

Analysis/dynamical systems seminar

Thursday, September 17, 2015

4:00-4:50 pm in Hume 331

Symplectic Homology and Loop Spaces

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Arnold made an important conjecture in the 70s, relating the number of periodic orbits of a Hamiltonian system to topological information about the manifold. This question has now been (mostly) settled, starting with the work of Floer who used these periodic orbits to construct a homology theory. This work was then extended by Cieliebak, Floer, Hofer and later Viterbo to develop Symplectic Homology. I will provide an overview of this theory and of its applications, and present joint work with Diogo on computing this invariant in a class of examples. In particular, we will see a relationship with (complex) algebraic geometry.