



# Seminário de Sistemas Dinâmicos da UFF

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## DIMENSÃO DE HAUSDORFF PARA PROJEÇÕES DE CONJUNTOS DE CANTOR COMPLEXOS DINAMICAMENTE DEFINIDOS.

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**Data:** 05 de abril - Sexta-feira

**Hora:** 16h15

**Local:** Sala 407, 4º Andar, Bloco H, Campus do Gragoatá.

### Resumo

A classical theorem of Marstrand states that for any Borel subset  $F \subset \mathbb{R}^2$

$$HD(\pi_\lambda(F)) = \min\{1, HD(F)\}$$

for almost all projections  $\pi_\lambda(x, y) = x + \lambda y$  (with respect to Lebesgue measure in  $\lambda$ ). Moreira was able to improve this theorem in the particular context of dynamically defined Cantor sets. He proved that given two dynamically defined Cantor sets  $K_1, K_2 \subset \mathbb{R}^2$  satisfying some generic hypothesis, one has  $HD(K_1 + \lambda K_2) = \min\{1, HD(K_1) + HD(K_2)\}$  for all  $\lambda \neq 0$ . We will talk about how Moreira's ideas can be generalized to Cantor sets in the complex plane, we will have a similar formula which holds for dynamically defined complex Cantor sets. In particular, this Cantor sets include Julia sets associated to quadratic maps  $Q_c(z) = z^2 + c$  when the parameter  $c$  is not in the Mandelbrot set