

Floer Homology and Loop Space Topology

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Floer homology for Hamiltonian systems can be viewed as infinite dimensional Morse homology on loop spaces. Whereas, on closed symplectic manifolds, Floer homology turns out to be finite-dimensional, on noncompact spaces it can be infinite-dimensional. In fact, on cotangent bundles, Floer homology is isomorphic to the loop space homology. This isomorphism extends also to the naturally defined product structures, the pair-of-pants product.