1127-60-160 **Panki Kim** and **Renming Song*** (rsong@illinois.edu), Department of Mathematics, University of Illinois at Urbana-Champaign, 1409 W. Green St, Urbana, IL 61801, and **Zoran Vondracek**. *Potential theory of subordinate killed Brownian motions.*

Let $W^D$ be a killed Brownian motion in a domain $D \subset \mathbb{R}^d$ and $S$ an independent subordinator with Laplace exponent $\phi$. The process $Y^D$ defined by $Y_t^D = W_{S_t}^D$ is called a subordinate killed Brownian motion. It is a Hunt process with infinitesimal generator $-\phi(-\Delta|_D)$, where $\Delta|_D$ is the Dirichlet Laplacian. In this paper we study the potential theory of $Y^D$ under a weak scaling condition on the derivative of $\phi$. We first show that non-negative harmonic functions of $Y^D$ satisfy the scale invariant Harnack inequality. Subsequently we prove two types of scale invariant boundary Harnack principles with explicit decay rates for non-negative harmonic functions of $Y^D$. The first boundary Harnack principle deals with a $C^{1,1}$ domain $D$ and non-negative functions which are harmonic near the boundary of $D$, while the second one is for a more general domain $D$ and non-negative functions which are harmonic near the boundary of an interior open subset of $D$. The obtained decay rates are not the same, reflecting different boundary and interior behaviors of $Y^D$. (Received February 01, 2017)