

GRADUATE STUDENT SEMINAR

Guest Speaker: Nicholas Edelen

University of Notre Dame

Date: Monday, November 2, 2020

Time: 4:00 PM

Location: Zoom

Zoom URL: notredame.zoom.us/j/95815357423



Lecture Title:

Reifenberg's disk theorem

Abstract

Reifenberg gave a solution to the Plateau problem in terms of closed sets, imposing boundary conditions via Čech homology. He showed that an area-minimizing "surface" in this sense always exists, and is analytic almost everywhere (wherever the density is one). A key step in his proof of regularity is his so-called disk theorem, which states that if a closed set in the unit n -ball is sufficiently Hausdorff close to some k -plane at each point and scale (where the planes can depend on the point, scale), then the set is bi-Hölder equivalent to a k -disk. I will talk about this theorem, some extensions and applications, and will sketch the proof.