

Probing local anisotropies with Type Ia Supernovae data

mercredi 24 novembre 2021 15:10 (20 minutes)

A large variety of cosmological observations has validated the Λ CDM model as the leading one in driving the dynamics of the Universe. This model requires the validity of several assumptions : the Cosmological Principle (homogeneity and isotropy at large scales). Despite numerous successes, the standard model is facing some tensions like the measurement of large scale velocity flows. Some measurements are in agreement with what is predicted by Λ CDM (Colin et al. 2011, Planck Collaboration XIII 2014, Carrick et al. 2015) while others are not (Kashlinsky et al. 2008; Feldman, Watkins & Hudson 2010; Abate & Feldman 2012; Watkins & Feldman 2015).

Type Ia supernovae (SNe Ia) are cosmological probes able to map the Universe at different scales and measure its dynamics. The new low- z data set from the Zwicky Transient Facility (ZTF) constitutes a unique sample to investigate potential anisotropies in the nearby Universe. I will present my investigations about the bulk flow measurements using ZTF simulations and data.

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Classification de Session: Science