CONNOR JACKMAN, ITAM

Orbital symmetries of planar mechanical systems

An *orbital symmetry* of a planar mechanical system, $q'' = f(q)$, with $q \in \mathbb{R}^2$ is a plane transformation preserving the *unparametrized* orbits (a 3-parameter family of unparametrized plane curves for non-vanishing forces). In this talk we will present some examples and explain how the inverse problem: given the orbits, to reconstruct a mechanical system, is related to the orbital symmetry group and structure of integrals the system admits. This is work in progress joint with Gil Bor (CIMAT).