1123-60-294 **Janna Lierl*** (janna.lierl@uconn.edu), Dept. of Mathematics, 341 Mansfield Road, Unit 1009, Storrs, CT 06269-1009. *Boundary Harnack principle and Dirichlet heat kernel estimates for nonsymmetric stable-like operators.* Preliminary report.

Consider the α-stable like operator

$$\Delta^{\frac{\alpha}{2},\kappa}u(x) := \mathcal{A}(d,-\alpha)\lim_{\epsilon\to 0}\int_{\{y\in\mathbb{R}^d:|x-y|>\epsilon\}}\frac{\kappa(x,y)(u(y)-u(x))}{|x-y|^{d+\alpha}}dy, \quad x\in\mathbb{R}^d,$$

where $d\geq 2$, $\alpha\in(0,2)$.

The existence of the heat kernel for this operator, as well as two-sided heat kernel estimates, have been proved in a recent work by Z.-Q. Chen and X. Zhang, under mild assumptions on κ. Namely, it suffices that κ is bounded between two positive constants, satisfies $\kappa(x,x+z)=\kappa(x,x-z)$ for all $x,z\in\mathbb{R}^d$, and $x\mapsto\kappa(x,x+z)$ is Hölder continuous of order β for some $\beta\in(0,1)$.

Under somewhat stronger assumptions on κ, I will show a boundary Harnack principle with explicit decay rate $\delta(x)^{\alpha/2}$ on bounded $C^{1,1}$-open sets in $\mathbb{R}^d$, where $\delta(\cdot)$ denotes distance to the boundary. Moreover, I will present two-sided estimates for the Dirichlet heat kernel on $C^{1,1}$-open sets. (Received August 29, 2016)