

Contributed Talk

Name: Sebastián Nájera Valencia

Position: PhD Student

Affiliation: ICN, UNAM

Title: Non-comoving Cold Dark Matter in a Λ CDM background

Abstract: We examine the evolution of peculiar velocities of cold dark matter (CDM) in localized arrays of inhomogeneous cosmic structures in a Λ CDM background that can be identified as a frame comoving with the Cosmic Microwave (CMB). These arrays are constructed by smoothly matching to this cosmological background regions of Szekeres-II models whose source is an imperfect fluid reinterpreted as non-comoving dust, keeping only first order terms in v/c . Considering a single Szekeres-II region matched along two comoving interfaces to a Λ CDM background, the magnitudes of peculiar velocities within this region are compatible with values reported in the literature, while the present day Hubble expansion scalar differs from that of the Λ CDM background value by a 10% factor, a result that might provide useful information to the ongoing debate on the H_0 tension.