
Complex dynamics, bifurcations, and arithmetic

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Abstract

I will give an overview of some connections between the study of complex dynamical systems and arithmetic geometry. I will emphasize the analytic ingredients, centered around the study of bifurcations in families of dynamical systems. As an example application, I will present a classical theorem of Mordell and Weil from the 1920s, on rational points of elliptic curves. Time permitting, I will explain a new result about elliptic curves, joint with X. Wang and H. Ye, with its dynamical and potential-theoretic proof.

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