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Matthew D Blair* (blair@math.unm.edu). *Strichartz estimates for the Schrödinger equation in exterior domains.*

Strichartz estimates are a family of space-time integrability estimates for the Schrödinger equation that rely on the dispersive effect of the solution map. Generally speaking, these estimates are well-understood when the equation is posed over Euclidean space. However, the situation is much more complicated when one starts to consider the obstacle problem, as the local and global geometry of the boundary can influence how waves develop. We will survey recent parametrix constructions that yield these inequalities, including a recent joint work with H. Smith and C. Sogge. A key feature of such constructions is the use of related local smoothing estimates which handle the error terms. Applications to semilinear Schrödinger equations will also be discussed. (Received March 02, 2009)