

Simplifying harmonic gauge perturbations around black holes

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I will review a method of simplifying the separated equations of Maxwell and linear gravitational perturbations around a Schwarzschild black hole. The simplified form is a sparse upper triangular coupling of a system of Regge-Wheeler equations. The method takes advantage of a specific notion of equivalence between differential equations and of the special structure of ODEs with rational coefficients. I will also discuss the prospects of applying similar methods to the Kerr black hole.

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