

General Relativity and Quantum Cosmology

A geometric invariant measuring the deviation from Kerr data

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A geometrical invariant for regular asymptotically Euclidean data for the vacuum Einstein field equations is constructed. This invariant vanishes if and only if the data corresponds to a slice of the Kerr black hole spacetime --thus, it provides a measure of the "non-Kerrness" of generic data. In order to proceed with the construction of the geometric invariant, we introduce the notion of approximate Killing spinors.

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