

# FRACTAL WEYL LAWS AND WAVE DECAY FOR GENERAL TRAPPING

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We prove a Weyl upper bound on the number of scattering resonances in strips for manifolds with Euclidean infinite ends. In contrast with previous results, we do not make any strong structural assumptions on the geodesic flow on the trapped set (such as hyperbolicity) and instead use propagation statements up to the Ehrenfest time. By a similar method we prove a decay statement with high probability for linear waves with random initial data. The latter statement is related heuristically to the Weyl upper bound. For geodesic flows with positive escape rate, we obtain a power improvement over the trivial Weyl bound and exponential decay up to twice the Ehrenfest time. (Joint with S. Dyatlov)