1139-35-335 **Bruno Poggi*** (poggi008@umn.edu), 206 Church Street SE, 505 Vincent Hall, Minneapolis, MN 55455, and **Svitlana Mayboroda** (svitlana@math.umn.edu), 206 Church Street SE, 223 Vincent Hall, Minneapolis, MN 55455. *Exponential decay estimates for fundamental solutions of Schrödinger-type operators.*

We establish sharp exponential decay estimates for operator and integral kernels of the (not necessarily self-adjoint) operators $L = -(\nabla - i\mathbf{a})^T A(\nabla - i\mathbf{a}) + V$. The latter class includes, in particular, the magnetic Schrödinger operator $-(\nabla - i\mathbf{a})^2 + V$ and the generalized electric Schrödinger operator $-\text{div}A\nabla + V$. Our exponential decay bounds rest on a generalization of the Fefferman-Phong uncertainty principle to the present context and are governed by the Agmon distance associated to the corresponding maximal function. In the presence of a scale-invariant Harnack inequality, for instance, for the generalized electric Schrödinger operator with real coefficients, we establish both lower and upper estimates for fundamental solutions, thus demonstrating sharpness of our results. The only previously known estimates of this type pertain to the classical Schrödinger operator $-\Delta + V$. (Received February 15, 2018)