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Ricardo A Saenz* (rasaenz@uco1.mx), Facultad de Ciencias - University of Colima, Ave. Bernal Diaz del Castillo 340, 28045 Colima, Colima, Mexico. *Nontangential limits and Fatou type theorems on PCF sets.*

Let Δ be the Laplacian of the post critically finite (PCF) self-similar set K , and consider the equation

$$\frac{\partial^2 u}{\partial t^2} + \Delta u = 0$$

on $K \times \mathbb{R}_+$, with boundary condition $u(x, 0) = f(x)$ on K . In this talk we discuss recent results on the regularity of the Poisson integrals $u(x, t)$ for $f \in L^p(K)$, as well as non-tangential limits of $u(x, t)$ as $t \rightarrow 0$. (Received February 23, 2010)