Bisectorial Operators: Spectral Theory and Parabolic Equations

by

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An operator $A$ on a Hilbert space is invertible and bisectorial if and only if the Problem

$$\dot{u}(t) = Au(t) + f(t) \quad (t \in \mathbb{R})$$

is $L^p$-well posed. We also discuss $UMD$-spaces where the characteristic condition is $R$-bisectoriality. For $C^\alpha$-maximal regularity no further condition is needed. Bisectorial operators may be complicated since the canonical spectral projection is since the canonical spectral projection unbounded in general, even on Hilbert space. Still, we are able to show that $A^2$ is always sectorial. The talk is based on several articles:


