

A parametrix construction for the fundamental solution of the evolution equation associated with a pseudo-differential operator generating a Markov process

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We use a method proposed by H. Kumano-go to construct a parametrix of the equation

$$\frac{\partial u}{\partial t} + q(x, D)u = 0$$

where $q(x, D)$ is a pseudo-differential operator with symbol in the class introduced by W. Hoh.

In the case where $-q(x, D)$ extends to a generator of a Feller semigroup our construction yields an approximation for the transition densities of the corresponding Markov process.