Thermodynamic Properties of Black Holes

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Abstract. This paper explores the thermodynamic properties of black holes, emphasizing the theoretical frameworks that describe black hole entropy and temperature. By examining these properties, we aim to deepen the understanding of the link between thermodynamics and general relativity, contributing to the broader insights into the nature of spacetime.

Keywords: Black Holes, Thermodynamics, Entropy, General Relativity, Spacetime

Introduction

Black holes, enigmatic cosmic entities, have long fascinated physicists, particularly concerning their thermodynamic properties. This study investigates the principles governing black hole entropy and temperature, drawing on theoretical models and recent research findings. Our exploration underscores the connection between thermodynamics and general relativity, which is essential for comprehending spacetime's intricate nature. These insights are crucial for advancing theories in quantum gravity and cosmology.

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