On the monodromy and bifurcations of the Hénon map

Zin Arai (Hokkaido University, Japan)

Abstract:

In this talk, we discuss the structure of the parameter space of the complex Hénon map. Our main tool is the monodromy representation that assigns an automorphism of the full shift to each loop in the hyperbolic parameter locus. Assuming that there exist infinitely many non-Wieferich prime numbers (it suffices to assume "the abc conjecture"), we show that automorphisms contained in the image of the monodromy representation must satisfy "Sign Gyration Compatibility Condition". This algebraic condition imposes some geometric restrictions on the structure of the parameter space.