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A STUDY OF CAUSTIC CURVES

F. ATEŞ AND N. EKMEKCI

ABSTRACT

The curve is considered as a mirror and a point as a light source on the Euclidean sphere S^2 . The light rays, emitted from a point light source, reflected by this mirror curve form a curve called as spherical orthotomic curve. This curve has an envelope and this envelope is called caustic curve of the given mirror curve. In this study, we give a mathematical formula of these curves and examine the singularities of these curves by using the Sabban frame apparatus. At the end of this study, we give visual examples of these curves on S^2 by using the Mathematica program.

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(author one) NECMETTIN ERBAKAN UNIVERSITY, DEPARTMENT OF MATHEMATICS-COMPUTER SCIENCE, 42090, KONYA, TURKEY

Current address: Necmettin Erbakan University, Department of Mathematics-Computer Science, 42090, Konya, Turkey

E-mail address, author one: fgokcelik@ankara.edu.tr

(author two) ANKARA UNIVERSITY, DEPARTMENT OF MATHEMATICS, 06100, ANKARA, TURKEY

E-mail address, author two: ekmekci@science.ankara.edu.tr

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