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Cosmology with quasars: what we are after

Tuesday, 9 July 2024 15:30 (30 minutes)

I will review what the perspectives of quasars in the context of observational cosmology are and I will present recent measurements of the expansion rate of the Universe based on a Hubble diagram of quasars detected up to the highest redshift ever observed ($z \sim 7.5$). A deviation from the Λ CDM model emerges at higher redshift, with a statistical significance of $\sim 4\sigma$. If an evolution of the dark energy equation of state is allowed, data suggest a dark energy density increasing with time. I will finally show that the synergy amongst multi-wavelength facilities (current and future) will provide the needed sample statistics to obtain constraints on the observed deviations from the standard cosmological model which will rival and complement those available from the other cosmological probes.

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Session Classification: Current status of the H_0 and growth tensions: theoretical models and model-independent constraints

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