

# On $k$ -type null Cartan slant helices according to Darboux frame in Minkowski 3-space

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We define  $k$ -type null Cartan slant helices for  $k \in \{0, 1, 2\}$  lying on the timelike surface in Minkowski 3-space according to their Darboux frame. We study these helices by using their geodesic curvature, normal curvature and geodesic torsion. Additionally, we determine their axes and consider the special cases when the mentioned helices are geodesic curves and principal curvature lines lying on the timelike surface in  $E_1^3$ . We show that null Cartan cubics lying on B-scrolls are 0-type and 2-type null Cartan slant helices and prove that geodesic null Cartan isophotic curves are the null Cartan slant helices. Furthermore, we obtain some interesting relations between 0-type, 1-type and 2-type null Cartan slant helices and provide the related examples.

## References

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