UNIVERSIDAD DE GRANADA

Departamento de
Geometría y Topología

Ruled real hypersurfaces in the Indefinite Complex Projective Space

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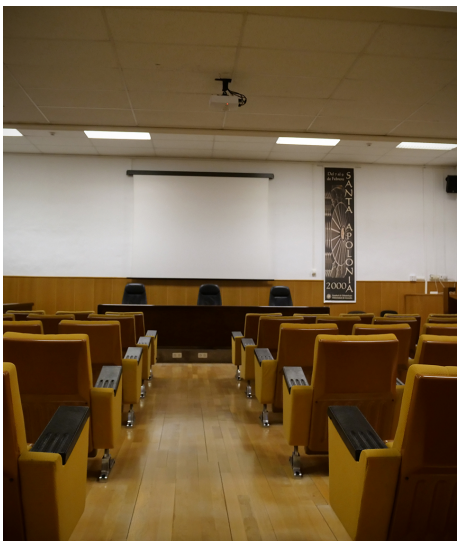
Novedades



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H. Anciaux and K. Panagiotidou initiated the study of non-degenerate real hypersurfaces in non-flat indefinite complex space forms in 2015. Next, in 2019 M. Kimura and M. Ortega further developed their ideas, with a focus on Hopf real hypersurfaces in the indefinite complex projective space. In this work we are interested in the study of non-degenerate ruled real hypersurfaces in the indefinite complex projective space. We first define such hypersurfaces, then give basic characterizations. We also construct their parameterization. They are described as follows. Given a regular curve α in the indefinite complex projective space, then the family of the complete, connected, complex $(n-1)$-dimensional totally geodesic submanifolds orthogonal to α' and $J\alpha'$, where J is the complex structure, generates a ruled real hypersurface. This representation agrees with the one given by M. Lohnherr and H. Reckziegel in the Riemannian case. Further insights are given into the cases when the ruled real hypersurfaces are minimal or have constant sectional curvatures. The present results are part of a joint work together with prof. M. Ortega and prof. J.D. Pérez.

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