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**Jun Kigami\***, Graduate School of Informatics, Kyoto University, Yoshida-Honmachi, Sakyo, Kyoto, Kyoto 606-8501, Japan. *Dirichlet forms on a noncompact Cantor set and random walks on its defining tree.*

First we will construct a class of Dirichlet forms on a noncompact Cantor set, which is a generalization of  $p$ -adic numbers, from prescribed sets of eigenvalues and measures. At the same time, we have concrete expressions of the jump kernel and the transition density. Assuming the volume doubling condition, we construct an intrinsic metric under which estimates of transition density and jump kernel are obtained. Secondly transient random walks on the defining tree of the noncompact Cantor set are shown to induce a subclass of Dirichlet forms discussed in the first part on the noncompact Cantor set as traces. (Received June 10, 2011)