1127-35-176 **Marius Beceanu** and **Michael Goldberg*** (goldbeml@ucmail.uc.edu). *Pointwise bounds for the three-dimensional wave propagator.* Preliminary report.

The wave equation in $\mathbb{R}^3$ is subject to a number of "reversed Strichartz" estimates in which solutions are integrated over a time interval and the resulting function is bounded in $L^p(\mathbb{R}^3)$. One elementary bound in this spirit is that the kernel $K(t,x,y)$ of the sine propagator $\frac{\sin(t\sqrt{-\Delta})}{\sqrt{-\Delta}}$ satisfies $\int_{\mathbb{R}} |K(x,y,t)|\,dt = (4\pi|x-y|)^{-1}$.

We examine the analogous propagator $\frac{\sin(t\sqrt{H})}{\sqrt{H}}P_{ac}(H)$ for operators $H = -\Delta + V$, with the potential V belonging to the Kato-norm closure of test functions. It is already known that many L^p bounds are preserved by such perturbations. We show that the stronger pointwise bound $\int_{\mathbb{R}} |K(x,y,t)|\,dt \leq C|x-y|^{-1}$ is preserved as well. It appears that pointwise bounds for other spectral multipliers follow as a natural consequence. (Received February 02, 2017)