

1093-35-184

**Dean R. Baskin\*** (dbaskin@math.northwestern.edu), Department of Mathematics,  
Northwestern University, 2033 Sheridan Road, Evanston, IL 60208. *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 Schroedinger equation.

This is joint work with Jared Wunsch. (Received August 13, 2013)