Particle Physics on the Plains 2024



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Non-linear Higgs CP-violation

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Exploring additional CP violation sources at the Large Hadron Collider (LHC) is vital for the Higgs physics program beyond the Standard Model. An unexplored avenue at the LHC is a significant non-linear realization of CP violation, naturally described in non-linear Higgs Effective Field Theory (HEFT). In this talk, we will discuss constraining such interactions across a broad spectrum of single and double Higgs production processes, incorporating differential information where feasible statistically and theoretically. We focus on discerning anticipated correlations in the Standard Model Effective Field Theory from those achievable in HEFT in top-Higgs and gauge-Higgs interactions

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