On weak solutions of noncoercive elliptic equations

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Abstract

We consider a linear elliptic PDE of the form $-\Delta\theta + \operatorname{div}(u\theta) = f$ in Ω, where u is a given vector field. The goal of the talk is to present recent results of weak solutions θ in $W^{1,p}$ or $W^{1,2}$ under the most general assumption on the vector field u. In particular, we don't need a coercivity condition like $\operatorname{div} u = 0$.