

Tensions in the deceleration parameter the effect of peculiar velocities in the time-like and null q

Sunday 11 September 2022 17:00 (10 minutes)

In this talk I will introduce and discuss the concepts of bulk flows and peculiar velocities, the importance of which has progressively been shown to be more significant in modern cosmology. Alongside this, I will also discuss recent theoretical developments of a new way of expanding luminosity distances in terms of null geodesics, allowing us to obtain null analogues of the well-known expansion and deceleration parameters. I will wrap up by connecting both topics and analyzing the effect of peculiar velocities in the null deceleration parameter, as well as open a discussion on the impacts of such results on the existence of dark energy.

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