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Gradient bound for some quasilinear elliptic equations

Abstract. In this talk I would like to discuss the possibility of getting L^q estimates for the gradient of a solution to equations whose model is

$$-\Delta_p u + H(x, \nabla u) = f \quad \text{in } \Omega,$$

where $p > 1$ and Ω is a smooth bounded domain in \mathbb{R}^N , $N \geq 2$.

The aim is to show how such estimates depend on the regularity of f , on the growth of H , on the boundary conditions (Dirichlet, Neumann...) and on the geometry of the domain.