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*Title: Embedded contact homology and dynamics*

Abstract:

We review the definition of embedded contact homology (ECH) of contact three-manifolds and some of its applications to dynamics. In particular, ECH is built out of certain finite sets of Reeb orbits and certain holomorphic curves between them, and it gives rise to spectral invariants which measure the total period of certain finite sets of Reeb orbits. A key result is the "volume property" (proved in joint work with Cristofaro-Gardiner and Ramos) which relates the asymptotics of these spectral numbers to contact volume. This leads to various results on the existence and properties of Reeb orbits.