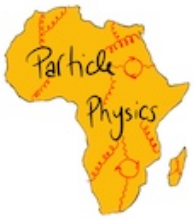

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Sensitivity to longitudinal vector boson scattering in same sign WW events at a 100 TeV proton-proton collider

The Vector Boson Scattering (VBS) process of massive vector bosons is predicted by the Standard Model (SM) as being sensitive to ElectroWeak Symmetry Breaking (EWSB). Prior to EWSB, all vector bosons are massless and have transverse polarization states. However, after EWSB, W and Z bosons become massive and gain an extra polarization state - the longitudinal polarization, whereas photons and gluons remain massless. In the absence of the SM Higgs boson, cross-sections of the scattering of longitudinal components would keep increasing as a function of center of mass energy. These deviations from the SM behavior are predicted in physics models beyond the SM via the presence of additional new resonances or modifications of the Higgs boson couplings to vector bosons. VBS is sensitive to interactions between the longitudinal components of massive vector bosons, hence making it a good platform for the study of EWSB. There have been various studies of prospects for the cross-section measurement of longitudinally polarised vector bosons at the high luminosity Large Hadron Collider (LHC) and also at a future high-energy muon collider.
This talk will present a study on the sensitivity to longitudinal VBS at a future 100 TeV pp collider in the same sign WW VBS process.

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