

## **abstract**

Working Group on Symplectic Dynamics  
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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We consider the Restricted Planar Elliptic 3 Body Problem, which models the Sun, Jupiter and an Asteroid (which we assume that has negligible mass). We take a realistic value of the mass ratio between Jupiter and the Sun and their eccentricity arbitrarily small and we study the regime of the mean motion resonance 1:7, namely when the period of the Asteroid is approximately seven times the period of Jupiter. It is well known that if one neglects the influence of Jupiter on the Asteroid, the orbit of the latter is an ellipse. In this talk we will show how the influence of Jupiter may cause a substantial change on the shape of Asteroid's orbit. This instability mechanism may give an explanation of the existence of the Kirkwood gaps in the Asteroid belt. This is a joint work with J. Fejoz, V.Kaloshin and P. Roldan.