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Mixed QCD-electroweak corrections to Higgs plus jet production at the LHC

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The detailed study of the Higgs boson is one of the main tasks of contemporary particle physics. Gluon fusion, the main production channel of Higgs bosons at the LHC, has been successfully modelled in QCD up to N³LO. To fully exploit this unprecedented theoretical effort, sub-leading contributions, such as electroweak corrections, must be investigated. I will present the analytic calculations of the gluon- and quark-induced Higgs plus jet amplitudes in mixed QCD-electroweak corrections mediated by light quarks up to order $v\alpha^2\alpha_S^{3/2}$.

In-person participation

Yes

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