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Quantum gravity phenomenology from thermodynamics of spacetime

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On one hand, the formalism developed in thermodynamics of spacetime allows a derivation of Einstein equations from the proportionality of entropy to the area. On the other hand, low energy quantum gravity effects imply a modified entropy formula with an additional term logarithmic in the area. Combining both concepts, I will introduce the derivation of quantum modified gravitational dynamics from the modified entropy and discuss its main features. Moreover, I will show its physical implications on a simple cosmological model and show that it suggests the replacement of the Big Bang singularity by a regular bounce.

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