

RESOLVENT ESTIMATES AND WAVE ASYMPTOTICS FOR MILDLY TRAPPING MANIFOLDS WITH CYLINDRICAL ENDS

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Manifolds with infinite cylindrical ends have continuous spectrum of increasing multiplicity as energy grows, and in general embedded resonances and eigenvalues can accumulate at infinity. However, we prove that if geodesic trapping is sufficiently mild, then such an accumulation is ruled out, and moreover the cutoff resolvent is uniformly bounded at high energies.

We deduce from this the existence of resonance free regions and compute asymptotic expansions for solutions of the wave equation.

This talk is based on joint work with Tanya Christiansen.