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UAM-Iztapalapa, Col. Vicentina. Iztapalapa, 09340 Mexico D.F., Mexico. *Transport orbits in an equilateral restricted four-body problem.*

In this talk we consider a restricted equilateral four-body problem where a particle of negligible mass is moving under the Newtonian gravitational attraction of three masses (called *primaries*) which move on circular orbits around their center of masses, such that their configuration is always an equilateral triangle (Lagrangian configuration). We consider the case of two bodies of equal mass, which in adimensional units is the parameter of the problem. We study numerically the existence of families of unstable periodic orbits, whose invariant stable and unstable manifolds are responsible of the existence of homoclinic and heteroclinic connections, as well as, of transit orbits traveling from and to different regions. We explore, for three different values of the mass parameter, what kind of transits and energy levels exist for which there are orbits with prescribed itineraris visiting the neighborhood of different primaries. This is joint work with Esther Barrabés. (Received September 15, 2014)