## 10th International Conference on Gravitation and Cosmology: New Horizons and Singularities in Gravity (ICGC 2023)



Contribution ID: 114

Type: Oral

## Maximal volume of a black hole in 2+1 dimensions

While the area of a black hole is a well defined quantity given by the killing vectors, the enclosed volume depends on the choice of slicing the coordinate system. In this talk we will present the idea of the maximal volume for a family of black holes in 2+1 dimensions. We will demonstrate that the primary contribution to the maximal volume comes from what we call the steady state radius, which depends on the black hole parameters and the AdS length scale. We will further compute the entropy for a field living on this maximal hypersurface in the near extremal limit and show that it is proportional to the horizon entropy.

## Email

rahul.nigam@hyderabad.bits-pilani.ac.in

## Affiliation

BITS Pilani Hyderabad Campus

Author: Mr KUMAR MAURYA, Suraj

Co-authors: NIGAM, Rahul; Prof. GUTTI, Sashideep

Presenter: NIGAM, Rahul

Session Classification: Classical & Quantum Gravity

Track Classification: Classical & Quantum Gravity