

Dark Radiation, Dark Energy and neutrinos with DESI 2024 BAO, and the H0 tension

Friday, 7 March 2025 12:00 (60)

I will discuss how the new cosmological Baryon Acoustic Oscillations (BAO) measurements by the DESI collaboration have changed the status of the so-called Hubble tension, i.e. the mismatch between global cosmological measurements and local measurements of H_0 (by the SH0ES Collaboration). In particular, in models with Dark Radiation the tension decreases to a moderate level, around 2 sigma and down to 1.7 sigma, depending on the specific dataset and realization. This allows a combination of cosmological data with the local SH0ES measurement, leading to a 4-5 sigma evidence for a new Dark Radiation component. I will also discuss the status of Dark Energy, that points to a time-varying equation of state at very late times, and neutrino mass fits with the new DESI dataset.

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