

Pfaff systems, currents and hulls

Nessim Sibony

Abstract.

Let S be a Pfaff system of dimension 1, on a compact complex manifold M . We prove that there is a positive ddbar -closed current T of mass 1 directed by the Pfaff system S . There is no integrability assumption. We also show that local singular solutions exist always.

Using $\partial\bar{\partial}$ -negative currents, we discuss Jensen measures, local maximum principle and hulls with respect to a cone \mathcal{P} of smooth functions in the Euclidean complex space, subharmonic in some directions. The case where \mathcal{P} is the cone of plurisubharmonic functions is classical. We use the results to describe the harmonicity properties of the solutions of equations of homogeneous, Monge-Ampère type.