

Seminario de Geometría y Topología



Coupled equations for Kähler metrics and Yang-Mills connections

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Resumen:

Coupled equations for Kähler metrics and Yang-Mills connections
Resumen: We study equations on a principal bundle over a compact complex manifold coupling a connection on the bundle with a Kähler structure on the base. These equations generalize the conditions of constant scalar curvature for a Kähler metric and Hermite-Yang-Mills for a connection. We provide a moment map interpretation of the equations and study obstructions for the existence of solutions, generalizing the Futaki invariant, the Mabuchi K-energy and geodesic stability. We finish by giving some examples of solutions. This is joint work with Mario Garcia-Fernandez and Oscar Garcia-Prada (Geometry & Topology, 2013). The talk will provide the general framework subsequently applied by the same authors to study gravitating vortices, cosmic strings, and the Einstein-Bogomol'nyi equations (Comm. Math. Phys., 2017, and arXiv:1606.07699 [math.DG]), about which Mario Garcia-Fernandez will speak in a subsequent talk.

Lugar: Universidad Complutense de Madrid
Facultad de Ciencias Matemáticas
Departamento de Geometría y Topología, Sala 225
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