Geometry Seminar

On the geometry of higher dimensional black holes

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Time: 10:30 am

Acesso à sala virtual:

Abstract. In this paper we generalize Robinson's divergence formula used to proof the uniqueness of $3+1$ dimensional static black holes. Consequently, we prove the uniqueness of black holes in an asymptotically flat $n+1$-dimensional static vacuum space-time, provided that the radial Weyl curvature is zero and the total scalar curvature of the horizon is bounded from above. Our proof is not based on the positive mass theorem and avoids the spin assumption.

References

[1] Robinson, D. C. - *A simple proof of the generalization of Israel's theorem.* Gen. Relativ. Gravit. 8.8 (1977): 695-698.

[2] Robinson, D. C. - *Four decades of black hole uniqueness theorems.* appeared in The Kerr spacetime: Rotating black holes in General Relativity, eds DL Wiltshire, M. Visser and SM Scott (2009): 115-143.