

ON DYNAMICAL CHAOS DUE TO THREE-BODY RESONANCES IN THE MOTION OF ASTEROIDS.

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A study of the chaotic orbital motion of asteroids in three-body mean motion resonances with Jupiter and Saturn is accomplished. It is performed within the framework of the separatrix map theory, describing the motion near the separatrices of a nonlinear resonance interacting with neighbouring resonances. Four basic types of the resonance interaction are considered. The Lyapunov times (the motion predictability timescales) and widths of chaotic layers are estimated for a number of asteroids.