

Title: Fractional heat equations.

Abstract: Operators P of fractional order, such as the a -th power of the Laplacian, where $0 < a < 1$, are of interest both in probability and financial theory (because they generate Levy processes) and in mathematical physics and differential geometry. They are nonlocal, in contrast to differential operators. Still one can define boundary value problems for them, on, say a bounded smooth subset Ω of \mathbb{R}^n . We shall tell about the results for such boundary value problems, and in particular we shall discuss the solutions of associated heat equations, $(P + d_t)u = f$.