

The Sobolev spaces $N^{1,p}$ and $M^{1,p}$

The Sobolev spaces $W^{1,p}$ in the Euclidean setting can be characterized via pointwise inequalities. This dates back to works of Bojarski and Hajłasz. In the metric setting similar results hold for the Sobolev spaces $N^{1,p}$ under suitable conditions on the metric and measure structures. If we consider Sobolev spaces that are defined on a subdomain of our metric space, things get more complicated. I will go through some new results on this topic.