Centro de Matemática da Universidade do Porto

Seminário de Sistemas Dinâmicos

Coexistence of uncountably many attracting sets

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Abstract This is a joint work with Lluís Alsedà from Universitat Autònoma de Barcelona (Spain).
We work with two-dimensional skew-products defined on the cylinder $\mathbb{S}^1 \times \mathbb{R}$ of the form

$$\begin{cases} \theta_{n+1} = R(\theta_n), \\ x_{n+1} = f(x_n)g(\theta_n) \end{cases}$$

where R is a continuous degree-one circle map, and f satisfies some properties of concavity and monotonicity. We prove that when R has no periodic points, there exists finitely many attracting sets. In contrast when the rotation interval of any of the lifts of R is non-degenerate, we prove the existence of uncountably many attracting sets, each of them related with an irrational rotation number.

Friday, 25$\underline{^{\text{th}}}$ of February 2011, room 0.31 14h30