

Traces of Newton-Sobolev, Hajlasz-Sobolev, and BV functions on metric spaces

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Abstract. We study the boundary traces of Newton-Sobolev, Hajlasz-Sobolev, and BV (bounded variation) functions. Assuming less regularity of the domain than is usually done in the literature, we show that all of these function classes achieve the same “boundary values”, which in particular implies that the trace spaces coincide provided that they exist. Many of our results seem to be new even in Euclidean spaces but we work in a more general complete metric space equipped with a doubling measure and supporting a Poincaré inequality.

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