



Seminario de Geometría y Topología

Conferencia

por

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título:

“Positivity Cones in Aeppli Cohomology on Compact Complex Manifolds”

Resumen:

Let X be a compact complex manifold of dimension n . Any Gauduchon metric $\bar{\partial}$ (known to always exist) satisfies by definition the property $d\bar{\partial}(\bar{\partial}^{n-1}) = 0$, hence it defines a cohomology class of bidegree $(n-1, n-1)$ in the sense of Aeppli (i.e. modulo $\text{Im } d + \text{Im } d\bar{\partial}$). The set of all Aeppli-Gauduchon classes obtained in this way, that we call the "Gauduchon cone" of X , is an open convex cone containing what we term the "strongly Gauduchon (sG) cone" of X consisting of classes defined by sG metrics that we introduced recently.

We will discuss the roles that these two cones play in understanding intrinsic geometric properties of X , such as the validity of the $d\bar{\partial}$ -lemma, and in the theory of holomorphic deformations of the complex structure of X . The main technical tool is an elliptic non-linear PDE of the Monge-Ampère type in bidegree $(n-1, n-1)$ rather than the usual bidegree $(1, 1)$ that we have introduced very recently.

Fecha: Lunes, 28 de abril de 2014

Hora: 12:30 horas

Lugar: Aula 9, Edificio de Matemáticas

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