

Annual Meeting QGSKY - Quantum Universe



Contribution ID: 10

Type: **not specified**

The Hubble constant tension: The Classical Cepheid point of view

Friday, 6 October 2023 10:00 (20 minutes)

One of the most debated issues in astrophysics is the discrepancy, which ranges between 4 to 6 sigma, between the locally estimated value of the Hubble constant using the SNeIa distance scale calibrated with Classical Cepheids and the cosmological value derived from Cosmic Microwave Background Radiation (CMBR). This problem is commonly referred to as the Hubble constant tension and represents a significant challenge for both cosmologists and astrophysics experts. From the perspective of the local universe, several systematic effects in the calibration of the extragalactic distance scale based on Classical Cepheids may contribute to this tension. Using an updated and extended set of nonlinear convective Classical Cepheid pulsation models, we are theoretically investigating these systematic effects when combined with the most recent Gaia results to gain a deeper understanding of the potential impact of variations in the physical and chemical parameters of these standard candles on the estimated value of the Hubble constant.

Presenter: DE SOMMA, Giulia (Istituto Nazionale di Fisica Nucleare)

Session Classification: Friday 9:20 - 11:00