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SOME CHARACTERIZATIONS OF GENERALIZED NULL MANNHEIM CURVES IN SEMI-EUCLIDEAN SPACE

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Abstract. In the present paper, we investigate Cartan framed generalized null Mannheim curves in the four-dimensional semi-Euclidean space of index two. We construct the Cartan (or Frenet) frames and curvature functions of generalized Mannheim mate curve with the help of curvatures and Cartan frames of generalized null Mannheim curve.

MSC: 53C50, 53C40
Keywords: Cartan null curve, generalized Mannheim curve, semi-Euclidean space, spacelike curve, timelike curve

Contents

1. Introduction

It is a well known fact that, Frenet formulas take a central position in the geometry of space curves in $\mathbb{E}^3$. These formulas were obtained independently by Frenet (1847) and Serret (1851). They defined orthonormal moving frame $\{T, N, B\}$, known as the Frenet frame, along a space curve parametrized by the arc-length parameter where T is the velocity or unit tangent vector field, N is the principal