1054-60-33 **Jun Kigami*** (`kigami@i.kyoto-u.ac.jp`), Graduate School of Informatics, Kyoto University, Kyoto, 606-8501, Japan. *Trace of a transient random walk on a tree on the Cantor set as the Martin boundary and associated heat kernel.*

It is well known that the Martin boundary M of a transient random walk (T, C) on a tree T is the Cantor set Σ. Let $(\mathcal{E}, \mathcal{F})$ be the Dirichlet form on the tree T associated with the random walk (T, C). Let $(\mathcal{E}_\Sigma, \mathcal{F}|_\Sigma)$ be the trace of $(\mathcal{E}, \mathcal{F})$ on the Martin boundary $M = \Sigma$. We study the structure of the Dirichlet form $(\mathcal{E}_\Sigma, \mathcal{F}|_\Sigma)$ on $L^2(\Sigma, \nu)$ in terms of effective resistances, where ν is the hitting distribution of the random walk on its Martin boudary $M = \Sigma$. Also we study the associated heat kernel, Levy density and the mean displacements. Moreover, we will show some relation with the noncommutative Riemannian geometry on the Cantor set. (Received August 12, 2009)