
MANNHEIM-LIKE CURVES

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ABSTRACT

In this paper, the concept of a Mannheim curve pair is introduced within the framework of the Frenet-like curve frame in Euclidean 3-space. Necessary and sufficient conditions are established for a polynomial curve to admit a Mannheim partner curve. Several fundamental characterizations of Mannheim partner curves are derived, and the geometric relationships between the corresponding curve pairs are investigated in detail. Furthermore, explicit relations between the curvatures and torsions of the Mannheim partner curves are obtained. These results contribute to the study of special curve pairs in differential geometry.

Keywords Mannheim curves · Frenet-like curve frame · Polynomial curves

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