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Embeddings of Slobodeckij spaces on metric-measure spaces

We consider a fractional Slobodeckij space defined on a metric-measure space (X, d, μ) . During the talk I will present that under some additional assumption, there is an equivalence between boundedness of the Sobolev embedding operator and the lower regularity of μ . Moreover, I will discuss compactness of L^p embedding operator and relation with Hajłasz-Sobolev spaces. The talk is based on a joint work with Przemysław Górka.

References.

- [1] P. Górka, A. Stąbuszewski, Embedding of fractional Sobolev spaces is equivalent to regularity of the measure, in press.
- [2] P. Górka, A. Stąbuszewski, Embeddings of the fractional Sobolev spaces on metric-measure spaces, *Nonlinear Analysis*, 2022.