Young Scientists Meeting of the CRC TRR 257



Contribution ID: 8 Type: not specified

## Non-factorizable corrections to Higgs production in Vector Boson Fusion

Tuesday, October 17, 2023 10:00 AM (30 minutes)

In this talk, I will present two improvements in the understanding of the non-factorizable corrections to Higgs production in VBF. One is to go beyond eikonal approximation and obtain the first power correction. Another is to address the problem of strong dependence on the renormalization scale of the leading eikonal corrections. The new sub-leading contribution will change the current estimate of the non-factorizable corrections to VBF cross section by about 20 percent. Furthermore, including the effects of the running coupling constant reduces the scale dependence in cross section and kinematic distributions.

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**Session Classification:** Young Scientists Talks