

3 – 2 – 3 foliations for Hamiltonian dynamics near critical energy levels

Pedro Salomão¹, N. de Paulo², U. Hryniewicz³

¹ USP

² UFSC

³ UFRJ

We discuss the existence of 3 – 2 – 3 foliations for Hamiltonian flows near critical levels containing a saddle-center equilibrium point. These are singular foliations of the energy surface whose singular set is formed by three binding orbits, one of them is the Lyapunoff orbit in the center manifold of the saddle-center, and the others have Conley-Zehnder index 3. Such a foliation is shown to exist in the Euler's problem of two fixed centers for energies slightly above the first critical value.