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Drell-Yan in the SMEFT Including Coupling Shift Effects

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We present the extension of a search for model-independent new physics events in dilepton production at the LHC using the SMEFT toolkit. This search, for the first time, includes the effect both of the set of four-fermion operators that give contributions growing with energy and the operators which alter the would-be SM couplings of the Z boson to fermions, leading to corrections proportional to the SM prediction. Our results give prospective bounds on the now four-dimensional parameter space of SMEFT effects in Drell-Yan, including the effects of treating unknown contributions at higher orders in the EFT expansion as theoretical uncertainties.

Summary

Primary authors: Ms HORNE, Alyssa (Sam Houston State University); Mr SNEDEKER, Marcus (Sam Houston State University)

Co-authors: Dr SHEPHERD, William (Sam Houston State University); Dr WALKER, Joel (Sam Houston State University); Mr PITTMAN, Jordan (Sam Houston State University); Mr FLOYD, James (Sam Houston State University)

Presenters: Ms HORNE, Alyssa (Sam Houston State University); Mr SNEDEKER, Marcus (Sam Houston State University)

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