

Dynamically new comets in the Solar System

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We present the results of some numerical studies on the dynamical history of selected long period comets. In our investigations we include all comets with orbits of good quality. We calculated barycentric, *original* orbital elements for comets at a distance of 250 AU from the sun and then we followed the motion of each comet backward to its previous perihelion passage (elliptic orbit only) including the galactic perturbations using two different models. In a similar fashion we traced the past motion of hyperbolic comets. The influence of the stellar perturbations is also discussed. We present some implications for the cometary origin and compare several, previously published statistics with the current population of long period comets with well defined orbits.