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Jiongxuan Zheng* (jizheng@clarkson.edu), Jiongxuan Zheng, 105 Swan St., Potsdam, NY 13699, and **Erik Bollt** and **Joe Skufca**. *Heart Rate Variability as Determinism with Jump Stochastic Parameters*.

We use measured heart rate information (RR intervals) to develop a one-dimensional nonlinear map that describes short term behavior. Our study suggests that there is a stochastic parameter with persistence which causes the heart rate and rhythm system to wandering about a bifurcation point. We propose a modified circle map with a time-correlated noise term as a model which can capture such stochastic behaviors of the system. (Received June 22, 2011)