

44th Summer Symposium in Real Analysis

Participant

Family name : Julia

First name : Antoine

Institution : Université Paris-Saclay

Email : antoine.julia@universite-paris-saclay.fr

Title of the talk

Stokes' Theorem on singular surfaces, via non-absolutely convergent integration.

Abstract

Following the work of R. Henstock, J. Kurzweil and many others, W. Pfeffer [1] proved a very general Divergence Theorem on bounded sets of finite perimeter. I will explain how one can adapt these techniques in order to prove study Stokes' Theorem on a broad class of surfaces with singularities. I will also show how a small singular set of the surface can interact pathologically with singularities of the differential form we want to integrate, a phenomenon which does not occur in the flat case.

References

- [1] Washek F. Pfeffer. The Gauss-Green theorem. *Adv. Math.*, 87(1):93–147, 1991.