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POINCARÉ INEQUALITIES AND SOBOLEV SPACES

Paul MacManus

Abstract

Our understsanding of the interplay between Poincaré inequalities, Sobolev inequalities and the geometry of the underlying space has changed considerably in recent years. These changes have simultaneously provided new insights into the classical theory and allowed much of that theory to be extended to a wide variety of different settings. This paper reviews some of these new results and techniques and concludes with an example on the preservation of Sobolev spaces by the maximal function.

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