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*Bifurcation and stability of Lagrangian relative equilibria in a generalized three-body problem*

Consider three bodies, two of them point masses and the third an spheroid symmetric with respect to its rotational axis which is perpendicular to the plane of the centers of mass. In this talk we will describe the Lagrangian relative equilibria that arise as we let the characteristic flatness of the spheroid to deviate from zero. We will discuss the induced pitchfork bifurcation and the linear stability analysis based on the reduced energy momentum method. (This work is a joint collaboration with C. Stoica, WLU.)