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Type: **Parallel Talk**

Naturalness vs Higgs masses: A comparative study within Higgs Triplet Models

Thursday, 3 August 2023 13:30 (20 minutes)

In this talk, I will focus on naturalness considerations in SM/2HDM augmented by a Triplet field, here dubbed as Higgs Triplet Models. I will show that the Veltman conditions in HTM are modified by virtue of the additional scalar charged states and that one loop quadratic divergencies can be driven to zero within the allowed respective parameter spaces, usually constrained by unitarity and boundedness from below, as well as the LHC data regarding several Higgs decay channels. In addition, the analysis will also illustrate how the naturalness condition affect drastically the heavy Higgs masses H^0 , H^\pm and $H^{\pm\pm}$ (when they exist).

Topical area

Particle Physics Beyond the Standard Model

Primary author: CHABAB, Mohamed (Cadi Ayyad University, Marrakech)

Presenter: CHABAB, Mohamed (Cadi Ayyad University, Marrakech)

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