

Acquistapace, Paolo; Terreni, Brunello

Maximal space regularity for abstract linear non-autonomous parabolic equations. (English)

Zbl 0563.47028

J. Funct. Anal. 60, 168-210 (1985).

Let E be a Banach space and $\{A(t)\}$, $t \in [0, T]$ a family of closed linear operators in E . The authors study the linear non-autonomous Cauchy problem

$$u'(t) - A(t)u(t) = f(t) \quad \text{for } t \in [0, T], \quad u(0) = x, \quad x \in E, \quad f \in C([0, T], E);$$

$A(t)$ is the infinitesimal operator of an analytic semigroup, not necessarily strongly continuous at 0, with domains not depending on t . The abstract regularity is studied by means of interpolation spaces.

Reviewer: J.de Graaf

MSC:

- 47D03 Groups and semigroups of linear operators
- 46M35 Abstract interpolation of topological vector spaces
- 35K55 Nonlinear parabolic equations

Cited in **1** Review
Cited in **9** Documents

Keywords:

linear non-autonomous Cauchy problem; infinitesimal operator of an analytic semigroup; abstract regularity; interpolation spaces

Full Text: DOI

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