

Slope problems in the theory of semigroups of holomorphic self-maps of the unit disc

Santiago Diaz-Madrigal
University of Seville, Spain

Abstract

Given a semigroup (φ_t) of holomorphic self-maps of the unit disc D and fixed a point $z \in D$, the function $t \in [0, +\infty) \mapsto \varphi_t(z)$ can be seen as the trajectory of a certain vector field. Indeed, many times these trajectories land at concrete points in the circle. From a dynamical point of view, this suggests the question of when a definite slope is well defined for those trajectories or, more generally, to analyse all different dynamical behaviour which can happen. In this talk, we give a panoramic view of this problem for the so called parabolic semi- groups, paying special attention to several very recent developments in the area.