

# JULIA SETS OF POSITIVE MEASURE

ARNAUD CHÉRITAT

ABSTRACT. This will be an overview of the proof of the existence of Julia sets with positive measure.

## Provisional plan

**Course 1:** Semi-continuity of Julia set and Lebesgue measure, and Douady's approach. Perturbations of Siegel disks and parabolic points, computer experiments. Douady's conjectures implying existence of positive measure Julia sets.

**Course 2:** Jellouli's computation, parabolic explosion, proof of one of Douady's conjectures. Second conjecture : computer experiments and reformulation. Reduction.

**Course 3:** The renormalization of Inou and Shishikura. Consequences: bound on the height of cylinders and semi-continuity of the post-critical set. Mc Mullen's theorems. Proof of the second conjecture.