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# Vortex Dynamics

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## Abstract

The dynamics of point vortices in a two-dimensional domain is described by a singular, first-order Hamiltonian system. The Hamiltonian is the Kirchhoff-Routh or Kirchhoff-Onsager function which appears in several applications. We present recent results about the existence of equilibrium point vortex configurations in bounded planar domains and their desingularization to solutions of the Euler equations, and about periodic solutions.

This is joint work with Qianhui Dai and Angela Pistoia.

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