

1109-37-226

Marta Canadell* (mcc7@math.gatech.edu) and **Alex Haro** (alex@maia.ub.es). *Computation of normally hyperbolic invariant manifolds.*

In this talk we explain a method for the computation of normally hyperbolic invariant manifolds (NHIM) in discrete dynamical systems. The method is based in finding a parameterization for the manifold formulating a functional equation. We solve the invariance equation using a Newton-like method taking advantage of the dynamics and the geometry of the invariant manifold and its invariant bundles. The method allows us to compute a NHIM and its internal dynamics, which is a-priori unknown. We implement this method to continue the invariant manifold with respect to parameters, and to explore different mechanisms of breakdown.

This is a joint work with Alex Haro. (Received February 02, 2015)