiltonian of the system. We discuss conditions when the Langevin forces in this equation can be approximated by Markovian white noise. For this case, we obtain the Fokker-Planck equation, which we numerically solve to describe the switching process between two stable states near the bifurcation point.

Maxim Vavilov  
University of Wisconsin-Madison

Date submitted: 30 Nov 2010

Electronic form version 1.4