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Philip T Gressman* (gressman@math.upenn.edu). *Fractional Poincare and logarithmic Sobolev inequalities for measure spaces.*

We discuss recent work establishing analogues of Poincare and logarithmic Sobolev inequalities for functions with a fractional degree of differentiability in measure spaces with only a minimal amount of geometric structure. Such spaces include, but are not limited to, spaces of homogeneous type with doubling measures. This work generalizes certain earlier results due to Mouhot, Russ, and Sire (2011), Lott and Villani (2009), and K. T. Sturm (2006). (Received August 15, 2011)