

998-58-52

**Hector E Lomeli\*** (lomeli@itam.mx), Rio Hondo #1, Tizapan san angel, 01000 Mexico, DF, Mexico. *Rotation vectors and invariant sets for twist maps in higher dimensions*. Preliminary report.

We review the concept of periodic chains and the shadowing rotation property. We study a class of diffeomorphisms with invariant sets that have such property. In particular, we consider invariant sets that arise from homoclinic and heteroclinic connections for twist maps in higher dimensions. As a consequence, we can show the existence of a family of twist maps, each possessing an open set of rotation vectors that are realized by points that are close to a fixed point. (Received January 06, 2004)