

Abstract Submitted
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Generalized information (entanglement) entropies depending on the probability (density matrix), (modified gravity). OCTAVIO OBREGON, NANA GERALDINE CABO BIZET, Univ de Guanajuato — Generalized information (entanglement) entropy(ies) that depend only on the probability (the density matrix) will be exhibited. It will be shown that these generalized information entropy(ies) are obtained by means of the superstatistics proposal and they correspond to generalized entanglement entropy(ies) that are at the same time a consequence of generalizing the Replica trick. Following the entropic force formulation, these generalized entropy(ies) provide a modified Newtons law of gravitation. We discuss the difficulties to get an associated theory of gravity. Moreover, our results show corrections to the von Neumann entropy S_0 that are larger than the usual UV ones and also than the corrections to the length dependent AdS_3 entropy which result comparable to the UV ones. The correction terms due to the new entropy would modify the Ryu-Takayanagi identification between the CFT and the gravitational AdS_3 entropies.

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