

On a Problem of David A. Singer About Prescribing Curvature for Curves

Ildefonso Castro

Department of Mathematics, University of Jaén, Spain

E-mail: icastro@ujaen.es

ABSTRACT

Motivated by the classical Euler elastic curves and the Bernoulli's lemniscate, David A. Singer posed in 1999 the problem of determining a plane curve whose curvature is given in terms of its position. The aim of this talk is the analysis of the contributions to the above problem when the curvature is prescribed in terms of the distance to a line or the distance from a point. We afford this question not only in the Euclidean plane but also in the Lorentz-Minkowski plane, focusing on spacelike and timelike curves.