

İSTANBUL ANALYSIS SEMINARS

Fatou Components of Polynomial Skew Products in Dimension 2

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Abstract: The Fatou set of a holomorphic endomorphism of a complex manifold is the largest open set where the family iterates of the map form a normal family, and a Fatou component is a connected component of the Fatou set. We investigate the description of Fatou components for polynomial skew-products in two complex variables. The non-existence of wandering domains near a super-attracting invariant fiber was shown by Lilov, and the geometrically-attracting case was studied by Peters, Vivas and Smit. In collaboration with Astorg, Buff, Dujardin and Peters we proved that wandering domains can exist near a parabolic invariant fiber. I will present these results and, if time allows it I will also report on some recent results, obtained in collaboration with Peters, on the remaining case, namely the dynamics near an elliptic invariant fiber.

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