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Importance of top quark loop corrections to WW elastic scattering in HEFT

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We calculate fermion-loop corrections to high energy W^+W^- scattering in the context of a Strongly Interacting Electroweak Symmetry Breaking Sector (EWSBS) using Higgs Effective Field Theory(HEFT). We test the assumption that these corrections are negligible when compared to the boson-loop ones, as it is commonly taken for granted in the literature. While this is correct in most cases, we find that, for some particular regions of the parameter space of effective couplings, fermion-loops can be important: deviations in the couplings of the HEFT from their Standard Model values may lead to fermion-loop corrections as relevant as the boson-loop ones.

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Collaboration / Activity

VBS

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