

On maximal parabolic regularity and its applications

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We introduce the concept of maximal parabolic regularity for a linear operator and compare first its use with that of the generator property for an analytic semigroup in view of the solvability for parabolic equations. Secondly, we present classes of domains on which second order divergence operators do have maximal parabolic regularity when acting on the most common functional spaces. Finally, we indicate how maximal parabolic regularity leads even to the local solvability in time for quasilinear equations.