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Local Energy Decay on Schwarzschild and Kerr black hole backgrounds.

Understanding the decay of linear waves is crucial in dealing with the problem of stability of the Kerr space time. I will talk about one way to measure this decay, namely local energy estimates, from which one can deduce many other useful estimates (uniform energy bounds, pointwise bounds, Strichartz estimates etc). This is joint work with Jeremy Marzuola, Jason Metcalfe and Daniel Tataru (for Schwarzschild) and Daniel Tataru (for Kerr). (Received March 01, 2009)