

Hieber, Matthias; Rübiger, Frank**A remark on the abstract Cauchy problem on spaces of Hölder continuous functions.** (English)[Zbl 0765.34042](#)

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Let $C^\alpha(\mathbb{R}^n)$ ($0 < \alpha < 1$) be the space of α -Hölder continuous functions in \mathbb{R}^n endowed with its usual norm. The authors show that no unbounded operator A in $C^\alpha(\mathbb{R}^n)$ can be a semigroup generator. Then they consider the case $A =$ elliptic differential operator with constant coefficients, and show that if the symbol $p(\xi)$ has real part bounded above, A generates a β -times integrated semigroup if $\beta > n/2 + 1$. The index β can be considerably improved in particular cases; for instance, for the Laplacian, we may take $\beta > 0$ arbitrary.

Reviewer: [H.O.Fattorini \(Los Angeles\)](#)**MSC:**[34G10](#) Linear differential equations in abstract spaces[47D03](#) Groups and semigroups of linear operatorsCited in **2** Documents**Keywords:**

unbounded operator; semigroup generator; elliptic differential operator with constant coefficients; symbol

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