FUNCTION SPACES AND GEOMETRIC INEQUALITIES: DOUBLING VS NONDOUBLING

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ABSTRACT. In this talk I will present recent progress in the theory of function spaces and quantitative geometric inequalities in nondoubling and doubling contexts, in particular on Lie groups. I will discuss inhomogeneous and homogeneous Besov and Triebel–Lizorkin spaces, and inequalities such as Sobolev and Poincaré in a quantitative form. The results presented will be based mostly on joint works with Marco Peloso and Maria Vallarino.

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