

Asymptotics for the wave equation on black hole spacetimes

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We will present the precise late-time asymptotics for scalar fields on both extremal and sub-extremal black holes including the full Reissner-Nordstrom family and the sub-extremal Kerr family. Asymptotics for higher angular modes will be presented for all cases. Applications in observational signatures will also be discussed. This work is joint with Y. Angelopoulos (Caltech) and D. Gajic (Cambridge).