



Contribution ID: 88

Type: Oral presentation using Zoom

Measuring Higgs Boson Self-couplings with 2- \rightarrow 3 VBS Processes

Wednesday, 27 October 2021 19:24 (24 minutes)

We study the measurement of Higgs boson self-couplings through 2 \rightarrow 3 vector boson scattering (VBS) processes in the framework of Standard Model effective field theory (SMEFT) at both proton and lepton colliders. The SMEFT contribution to the amplitude of the 2 \rightarrow 3 VBS processes, taking $WLWL\rightarrow WLWLh$ and $WLWL\rightarrow hhh$ as examples, exhibits enhancement with the energy $A(\text{BSM})/A(\text{SM})\sim E^2/\Lambda^2$, which indicates the sensitivity of these processes to the related dimension-six operators in SMEFT. Simulation and analysis of the full processes with backgrounds at future muon colliders are performed to constraint on c_6 and $c_{\Phi 1}$. The results are optimistic and comparable to di-Higgs production with 2- \rightarrow 2 VBS.

1st preferred time slot for your oral presentation

13:00-15:00 JST (6:00-8:00 CEST, 0:00-2:00 EDT, 21:00-23:00 PDT)

2nd preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

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Session Classification: I: Electroweak physics

Track Classification: Parallel sessions: Topical Groups: Session I: Electroweak physics