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**Jeffrey Galkowski** and **Jacob Shapiro\*** (jshapiro1@udayton.edu). *Semiclassical resolvent bounds for long range Lipschitz potentials.*

We give an elementary proof of weighted resolvent estimates for the semiclassical Schrödinger operator  $-h^2\Delta + V(x) - E$  in dimension  $n \neq 2$ , where  $h, E > 0$ . The potential is real-valued,  $V$  and  $\partial_r V$  exhibit long range decay at infinity, and may grow like a sufficiently small negative power of  $r$  as  $r \rightarrow 0$ . The resolvent norm grows exponentially in  $h^{-1}$ , but near infinity it grows linearly. When  $V$  is compactly supported, we obtain linear growth if the resolvent is multiplied by weights supported outside a ball of radius  $CE^{-1/2}$  for some  $C > 0$ . The  $E$ -dependence is sharp and answers a question of Datchev and Jin. This is joint work with Jeffrey Galkowski. (Received August 09, 2021)