

Matings of (Cubic) Polynomials

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Informally, matings of polynomials allows us to construct Thurston maps on a topological 2-sphere. If this Thurston map is not obstructed, then it can be thought of as a rational map on the Riemann sphere. It was shown by the work of Rees, Shishikura and Tan that if the mating of a pair of quadratic polynomials admits a Thurston obstruction, then this obstruction contains a Levy cycle. On the other hand, Shishikura and Tan showed that there exists a mating of cubic polynomials where the obstruction is not a Levy cycle. We will discuss these cases, and see the matings of two cubic polynomials, each having a fixed critical point, parallels the quadratic case.