QCD@LHC2022
28 November 2022 to 2 December 2022
IJCLab Orsay, France

Contribution ID: **73** Type: **not specified**

Massive quark form factors at three loops

Wednesday 30 November 2022 14:20 (15 minutes)

Quark form factors are important building blocks for several processes studied at the LHC, for example Higgs boson production and decay as well as top-pair production. I will present our calculation of massive quark form factors at three loops in QCD including both singlet and non-singlet contributions. After reducing the Feynman integrals in the amplitudes to master integrals, these were computed by solving differential equations. By constructing expansions around regular as well as singular points and numerical matching, we obtain sufficient precision over the whole kinematic range.

Declaration

I certify that I have checked that I am authorised to submit the abstract with the listed co-authors with their current affiliations

Change of Speaker

I understand that change of speaker is allowed provided that no participant gives more than one talk. Otherwise, we will ask the speaker to choose between one or the other abstract to be presented.

Authors: LANGE, Fabian (KIT); SCHÖNWALD, Kay; Dr FAEL, Matteo (KIT Karlsruhe); STEINHAUSER, Matthias

Presenter: LANGE, Fabian (KIT)

Session Classification: Parallel B - WG1: 1

Track Classification: WG1: Higher Order and Resummed Calculations