Contribution ID: **32**   Type: **Talk**

EFTs, models and matching: the necessity and caveats

Thursday, 31 August 2023 15:10 (20 minutes)

In this talk, I will address the distinction between two different kinds of Effective Field Theories. I will specifically discuss the differences between the Standard Model Effective Field Theory (SMEFT) and the Higgs Effective Field Theory and motivate the importance of both while interpreting data, providing an example for the scalar sector. I will then focus on the importance of global fits in matching a class of single-scalar extended models to SMEFT operators, giving emphasis to various measurements. Furthermore, I will review the importance of EFT-model matching in obtaining the cut-off scale during event generation. Finally, I will discuss some bounds relating Wilson Coefficients of four-fermion operators giving rise to flavour violating and flavour conserving processes.

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Session Classification: LHC EFT WG