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Sarah Bryant* (snbryant@math.purdue.edu), Purdue University, 150 N. University St, Math Department, W. Lafayette, IN 47907. *Expected Time to See Flat Path of α Stable Process.*

Let Y_t be a standard one dimensional symmetric α stable process, $\alpha \in (0, 2)$, and define $R(t, 1) = \sup_{t-1 \leq s \leq t} Y_s - \inf_{t-1 \leq s \leq t} Y_s$ for $t \geq 1$. Given $\varepsilon > 0$, let $\tau(\varepsilon) = \min\{t \geq 1 : R(t, 1) \leq \varepsilon\}$. We prove exponential-type bounds for R and as a corollary $\lim_{\varepsilon \rightarrow 0} \varepsilon^\alpha \log E(\tau(\varepsilon)) = 2^\alpha \lambda_1$, where λ_1 is the first eigenvalue for the process Y_t in the interval $(-1, 1)$. We prove some similar results, without exact constants, for dimension $d \geq 2$. (Received September 15, 2008)