

Prof. CANTAT:

One Variable Holomorphic Dynamics and Harmonic Analysis

This series of four lectures serves as an introduction to the second week course given by Tien Cuong Dinh. I introduce basic notions of one variable

holomorphic dynamics and explain how harmonic analysis and potential theory can be used to study the dynamics. Dinh's lectures will generalize such construction to the case of higher dimensional holomorphic transformations.

Lecture 1.---

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- The Riemann sphere and rational fractions
 - Topological degree
 - Periodic points
 - Topological Entropy : bounds from below and Gromov's Theorem.

Lecture 2.---

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- One variable calculus and the Fubini-Study area form
 - The Brolin measure
 - Properties of the Brolin measure
 - Mixing properties of the Brolin measure

Lecture 3.---

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- Subharmonic functions
 - Potential theory
 - Equidistribution of preimages I

Lecture 4.---

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- Equidistribution of preimages II
 - Repartition of periodic points
 - Complementary results.