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Comparative Study of VBF Higgs Production at the HE-LHC and HL-LHC

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Since the discovery of the Higgs boson, particle physics community has explored the measurements of its properties, making processes involving Higgs production interesting and important in many different ways. The High-Luminosity Large Hadron Collider (HL-LHC) project aims to increase luminosity by a factor of 10 beyond the LHC's design value after 2025. The High Energy Large Hadron Collider (HE-LHC) are designed for centre-of-mass energy at 27 TeV. In this talk I will discuss the prospects of studying vector boson fusion Higgs production at the HL-LHC and the HE-LHC respectively. In particular, the differential distributions of Higgs boson production for a set of typical analysis cuts has been investigated.

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