

A Quaternionic Representation for Canal Surfaces in Minkowski 3-Space

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ABSTRACT

In this paper we have defined the canal surfaces determined by spherical indicatrices of any spatial curve in Minkowski 3-space, via the timelike and spacelike split quaternions. Moreover, using the orthogonal matrices corresponding to these quaternions, these surfaces have been obtained as homothetic motions. Then, we have investigated the relationship between the canal surfaces and unit quaternions. Finally, we give some related examples with their figures.

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