

Stanford Department of Mathematics Colloquium

Thursday, April 8
4:15 p.m.
Bldg. 380, Room 380-W.

Complex dynamics and adelic potential theory

Matt Baker
Georgia Tech

Abstract

Using tools from number theory and complex analysis, Laura DeMarco and I have recently proved the following theorem: for any fixed complex numbers a and b , the set of complex numbers c for which both a and b both have finite orbit under the map $z \mapsto z^2 + c$ is infinite if and only if $a^2 = b^2$. I will explain the motivation for this result and give an outline of the proof. The main arithmetic ingredient in the proof is an adelic equidistribution theorem for preperiodic points over product formula fields, with non-archimedean Berkovich spaces playing an essential role.

<http://math.stanford.edu/coll/0910/>