

ACMS Applied Math Seminar

Owen Coss

Thursday, March 9

154 Hurley Hall

3:00- 3:25 PM



Finding & Counting Equilibria of the Kuramoto Model

The Kuramoto model is used to describe synchronization behavior of a large set of oscillators. The equilibria of this model can be computed by solving a system of polynomial equations using algebraic geometry. Typical methods for solving such polynomial systems compute all complex equilibrium points when only the real equilibrium points are of physical interest, and are very slow. We developed an approach to compute only the real equilibrium points. This approach allows for a much more efficient solving algorithm and offers insight into the maximum number of real equilibria.

The Department of Applied and Computational
Mathematics and Statistics

Please visit acms.nd.edu to view the full list of speakers.