Contribution ID: **150** Type: **20 minutes talk**

Three-loop helicity amplitudes for diphoton production in gluon fusion

Thursday, 16 December 2021 16:00 (30 minutes)

We present a calculation of the helicity amplitudes for the process gg→γγ in three-loop massless QCD. We employ a recently proposed method to calculate scattering amplitudes in the 't Hooft-Veltman scheme that reduces the amount of spurious non-physical information needed at intermediate stages of the computation. Our analytic results for the three-loop helicity amplitudes are remarkably compact, and can be efficiently evaluated numerically. This calculation provides the last missing building block for the computation of NNLO QCD corrections to diphoton production in gluon fusion.

Could you please give the most relevant category for your talk?

Amplitudes

Will you be pre-recording your talk?

No

Would you be interested in receiving feedback on your presentation?

Yes

Are you happy for your talk to be recorded?

Yes

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Session Classification: Full-length talks