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A Penrose-type inequality with angular momenta for black holes

Thursday 22 June 2023 11:00 (15 minutes)

The Penrose inequality places a lower bound on the mass of a black hole spacetime in terms of the area of a cross-section of the event horizon. The heuristic argument for the inequality is based upon the standard picture of gravitational collapse and it has been rigorously proved in the setting of time-symmetric initial data. We will discuss the derivation of a Penrose-type inequality with angular momenta for four dimensional, biaxially symmetric, maximal, asymptotically flat initial data sets (M, g, k) for the Einstein equations with fixed angular momenta and horizon inner boundary.

Keyword-1

general relativity

Keyword-2

black holes

Keyword-3

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