

İSTANBUL ANALYSIS SEMINARS

Dynamics of polynomial automorphisms of \mathbb{C}^n

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Abstract: Dynamics of polynomials in the complex plane is well known. In higher dimensions, the tools of pluripotential theory play an important role in the study of complex dynamics. We will first discuss dynamics of the polynomial automorphisms of \mathbb{C}^2 , namely, Hénon maps. For these maps, we can construct Fatou sets, Julia sets and invariant probability measures which are analogous to those in the complex plane. In \mathbb{C}^3 , there is a nice classification of polynomial automorphisms up to affine conjugates. Some of these classes were extensively studied in terms of their dynamical properties. We will mention the recent results on the dynamics of some of the automorphism classes in \mathbb{C}^3 .

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