

Transcendental Wandering Triangles

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A celebrated theorem of William Thurston states that every branch point of a locally connected Julia set of a quadratic polynomial is precritical or preperiodic.

In fact, the theorem is usually phrased in the language of quadratic laminations as the “No Wandering Triangle Theorem”.

Laminations are a tool in polynomial and nowadays also entire transcendental dynamics that capture the combinatorics of the landing behaviour of dynamic rays (or filaments), a wandering triangle corresponds to three dynamic rays landing together at a point that is neither precritical nor preperiodic.

By the work of Blokh-Oversteegen and Buff-Canela-Roesch, it is known that there are cubic polynomials with wandering triangles.

In this talk, I will give an overview of joint work-in-progress with Jordi Canela and Lasse Rempe of constructing wandering triangles for entire transcendental functions, in particular in the family $a \cos \sqrt{z} + b$.