ID de Contribution: **30**   Type: **Non spécifié**

Cosmology with ZTF

mercredi 30 novembre 2022 09:00 (20 minutes)

LSST, with 100,000 SNeIa, is the future of supernova cosmology. However, LSST alone cannot constrain the equation-of-state of Dark Energy: a nearby sample is needed to anchor the Hubble diagram. With measured distances to 6000 SNeIa, and unbiased to z<0.05, the Zwicky Transient Facility (ZTF) ZTF will be the primary anchor for all cosmological analyses with LSST.

With over 3000 SNeIa already classified and useable for a cosmological analysis, I will present the latest updates on the cosmological analysis for this survey: ZTF-DR2. With this dataset near frozen, one major problem remains: moving from light-curves to cosmology.

In the context of the path forward for LSST, I will discuss the latest efforts to define, characterise and measure the properties of this state-of-the-art precursor sample, and prospects for the last major cosmological analysis prior to LSST: ZTFxDES. This joint sample, of 10,000 SNeIa to z=1, will be the state-of-the-art in SNIa cosmology until at least 2027: setting the stage for LSST-DR1.

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Classification de Session: Science talks