

GEOMETRIC PROPERTIES OF EXTENDED HOLOMORPHIC FUNCTIONS

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Abstract. In this article I have determined some geometrical properties of the real surface $(S) \quad \bar{r} = \bar{i}y + \bar{j}u(x, y) + \bar{k}v(x, y)$ attached to a monogenous quaternion.

The notion of monogenous quaternion was introduced in [1] and represents a prolongement of the holomorphic functions in the four-dimension space. The difference between these holomorphic functions and the monogenous functions analyzed in [4] is the fact that the functions introduced in [1] can be particularized as holomorphic functions from the usual complex analysis. The analyzed geometrical properties: The Gauss Curvature, the curves' torsion on coordinates, the area of the holomorphic surface element. The notion of monogenous quaternion given under relation (1) as well as its properties constitute the author's original contribution.

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