Arkady Pikovsky, University of Potsdam

"Effects of nonlinear coupling in oscillator ensembles"

"I show how a nonlinear coupling between oscillators in networks can be described in a framework of Kuramoto-type approach. I use the Watanabe-Strogatz and the Ott-Antonsen theories to analyse the dynamics and demonstrate the effect of partial synchronization and self-organized quasiperiodicity in such ensembles. For nonlinearly coupled lattices a self-induced chimera state is reported."