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Jason L. Metcalfe* (metcalfe@email.unc.edu). *Local energy decay for the wave equation.*

We will discuss local energy decay estimates for the wave equation, which are measures of the extent to which energy from an initial disturbance leaves a given compact set. These have been especially important for the study of wave equations on nontrivial asymptotically flat space-times as other common measures of dispersion, such as Strichartz estimates or pointwise decay estimates, have been shown to follow once local energy decay is available. We will examine obstacles to such decay estimates, namely trapping and eigenfunctions / resonances, and some partial results that can be recovered when these obstacles are present. We will also discuss the stability of such estimates when the background geometry is time-dependent. (Received September 08, 2016)