1176-37-155 **Thomas Sharland*** (tsharland@uri.edu). *Matings of (cubic) polynomials.*

Informally, the mating of polynomials provides a way of combining the dynamics of two polynomials on the complex plane to construct a rational map on the Riemann sphere, unless the mating is obstructed. We discuss the theory of polynomial matings, with particular focus on the cubic case where both polynomials have a fixed critical point. Along the way, we will draw parallels with the (far better understood) quadratic case, and show that the only possible irreducible obstruction in the cubic case with a pair of fixed critical points is a Levy cycle: a periodic cycle of simple closed curves under the mating. We also describe how these Levy cycles arise from the combinatorics of the two polynomials (Received January 20, 2022)