Area 4: A practical framework of EFT fits with published likelihoods (20’+5’)

Thursday, 16 November 2023 14:50 (20 minutes)

Recently there has been rapid increase in the number of full statistical models (or "likelihoods") published by the experiments. Most are based on the HistFactory (pyhf) format and published in HEPData. This allows theorists and others to reproduce and combine measurements with the same gold standard as the internal experimental results. However, these are mainly from SUSY and exotics searches and working with EFTs is more complicated because quantum interference effects lead to changes in the signal template (via the dependence of the differential cross-sections and phase-space dependent selection efficiency on the EFT parameters). In this talk I will propose a simple, lightweight framework that would extend current likelihood publishing to overcome these challenges and enable 'exact' EFT fits (i.e. with the same level of detail as the internal experimental fits and combinations).

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