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Jonas Azzam* (jonasazzam@hotmail.com). *Energy Measures on the Sierpinski Gasket.*

Given an energy form on the set of functions defined on the Sierpinski Gasket (SG), we define a harmonic function to be a function that has minimum energy given fixed boundary values (i.e. its values at the corners). For a harmonic function h , we may define a measure on SG in terms of the energy of the harmonic function when restricted to a subset of SG. It turns out that, while these energy measures are defined quadratically in terms of h , they can still be modeled by linear transformations on SG. (Research carried out at an REU at Cornell University.) (Received August 30, 2005)