SEMINARI D'ANÀLISI UAB-UB **Curs 2010–2011**

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Aula T2, Facultat de Matemtiques, UB.

Pointwise characterizations of Besov and Triebel-Lizorkin spaces and quasiconformal mappings

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ABSTRACT: The authors characterize, in terms of pointwise inequalities, the classical Besov spaces $\dot{B}^s_{p,q}$ and Triebel-Lizorkin spaces $\dot{F}^s_{p,q}$ for all $s \in (0,1)$ and $p,q \in (n/(n+s),\infty]$ both in $\mathbb{R}^n$ and in the metric measure spaces enjoying the doubling and reverse doubling properties. Applying this characterization, the authors prove that quasiconformal mappings preserve $\dot{F}^s_{n/s,q}$ on $\mathbb{R}^n$ for all $s \in (0,1)$ and $q \in (n/(n+s),\infty]$. A metric measure space version of the above morphism property is also established.