## Sixteenth Marcel Grossmann Meeting



Contribution ID: 97

Type: Invited talk in the parallel session

## Hubble speed from first principles

Monday, 5 July 2021 17:36 (22 minutes)

We introduce a novel way of measuring H0 from a combination of independent geometrical datasets, namely Supernovae, Baryon Acoustic Oscillations and Cosmic Chronometers, without the need of calibration nor of the choice of a cosmological model. Our method builds on the distance duality relation which sets the ratio of luminosity and angular diameter distances to a fixed scaling with redshift, for any metric theory of gravity with standard photon propagation. In our analysis of

the data we employ Gaussian Process algorithms to obtain constraints that are independent from the underlying cosmological model. We find H0 = 69.5+/- 1.7 Km/s/Mpc,showing that it is possible to constrain H0 with an accuracy of 2% with minimal assumptions.

Primary author: SILVESTRI, Alessandra

Presenter: SILVESTRI, Alessandra

**Session Classification:** Status of the H\_0 and Sigma\_8 Tensions: Theoretical Models and Model-Independent Constraints

**Track Classification:** Cosmic Microwave Background: Status of the H\_0 and sigma\_8 tensions: theoretical models and model-independent constraints