

Transport dynamics. From the bicircular to the real Solar System problem.

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In this talk we give an explanation of transport in the solar system based in dynamical systems theory. More concretely we consider (as a first approximation) different bicircular problems (i.e. Sun, Jupiter, a planet and an infinitesimal mass), we take *natural* periodic orbits which are unstable and we study their invariant manifolds as well as the existence of possible heteroclinic connections. The role that these particular trajectories play in relation with transport from exterior planets to the inner ones is discussed. Finally, some comments concerning a more realistic model of the Solar System are given and dynamical substitutes of invariant objects (from simpler models) are obtained.

This is a joint work with E. Barrabés (U. de Girona), G. Gómez (U. de Barcelona) and J.M. Mondelo (U. Autònoma de Barcelona)