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### **Recent results on Besov regularity for differential equations**

We shall be concerned with the regularity of the solutions to certain nonlinear elliptic problems in Lipschitz domains contained in  $\mathbb{R}^d$ . Especially, we consider the specific scale  $B_\tau^s(L_\tau)$ ,  $1/\tau = s/d + 1/2$ , of Besov spaces. The regularity of the solution in these spaces determines the order of approximation that can be achieved by adaptive and other nonlinear numerical schemes. We show that under quite natural conditions the Besov regularity in this specific scale is high enough to justify the use of adaptive schemes.

This is joint work with W. Sickel.