1116-VC-2697 **Costa Lasiy*** (kl0822@westminstercollege.edu). *A Fractal wavelet-based DE solver.* Preliminary report.

We consider fractal wavelet-based methods for solving differential equations in lieu of traditional Fourier and standard wavelet methods. Specifically we compare use of a Sierpinski-gasket fractal wavelet to a 2-dimensional Haar wavelet in solving a diffusion model under different initial conditions. The methods differ only in the filters used in the wavelet constructions, where the geometry of the Sierpinski-gasket is in embedded in the fractal wavelet transform. Additionally, we explore systems with chaotic dynamics. (Received September 22, 2015)