1001-57-36   **Mei-Lin Yau*** (`yau@math.msu.edu`), A307 Wells Hall, Department of Mathematics, Michigan State University, East Lansing, MI 48824. *Cylindrical Contact Homology of Subcritical Stein-fillable Contact Manifolds.*

Contact Manifolds are odd dimensional analog of symplectic manifolds. In the spirit of symplectic Floer Theory, periodic trajectories of Reeb orbits on contact manifolds are used to create contact homology which, calculated via counting holomorphic curves, provide invariants for contact manifolds.

In this paper, we use contact handle decompositions and a stabilization process to compute the cylindrical contact homology of a subcritical Stein-fillable contact manifold with vanishing first Chern class, and show that it is completely determined by the homology of a subcritical Stein-filling of the contact manifold. (Received July 07, 2004)