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Lebesgue points of functions from Sobolev classes on metric measure spaces in the limiting case

Let X be a metric measure space with doubling dimension $\gamma > 0$. For the function $f \in L^p_{\text{loc}}(X)$,$p > 0$ and the ball $B \subset X$ via $I^{(p)}_B f$ we denote the best approximation by constants in $L^p(B)$. $x \in X$ is a Lebesgue point if the following limit exists

$$\lim_{r \to +0} I^{(p)}_{B(x,r)} f = f^*(x).$$

We assume that f belongs to Hajłash–Sobolev space $W^p_\alpha(X)$, $p > 0$, $\alpha > 0$.
The case of particular interest is when $\gamma = \alpha p$ (the critical case). Properties of Lebesgue points in this case (in particular estimation of exceptional set in terms of Hausdorff dimension and capacities) will be discussed.