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**Brian C Ryals\*** (ryals@usc.edu). *Synchronization and Phase-locking in a family of Coupled Oscillators*. Preliminary report.

A three-parameter family of discrete time models of  $N$  coupled oscillators will be discussed, so that the phase space is the  $N$ -torus. Synchronized and phase-locked states correspond to invariant circles on the torus, and can be viewed as fixed points in a quotient dynamical system. Results will focus on these fixed points and be a mix of rigorous and numerical results. (Received August 30, 2013)