On the Poynting-Robertson Effect and Analytical Solutions

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Solutions of the two-body problem with the simultaneous action of the solar electromagnetic radiation in the form of the Poynting-Robertson effect are discussed. Special attention is devoted to pseudo-circular orbits and terminal values of osculating elements. The obtained results complete those of Klačka and Kaufmannová (1992) and Breiter and Jackson (1998).

Terminal values of osculating elements presented in Breiter and Jackson (1998) are of no physical sense due to the fact that relativistic equation of motion containing only first order of \vec{v}/c was used in the paper.

References: Breiter S., Jackson A. A., 1998, MNRAS, 299, 237 Klačka J., Kaufmannová J., 1992, Earth, Moon, and Planets 59, 97