

Persistence of periodic solutions in Hamiltonian and reversible systems.

Francisco Javier Muñoz–Almaraz
Universidad CEU-Cardenal Herrera (Spain)
email: `malmaraz@uch.ceu.es`

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Some natural phenomena could be described in a easy way with the knowledge of what happens in a finite lapse of time. For a dynamical system periodic solution or doubly symmetric solution are examples of these solutions. Poincaré suggested to analyze such a kind of solutions to understand the behavior of complex dynamical system. Following that scope, we describe some aspect of persistence and bifurcation of periodic and doubly symmetric solution in Hamiltonian and reversible systems.

For a dynamical system periodic orbits are isolated generically, but periodic orbits in Hamiltonian and reversible systems come in k -parameter families where the number k of parameter depends on some properties related with the configuration of first integrals. For a proper study of such properties we introduce the concept of “quasi–sumersive mapping”. For any of these functions, the zero set is a submanifold even if the function is not a dipheomorphism.

References

References

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