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# An alternative explanation to accelerating Universe without $\Lambda$ in concordance with the last $H_0$ measured value

We perform an MCMC analysis with the most updated SN-Ia catalog using an alternative cosmological model named Delta Gravity. This model is based on a new Einstein-Hilbert action based on a new symmetry symbolized as $\tilde{\delta}$. This theory predicts an accelerating Universe without the need to introduce a $\Lambda$ by hand in the equations.

The equations of motion that describe the expansion of the universe depend on two free parameters: $L_2$ and $C$ that are found by the MCMC simulation. Using these parameters we predicted cosmological parameters such as the Hubble Constant $H_0$, the age of the universe and the deceleration parameter $q_0$.

The most significant result is that Delta Gravity predicts that $H_0$ is $74.47 \pm 1.63$ km/(s Mpc). This value is in concordance with the last measurement of the $H_0$ local value, $73.83 \pm 1.48$ km/(s Mpc) (Riess 2018). This result is very important because could be an explanation to the $H_0$ tension today.

## arXiv

https://arxiv.org/pdf/1704.02888.pdf

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