1099-35-348   **Dean Baskin*** (`dbaskin@math.northwestern.edu`). *Wave decay on conic manifolds.*

We consider manifolds with conic singularities that are isometric to $\mathbb{R}^n$ outside a compact set. Under natural geometric assumptions on the cone points, we prove the existence of a logarithmic resonance-free region for the cut-off resolvent. The estimate also applies to the exterior domains of non-trapping polygons via a doubling process.

The proof of the resolvent estimate relies on the propagation of singularities theorems of Melrose and Wunsch to establish a "very weak" Huygens' principle.

As applications of the estimate, we obtain an exponential local energy decay and a resonance wave expansion in odd dimensions, as well as a lossless local smoothing estimate for the Schrödinger equation. We also obtain Strichartz estimates for the Schrödinger equation on non-trapping exterior polygonal domains.

This is joint work with Jared Wunsch and the Strichartz estimates are also joint with Jeremy Marzuola. (Received February 11, 2014)