1032-35-141 **Michael W. Frazier*** (`frazier@math.utk.edu`), 124 Ayres Hall, 1403 Circle Drive, University of Tennessee, Knoxville, TN 37996-1300, and **Igor E. Verbitsky**. *Global exponential bounds for Green's functions of Schrödinger operators.* Preliminary report.

Let Ω be $\mathbb{R}^n$, $0 < \alpha < n$, and let $G(x, y)$ be the Riesz potential $I_\alpha(x, y)$, or let Ω be a domain in $\mathbb{R}^n$ satisfying the uniform Harnack boundary principle, such that $(-\triangle)^{\alpha/2}$ has a non-negative Green's function $G(x, y)$, and let $0 < \alpha \leq 2$. Let q be a non-negative function on Ω. Let V be the minimal Green's function of $(-\triangle)^{\alpha/2} - q$. Then there exist positive constants c_1 and C_1 such that

$$V(x, y) \geq C_1 G(x, y) e^{c_1 G_2(x,y)/G(x,y)},$$

where $G_2(x, y) = \int_\Omega G(x, z)G(z, y)q(z)dz$ is the second iterate of G. Under a certain smallness condition on q, we obtain an upper bound of the same type. As a consequence of these estimates, we obtain conditions for the existence of a non-negative solution u of the equation

$$(-\triangle)^{\alpha/2} u = qu + f.$$

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