A note on the use of generalized Sundman anomalies in the numerical integration
of the elliptical orbital motion.

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The main purpose of this paper is to address the study of techniques based on the study of certain families of anomalies dependent on one or more parameters to improve the integration techniques used in the problems associated with the orbital motion, such as the theory of satellites and the planetary theories on the solar system.

This work is focused on techniques to integrate the equations of the satellite motion based on numerical integration methods. The numerical methods are of great interest because of its efficiency, although their application may lead to problems such as non-uniform distribution of local truncation errors on the orbit.

One way to improve the solution of this problem is the use of a family depending of one or more parameters in order to minimize the integration errors. This paper is focused on the study of the minimization of the errors through an appropriate choice of parameter, depending on the eccentricity value, in the family of the generalized Sundman anomalies in the numerical integration.