

# Gravitational Entropy and the Second Law of Thermodynamics

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The identification of black hole event horizon area with entropy by Bekenstein and Hawking suggested a generalized second law of thermodynamics. This was later extended to cosmological horizons. However, there remain some deep unsolved problems about the validity of the generalized law in the cosmological case, and unanswered questions about whether a more comprehensive notion of gravitational entropy is required. These issues have important philosophical implications for the nature of physical law.

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