

On compact affine quaternionic curves and surfaces

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The introduction of Slice Regular functions in several variables in the recent years has led to a new definition of quaternionic manifolds. A class of manifolds appearing in this context is that of quaternionic affine ones. This talk is devoted to the study of affine quaternionic manifolds and to a possible classification of all compact affine quaternionic curves and surfaces. A direct result, based on the celebrated Kodaira Theorem states that the only compact affine quaternionic curves are the quaternionic tori. As for compact affine quaternionic surfaces, the study of their fundamental groups, together with the inspection of all nilpotent hypercomplex simply connected 8-dimensional Lie Groups, identifies a path towards their classification. This talk is based on a work in collaboration with Graziano Gentili and Giulia Sarfatti.