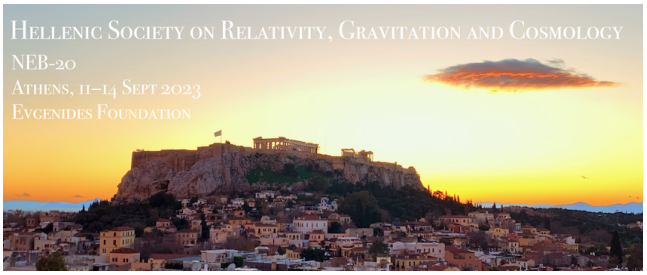

Contribution ID: **87** Type: **not specified**

Alleviating both H0 and σ8 tensions through modified entropies

Thursday, 14 September 2023 15:50 (20 minutes)

We investigate the alleviation of both H0 and σ8 tensions simultaneously within the framework of Tsallis cosmology. Such a modified cosmological scenario is obtained by the application of the gravity-thermodynamics conjecture, but using the non-additive Tsallis entropy, instead of the standard Bekenstein-Hawking one. Hence, one obtains modified Friedmann equations, with extra terms that depend on the new Tsallis exponent δ. By selecting specific values for the δ parameter we can obtain a phantom effective dark energy, which implies faster expansion, which is one of the sufficient mechanisms that are capable of alleviating the H0 tension. Additionally, for the same parameter choice we obtain an increased friction term and an effective Newton's constant smaller than the usual one, and thus the σ8 tension is also solved. These features act as a significant advantage of Tsallis modified cosmology.

Presenter: PETRONIKOLOU, Maria (National Technical University of Athens)

Session Classification: Parallel Session A