

The core of a complex manifold

Tobias Harz

University of Wuppertal, Germany

harz@math.uni-wuppertal.de

This talk is based on joint work with N. Shcherbina and G. Tomassini

Session: 5. Complex Analysis

The core $\mathfrak{c}(\mathcal{M})$ of a complex manifold \mathcal{M} is introduced as the set of all points where every smooth and bounded from above plurisubharmonic function on \mathcal{M} fails to be strictly plurisubharmonic.

I will explain that every strictly pseudoconvex domain $\Omega \subset \mathcal{M}$ with smooth boundary admits a global defining function that is strictly plurisubharmonic precisely in the complement of $\mathfrak{c}(\Omega)$. Moreover, I will discuss properties of the core, in particular

1. 1-pseudoconcavity of the core, and
2. Liouville type properties of the core.