

RESOLVENT ESTIMATES FOR THE STATIONARY DAMPED WAVE OPERATOR

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Uniform resolvent estimates in Lebesgue spaces with respect to the spectral parameters were first proved by C. Kenig, A. Ruiz and C. D. Sogge for the Euclidean Laplacian and by Z. Shen for the Laplacian on the torus. The estimate of Shen was later generalised by Kenig, Salo and myself to the case of Laplace-Beltrami operators on closed compact manifolds. In this talk, I will show how a semi-classical reduction allows to obtain such resolvent estimates from microlocal Strichartz estimates, how this method allows to deal with first order perturbations of the Laplacian and how, in particular, one can obtain resolvent estimates for the stationary damped wave operator. Resolvent estimates imply Carleman estimates with limiting weights which are important tools in unique continuation and the resolution of boundary elliptic inverse problems. This talk is based on a joint work with Nicolas Burq and Katya Krupchyk.