Analysis/Dynamical Systems Seminar

Thursday, February 18th, 2016

4:00-4:50 pm in Hume 331

Homoclinic Intersections
for
Geodesic Flows on Convex Spheres

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In this talk, we will describe a dynamical mechanism called transverse homoclinic intersection. On one hand, the discovery of this mechanism proved to be very costly for a great mathematician. On the other hand, this mechanism provides the key idea to design very low energy paths that have been used to save millions of dollars for international spaceflight programs. We prove that, generically, every hyperbolic closed geodesic on a convex sphere admits transverse homoclinic intersections.