

## Yampolsky's Monday Jan 5: Organizational meeting

January-05-15 1:08 PM

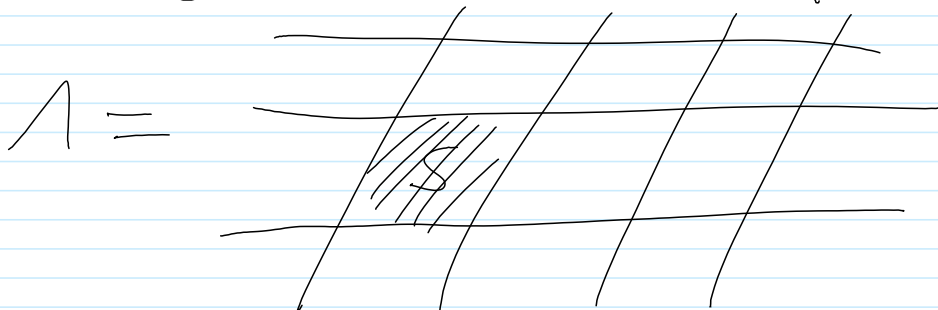
Monday & Wednesdays 1-3 PM @ 6180

Books:

1. Fletcher & Markovic, Quasi-conformal maps and Teichmüller Theory. [thin book]
2. Imayoshi & Taniguchi, An Introduction to Teichmüller space [thicker book]
3. Ahlfors, Lectures on quasi-conformal maps.
4. Hubbard, Teichmüller Theory Vol 1.

"Conformal Moduli of Riemann Surfaces"

$$S = \text{torus} \Rightarrow S \cong \mathbb{C}/\Lambda$$



How do you define the distance between two non-equivalent tori?

$$d(\mathbb{C}/\Lambda_1, \mathbb{C}/\Lambda_2) = ?$$

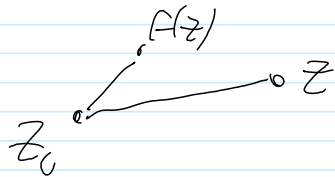
How do we deform one torus to another?

Relation with dynamical systems:

Let  $f: \mathcal{D} \rightarrow \mathbb{C}$

$$f(z_0) = z_0$$

$|f'(z_0)| < 1$  "attracting"



$\mu: "the multiplier"$   
 $f'(z_0)$

$$|f(z) - z_0| \sim |f'(z_0)| \cdot |z - z_0|$$

Lemma Given two such pictures  $f_1, f_2$  and sufficiently small disks  $D_1, D_2$ ,  $f_1|_{D_1}$  and  $f_2|_{D_2}$  are topologically conjugate.

Theorem (Schroeder)

$f_1|_{D_1}$  and  $f_2|_{D_2}$  are conformally equivalent iff  $\mu_1 = \mu_2$ .