

Rigidity in Holomorphic Dynamics in Higher Dimension.

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Lecture 1 (90 minutes)

Singular Holomorphic Foliations.

The main goal is to prove the following result. Let F be a holomorphic foliation in the Projective plane without algebraic leaves and with only hyperbolic singularities. Then the foliation is uniquely ergodic.

We will introduce singular holomorphic foliations by Riemann surfaces, averaging for leaves covered by the unit disc, harmonic currents and their intersection form.

Lecture 2 (90 minutes) Basics in Holomorphic dynamics.

We introduce the main families of examples of holomorphic and meromorphic maps in higher dimension on C^k , CP^k or on compact Kähler manifolds.

Construction of the Green currents and equilibrium measures.

We will study the basic properties of main objects in different situations and give the main dynamical properties.

Lecture 3. (90 minutes) The Equidistribution problem.

Let f be a rational map on an algebraic variety X . Let V be a subvariety of codimension p in X . We consider the preimages of V , by the n th iterate of f , properly normalized.

In several important cases the limit is unique and independent of V : it is the Green current of bidegree (p,p) . The cases we will discuss are, endomorphisms of CP^k , polynomial automorphisms of C^k , automorphisms of compact Kähler manifolds.

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