

Periodic orbits of the planar three-body problem with a strong potential

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We consider the planar three-body problem with $1/r^2$ potential and equal masses. By using the Jacobi-Maupertuis metric and making appropriate reductions by Riemannian submersions, it follows a reformulation of the Newton's equations as geodesic equations on a surface.

In this talk we give a different proof of the Gaussian curvature's sign and the completeness of the reduced space reported by R. Montgomery (2005). Besides, we show some periodic orbits obtained by numerical techniques as solution of a planar billiard. This is a joint work with J. Antonio García and Josué Meléndez.