Heat kernels of Schrödinger operators

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Abstract

We present two-sided estimates for the heat kernel of the elliptic Schrödinger operator $-\Delta + \Phi$, where $\Delta$ is the Laplace operator in $\mathbb{R}^n$ and $\Phi$ is a smooth function in $\mathbb{R}^n$. The results include a critical potential $\Phi$ of the form $\Phi(x) = c|x|^{-2}$, $|x| > 1$. The proof is based on a joint work with L. Saloff-Coste providing conditions for the stability of the parabolic Harnack inequality under a non-uniform change of measure on weighted Riemannian manifolds.

References
