Late-time tails for linear waves on black hole spacetimes and applications

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Abstract. I will present some recent and past work (that has been done jointly with Stefanos Aretakis and Dejan Gajic) on the precise asymptotics of linear waves on the exterior (up to and including the event horizon) of subextremal and extremal black holes. Particular examples of such spacetimes are the full family of Reissner-Nordstrom black hole spacetimes, and the full subextremal family of Kerr black hole spacetimes. I will also discuss the special case of linear waves localized in angular frequency, and I will present as well some applications on scattering and nonlinear problems.