1001-31-47 **Jun Kigami*** (`kigami@i.kyoto-u.ac.jp`), Graduate School of Informatics, Kyoto University, 606-8501 Kyoto, Japan. *Measurable Riemannian geometry on a self-similar set, energy measue and heat kernel estimate.*

It is known that there exists a cannonical energy measure, called the Kusuoka measure for the standard Dirichlet form on the Sierpinski gasket (SG for short). Also, there exists a "Riemannian metric" ,defined almost every where, on the SG with respect to the Kusuoka measure. We will define a "geodesic" metric on the SG and show the Gaussian (upper and lower) heat kernel estimate with respect to the metric. (Received July 22, 2004)