Contribution ID : **20** Type : **not specified**

Towards a measurement of the CP structure of the Higgs->TauTau Yukawa coupling: Tau Energy Calibration

Thursday, 13 March 2025 09:15 (60)

In this seminar, we will explore the CP structure of the Higgs-tau lepton coupling, an aspect of ongoing studies in Higgs physics beyond the Standard Model. We will begin with an introduction to the theoretical motivation, highlighting the relevance of CP violation in the Higgs sector as a possible extension of known CP-violating effects to fulfill the requirements for explaining the observed matter-antimatter asymmetry. Next, we will discuss the data analysis techniques employed in the CMS experiment at the LHC, focusing on di-tau final states. Given the importance of precise measurements, a crucial part of this study involves the calibration of the tau energy scale (TES). We will review the methods used for TES calibration to ensure the accuracy of experimental results, which is essential for probing CP-violating effects in Higgs decays.

Presenter(s) : AWEDIKIAN, Hagop