

APPLICATIONS OF FRACTIONAL CALCULUS IN EQUIAFFINE GEOMETRY: PLANE CURVES WITH FRACTIONAL ORDER

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Abstract

In this paper, we introduce the notions of equiaffine arclength and curvature with fractional order for a plane curve and compare them with the standard ones. In terms of the equiaffine curvature with fractional order we obtain an equiaffine Frenet formula and then construct an analogue of the Fundamental Theorem. The plane curves of constant equiaffine curvature with fractional-order are classified. Several examples are also illustrated.

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