1096-46-277 **Robert S. Strichartz*** (str@math.cornell.edu), Math Dept., Malott Hall, Cornell Univ., Ithaca, NY 14853. *"Graph Paper" Trace Characterizations of Functions of Finite Energy.*

We characterize functions of finite energy in the plane in terms of traces on the lines that make up "graph paper" with squares of side length m^n, for all integers n, and certain 1/2-order Sobolev norms of the graph paper lines. We also obtain analogous results for functions of finite energy on two classical fractals: the Sierpinski gasket and the Sierpinski carpet. (Received August 26, 2013)