



Richard Aron (aron@math.kent.edu) Department of Mathematics, Kent State University, Kent, OH 44242, USA, *Smooth surjections from non-separable Banach spaces.*

ABSTRACT. In this work in progress, we discuss the following question:

Suppose that E and F are Banach spaces, with E non-separable and F separable. Let $f : E \rightarrow F$ be a surjective function. Is there necessarily a *separable* subspace $G \subset E$ such that the restriction $f|_G : G \rightarrow F$ is still surjective?

We show that in many cases, there is a negative answer to this question, even if the mapping f is quite nice. We also discuss some related, open questions.

This is a joint work with Jesus A. Jaramillo.