



## ON TIMELIKE AND NULL CURVES IN $\mathbb{R}_1^3$

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### Abstract

In this paper, we give some theorems and results in terms of differential geometry by using Frenet equations which are given in [A. T. Ali and M. Turgut, Position vector of a timelike slant helix in Minkowski 3-space, J. Math. Anal. Appl. 365 (2010), 559-569], [K. İlarıslan and Ö. Boyacıođlu, Position vectors of a timelike and a null helix in Minkowski 3-space, Chaos, Solitons and Fractals 38 (2008), 1383-1389] and [S. Yılmaz, Y. Ünlütürk and A. Mađden, A study on the characterizations of non-null curves according to the Bishop frame of type-2 in Minkowski 3-space, SAÜ Fen Bil. Der. 20(2) (2016), 325-335] for timelike and null curves in  $\mathbb{R}_1^3$ . Moreover, we solved the differential equations and investigate the conditions whether of timelike and null curves are lie or not in subspaces of  $\mathbb{R}_1^3$ . Finally, examples of timelike and null curves in  $\mathbb{R}_1^3$  is given and the curvatures and Frenet equations of this curves are calculated.

**Keywords and phrases:** timelike curve, null curve, Frenet frame, Frenet equations.

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