Department of Mathematics
University of Notre Dame

GRADUATE STUDENT GEOMETRY SEMINAR

Guest Speaker: Jui-Yun Hung
University of Notre Dame

Date: Friday, March 22, 2024
Time: 2:00 PM
Location: 117 Hayes-Healy Bldg
Zoom URL: NA

Lecture Title:
A Proof of Green's Theorem

Abstract

Green's Theorem is one of the most fundamental result in mathematics and has a lot of applications. For example, many results in complex analysis are a consequence of it. If the boundary curve is smooth, the theorem is just a special case of Stokes theorem on smooth manifolds with boundary, however, in many application, the curve is only piecewise smooth or rectifiable. In spite of its importance, a complete and rigorous proof for non-smooth cases is hard to find as far as I know. In this talk, I will present a complete and "elementary" proof of Green's Theorem based on a characterization of total variation of continuous BV functions by Estermann.

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