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**Anna Levina\*** ([alevina@kent.edu](mailto:alevina@kent.edu)), 19178 Ridgeview Trail, Chagrin Falls, OH 44023, and **S. Robert Strichartz**. *Mean Value Properties of Harmonic Functions on the Sierpinski Gasket*. Preliminary report.

Harmonic functions on domains in Euclidean space have the following mean value property: the value at the center of a ball is equal to the mean value of the function on the ball. Also, for functions in the domain of the Laplacian, we can obtain the Laplacian at a point as the limit of the difference between the mean value on the ball of radius  $r$  and the value at the point, appropriately renormalized, as  $r$  goes to zero. We find analogous results on the Sierpinski gasket ( $SG$ ) where for each point  $z \in SG$  we seek a sequence of geometrically simple sets  $B_k$  converging to  $z$  with the above properties. For junction points the result is easy. We give a nonconstructive proof of the existence of such sets (intersections of  $SG$  with triangles) in the case of strictly generic points (where the address contains all digits infinitely often), and discuss an algorithm to find the sets. (Received August 03, 2010)