



Contribution ID: 93

Type: **not specified**

The correspondence of generalised entropic cosmology with $F(T)$ and $F(Q)$ modified gravity and gravitational waves

Wednesday 24 September 2025 09:00 (45 minutes)

We investigate the correspondence between modified gravity theories and general entropic cosmology theory. Such a theory is proposed by an analogy with Jacobson's work, where the Einstein equation was derived from the Bekenstein-Hawking entropy. We compare FLRW equations obtained in entropic gravity with those in modified gravity theories. It is found the correspondence of $F(T)$ and $F(Q)$ gravities and general entropic gravity. We regard the $F(T)$ and $F(Q)$ gravity theories as effective local theories corresponding to the entropic gravity theories and we investigate the gravitational waves. The obtained equation of the gravitational wave is identical to that in Einstein's gravity except that the gravitational coupling is modified by the functional form of the functions $F(T)$ and $F(Q)$.

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