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Marius Ionescu, Erin P.J. Pearse, Luke G. Rogers* (rogers@math.uconn.edu), **Huo-Jun Ruan** and **Robert S. Strichartz**. *A resolvent kernel for the Laplacian on pcf self similar fractals.*

Post-critically finite self-similar fractals are an important class on which there is an analytic theory based on a Laplacian operator. A key element of this theory is an explicit formula for the Green kernel; integration with respect to this kernel inverts the Laplacian. We generalize Kigami's construction of this kernel to provide an explicit formula for the resolvent kernel of the Laplacian with Dirichlet boundary conditions. (Received August 12, 2008)