Rev. Mexicana Astron. Astrof., **14**, 641 (1987)

A FIRST ORDER ANALYTICAL ELLIPTIC PLANAR MODEL FOR 3/1 RESONANCE PROBLEM

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ABSTRACT. In this work a first order analytical elliptic planar model is developed based on the classical Laplace-Souillart theory. Libration or circulation of the resonant argument are then determined by an equation of the same kind as the pendulum equation. The origin of temporary asymmetry of librations is also explained. This model was applied to some available asteroids and the results show very good agreement with the feature found on numerically generated orbits.

Key words: ASTEROIDS

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