

RESONANCE PROBLEM ON THE PERTURBED MOTION, OF TWO BODIES
UNDER MUTUAL GRAVITATIONAL ATRACTION

C.J. Zamlutti

Instituto de Pesquisas Espaciais - INPE
Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq
12200 São José dos Campos, S.P., Brasil

ABSTRACT

The theoretical grounds for the existence of resonances, in the perturbed two bodies problems, is shortly reviewed. Three available methods to evaluate the near-commensurability of two of the natural frequencies of motion are considered: harmonic analysis, anharmonic analysis and correlation analysis. The emphasis is put on the aspect of ease of numerical processing. A brief discussion on the use of each method is presented to complement the matter. The material is applicable to any body (planet, comet etc.) of the solar system in a perturbed Keplerian motion.