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Gravitational entropy, cosmology and black holes

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The Weyl curvature hypothesis by Penrose describes the evolution of the universe according to the second law of thermodynamics using a form of gravitational entropy, described by the Weyl curvature tensor. Using this, the evolution of the universe is guided by a monotonically increasing Weyl curvature, and the proposal has several conditions, one of them being that the gravitational entropy reduces to the Hawking-Bekenstein entropy for black holes. In this talk, we will discuss some of the aspects of this proposal, formalisms and their structure wihh to respect to cosmology and black holes.

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