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Compact embeddings of Hajłasz-Triebel-Lizorkin and Hajłasz-Besov spaces

We consider fractional Sobolev spaces $N_{p,q}^\alpha$ and $M_{p,q}^\alpha$ (known as Hajłasz-Besov and Hajłasz-Triebel-Lizorkin spaces) defined on a quasi-metric-measure space (X, d, μ) . During the talk I will present various results concerning compactness of the embeddings

$$N_{p,q}^\alpha(X, d, \mu) \hookrightarrow L^{\tilde{p}}(X, \nu), \quad M_{p,q}^\alpha(X, d, \mu) \hookrightarrow L^{\tilde{p}}(X, \nu)$$

for $\alpha, p \in (0, \infty)$, $q \in (0, \infty]$, $\tilde{p} \in [0, p]$ and $\nu \ll \mu$.

The talk is based on a joint work with Przemysław Górka and Ryan Alvarado.