

Geodesics on the Tangent Sphere Bundle of Pseudo Riemannian 3-Sphere

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Abstract

In this paper, geodesics on a 3-sphere S_1^3 in the 4 dimensional pseudo Euclidean space E_1^4 have been considered. Then the Sasaki semi-Riemann metric on the tangent sphere bundle with radius ε $T_\varepsilon S_1^3$ of S_1^3 has been obtained and non-null geodesics on $T_\varepsilon S_1^3$ are classified into horizontal, vertical and oblique type. Moreover, the geodesics of oblique type have been classified with respect to the principle curvatures of projected curve on S_1^3 of the geodesics on $T_\varepsilon S_1^3$

Key Words: Tangent Sphere Bundle with Radius ε , Sasaki semi Riemann Metric, Geodesics.

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