George R. Kempf Lecture Series

Presents

The black hole stability problem — an introduction and results

Thursday, October 13, 2022

4:00–5:00PM

Latrobe 120

In the first lecture I will explain the black hole stability problem in classical general relativity and some of the recent results on it — these involve a fascinating combination of geometry and the analysis of partial differential equations. I will also give at least some indication of some of the tools that went into proving this. In the second lecture, I will discuss in more detail the analytic and geometric tools that lead to the understanding of black hole stability with a positive cosmological constant (Kerr -de Sitter spacetimes) and their extensions for making progress on the vanishing cosmological constant case (Kerr). This is based on joint works with Dietrich Haefner, Peter Hintz and Oliver Lindblad Petersen.

Andras Vasy

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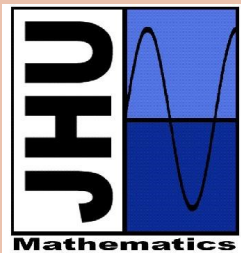Additional Talk

Analysis and geometry
in the black hole stability problem

Friday, October 14, 2022

4:00–5:00PM

Krieger 300

Reception

Krieger 413
3:00–4:00 PM