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Reduction of dynatomic curves

Given a one-parameter family of polynomial maps, one can define a *dynatomic curve* $Y_1(n)$, which parametrizes maps in the family together with a marked point of period n . In the classical setting of modular curves of level n , the primes of bad reduction are primes dividing n ; however, in the analogous dynatomic setting, it is more difficult to predict the primes of bad reduction. I will discuss recent work on the dynatomic curves for the quadratic family $z^2 + c$, where we have new results concerning smooth and irreducible reduction.

This is joint work with H. Krieger, A. Obus, R. Pries, S. Rubinstein-Salzedo, and L. West.