Point vortex dynamics on closed surfaces

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Abstract:

The Hamiltonian system describing the dynamics of N point vortices in a planar domain or on a surface appears as a singular limit for the dynamics of vortices in the Euler equations for an ideal fluid, or for Gross-Pitaevskii dynamics. We present recent results on the existence of equilibria and of periodic solutions of the point vortex dynamical system on a closed surface.

The talk is based on joint work with Mohameden Ahmedou and Tim Fiernkranz.