Point Vortices on the Complex Projective Plane

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Abstract

The geometry of a momentum map is shown via the moment polytope, and the momentum map is a tool for exploring, amongst other things, the dynamics (or relative equilibria) of the Hamiltonian function of a mechanical system. The torus action and the resulting convex moment polytope have been studied in detail but little has been done concerning non-torus action. This talk will introduce current work on an example of 'weighted' non-torus action resulting from research into vortices in $\mathbb{C}P^2$.