

Global instability in the elliptic restricted three body problem using two scattering maps

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The goal of the talk is to show the existence of global instability in the elliptic restricted three body problem. The main tool is to combine two different scattering maps associated to the normally parabolic infinity manifold to build trajectories whose angular momentum increases arbitrarily. The computation of such scattering maps will rely heavily on the seminal computations for the circular case initiated first in Jaume Llibre's thesis and finished later on by Llibre and Simó [1], which were extended to the elliptic case by Martínez and Pinyol [2].

References

- [1] Llibre, Jaume; Simó, Carlos, Oscillatory solutions in the planar restricted three-body problem. *Math. Ann.* 248 (1980), no. 2, 153-184.
- [2] Martínez, Regina; Pinyol, Conxita, Parabolic orbits in the elliptic restricted three body problem. *J. Differential Equations* 111 (1994), no. 2, 299-339.