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Gheorghe Nenciu and **Irina Nenciu*** (nenciu@math.uic.edu), Department of Mathematics, M/C 249, 851 S. Morgan Street, Chicago, IL 60657. *Essential self-adjointness for Schrödinger operators on bounded domains.*

We consider the Schrödinger operator $H = -\Delta + V(x)$ on a bounded domain Ω in \mathbb{R}^n . We seek the weakest conditions we can find on the rate of growth of the potential V close to the boundary $\partial\Omega$ which guarantee essential self-adjointness of H on $C_\infty^0(\Omega)$. As a special case of an abstract condition, we add optimal logarithmic type corrections to the known condition $V(x) \geq 3/(4d(x)^2)$ where $d(x) = \text{dist}(x, \partial\Omega)$. The proof is based on a refined exponential Agmon estimate combined with a well known multidimensional Hardy inequality. Time permitting, we will also present some applications of our results to magnetic Schrödinger operators. This is joint work with Gh. Nenciu. (Received January 27, 2010)