



Seminario de Geometría y Topología

On rotation of complex structures

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Abstract. Hyperkähler metrics are a well-known situation in which a Riemannian manifold admits a family of compatible complex structures. Hyperholomorphic bundles, studied by Verbitsky, are bundles which are holomorphic for all complex structures in the family. There is a parallel situation in the case of $\text{Spin}(7)$ -manifolds of dimension 8. For complex 4-tori, there is a family of complex structures compatible with a $\text{Spin}(7)$ -metric. The (stable) holomorphic bundles which remain holomorphic when we change the complex structure are called Spin-rotable. These will be explicitly determined by using $\text{Spin}(7)$ -gauge theory.

We will put both situations in a general framework, and give some applications.

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