

Gravitational Geometry and Dynamics Group Seminar

Wed., May. 29th, 2024, at 11h00.

Room: 11.2.21 and Zoom ID: 989 6252 0928

(Password: contact graposo@ua.pt)

Dust systematics in Type Ia Supernova cosmology

Our current concordance model of cosmology has two alarming mysteries: on the one hand the still elusive nature of the "dark energy" driving the accelerated expansion of the Universe, and on the other the so called "Hubble tension", a discrepancy of more than 4 sigma between early and late-time measurements of the Hubble constant. Behind those unknowns lie the possibilities of brand new physics if we are able to confidently discard systematic effects.

Type Ia supernovae are used in both of those measurements and primary concerns reside on the effects and corrections of light absorption and scattering due to intervening material in the line of sight. It has been shown that not all supernovae follow the standard Milky Way dust extinction curve and that the assumption of common dust properties for all of the objects has important implications for cosmology. I review here some recent developments in extinction studies towards type Ia supernovae and their effects on cosmology.

Santiago Gonzalez

Instituto Superior Técnico

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