

An introduction to the Ribe program*

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Joram Lindenstrauss, who was my Ph.D. advisor, passed away on April 29, 2012. He was an enormously influential mathematician and the founder of the field of research that is surveyed here. This article is dedicated to his memory.

Abstract. We survey problems, results, ideas, and recent progress in the Ribe program. The goal of this research program, which is motivated by a classical rigidity theorem of Martin Ribe, is to obtain structural results for metric spaces that are inspired by the local theory of Banach spaces. We also present examples of applications of the Ribe program to several areas, including group theory, theoretical computer science, and probability theory.

Keywords and phrases: metric embeddings, local theory of Banach spaces, bi-Lipschitz and coarse invariants

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