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**Luke G. Rogers\*** ([rogers@math.uconn.edu](mailto:rogers@math.uconn.edu)). *Bounds for the resolvent of the Laplacian on post-critically finite self-similar fractals.*

Post-critically finite self-similar fractals are an important class on which there is an analytic theory based on a Laplacian. The Laplacian may be obtained in one of two equivalent ways, as the infinitesimal generator of a stochastic process (random walk or heat flow) on the fractal, or via a limiting argument for Dirichlet forms on graph approximations. Though there are some results may be proved from either perspective, there are also many that depend on strong heat kernel estimates, for which the only proof was via probability theory. I will discuss an approach to these type of estimates that avoids probability theory by directly constructing sub-Gaussian bounds for the off-diagonal decay of the resolvent for the Laplacian. (Received August 18, 2008)