DOUGLAS CHILDERS, University of Alabama at Birmingham

Sequences of rotation numbers determine degeneracy of a lamination on the closed unit disk

Let $S^1 = \mathbb{R}/\mathbb{Z}$ denote the complex unit circle and define $\sigma\colon S^1 \mapsto S^1$ by $\sigma(t) = 2t \pmod 1$. Thurston describes a collection of σ-invariant laminations on the complex unit disk $\overline{\mathbb{D}}$, which gives a combinatoric parametrization of the Mandelbrot set. Each one of these laminations defines an equivalence relation $\sim$ on S^1 such that $(\sigma, \sim)$ induces a map $F\colon S^1/\sim \ \mapsto S^1/\sim$. Often, there exists a quadratic polynomial P with Julia set J such that $P|_J$ is semi-conjugate to F. However there are obstructions to this being true in general. One of these obstructions is that $S^1/\sim$ could reduce to a point. In this case we call the lamination degenerate.

Bullett and Sentenac introduced the notion of a closed set having a sequence of rotation numbers for σ. This notion is related to "ouady tuning". We use this concept to give a necessary and sufficient condition for when the lamination is degenerate.