KAM Tori in the Spatial Restricted Three–Body Problem

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Abstract

We deal with the study of the spatial restricted three–body problem in the case where the small particle is far from the primaries, that is, the so–called comet case [1]. We consider the elliptic and circular problems, apply double averaging and compute the relative equilibria of the reduced systems. These critical points are in correspondence with periodic and quasiperiodic orbits and invariant tori of the non–averaged Hamiltonians [2]. Moreover, from the relative equilibria of elliptic type we obtain invariant 3–tori of the original system. We explain the transition between the circular and the elliptic problems when the eccentricity of the primaries tends to zero [3].

References

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