Adv. appl. Clifford alg. *Online First*

DOI 10.1007/s00006-003-0000

Advances in Applied Clifford Algebras

An Introduction to Constant Curvature Spaces in the Commutative (Segre) Quaternion Geometry

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Abstract. - It is known that complex numbers can be associated with plane Euclidean geometry and their functions are successfully used for studying extensions of Euclidean geometry, i.e., non-Euclidean geometries and surfaces differential geometry.

In this paper we begin to study the constant curvature spaces associated with the geometry generated by commutative elliptic-quaternions and we show how the "mathematics" they generate allows us to introduce these spaces and obtain the geodesic equations without developing a complete mathematical apparatus as the one developed for Riemannian geometry.

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Received: December 16, 2005
Accepted: March 1, 2006