

**ON SOME OPERATORS WITH COMPLEX-VALUED
CONTINUOUS NEGATIVE DEFINITE SYMBOL
WHICH ARE GENERATORS
OF L_p -SUB-MARKOVIAN SEMIGROUPS**

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Abstract

We consider the fractional powers $-(-A_{\pm})^{\alpha}$ of operators of the form

$$-A_{\pm} = -\psi(D_{x'}) \pm \frac{\partial}{\partial x_{n+1}}, \quad (x', x_{n+1}) \in \mathbb{R}^{n+1},$$

where $\psi(D_{x'})$ is an operator with real continuous negative definite symbol $\psi: \mathbb{R}^n \rightarrow \mathbb{R}$, acting on functions depending on $x' \in \mathbb{R}^n$. We determine the domains in $L_p(\mathbb{R}^n)$ of these operators, and prove that with these domains $-(-A_{\pm})^{\alpha}$ are generators of L_p -sub-Markovian semigroups.

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