Analysis and Differential Geometry Colloquium

The Riemannian Penrose inequality revisited

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Abstract: We present an alternative proof of the Riemannian Penrose inequality using a different conformal flow based on the conformal Laplacian instead of the Laplacian used in H. Bray's original argument. The flow fixes the mass and increases the area of the outermost horizon rather than vice versa. Our main motivation for this modified argument is our plan to adapt it to prove a version of the Riemannian Penrose inequality taking charge into account. A counter example we previously constructed shows that Bray's original argument is not suitable to prove this charged version of the inequality.

Friday, February 26, 2010, 3:00 pm
Mathematics and Science Center: W301

Mathematics and Computer Science
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