

Characterizations of a Quaternionic Surface in Minkowski 3-Space

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ABSTRACT

In this paper, we construct the quaternionic sea shell, which is a new surface in Minkowski 3-space. When principal normal of helical spiral is timelike, we show that the sea shell surface formed by helical spiral obtained spacelike unit quaternion defined by the principal normal of helical spiral. Then, this surface is recharacterized by the principal normal of helical spiral orthogonal two timelike unit quaternion. In addition to, we give a characterization of the sea shell surface with the principal normal of helical spiral orthogonal two spacelike unit quaternion.