

A non-dense subspace in \mathcal{M}_q^p

Yoshihiro Sawano (Tokyo Metropolitan University, Japan)

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Let $1 < q \leq p < \infty$. For an $L_{\text{loc}}^q(\mathbb{R}^n)$ -function f its Morrey norm is defined by:

$$\|f\|_{\mathcal{M}_q^p} \equiv \sup_{x \in \mathbb{R}^n, r > 0} |B(x, r)|^{\frac{1}{p} - \frac{1}{q}} \left(\int_{B(x, r)} |f(y)|^q dy \right)^{\frac{1}{q}}. \quad (1)$$

The Morrey space $\mathcal{M}_q^p(\mathbb{R}^n)$ is the set of all $L^q(\mathbb{R}^n)$ -locally integrable functions f for which the norm $\|f\|_{\mathcal{M}_q^p}$ is finite. This poster gives us an example of the non-trivial subspace in $\mathcal{M}_q^p(\mathbb{R}^n)$ with $1 < q < p < \infty$. This example will enrich our recent research on interpolation of Morrey spaces.