

Erratum: Higher order corrections to mixed QCD-EW contributions to Higgs boson production in gluon fusion
[Phys. Rev. D **97**, 056017 (2018)]

Marco Bonetti, Kirill Melnikov, and Lorenzo Tancredi



(Received 7 May 2018; published 29 May 2018)

DOI: [10.1103/PhysRevD.97.099906](https://doi.org/10.1103/PhysRevD.97.099906)

In Eq. (7) of our paper, the dependence on the factorization scale is missing. The correct equation reads

$$G(z, \mu, \alpha_s) = \delta(1-z) + \frac{\alpha_s}{2\pi} \left[8C_A \left(D_1(z) + \frac{D_0(z)}{2} \ln \frac{m_H^2}{\mu^2} \right) + \left(\frac{2\pi^2}{3} C_A + V \right) \delta(1-z) \right], \quad (1)$$

where $D_0 = [1/(1-z)]_+$.

As a consequence, the NLO QCD cross sections in Eqs. (13), (14) of our paper change as well. Equation (13) becomes

$$\begin{aligned} \sigma_{\text{QCD}}^{\text{LO}} &= 20.6 \text{ pb}, & \sigma_{\text{QCD/EW}}^{\text{LO}} &= 21.7 \text{ pb}, \\ \sigma_{\text{QCD}}^{\text{NLO}} &= 32.66 \text{ pb}, & \sigma_{\text{QCD/EW}}^{\text{NLO}} &= 34.41 \text{ pb}, \end{aligned} \quad (2)$$

whereas Eq. (14) should read

$$\sigma_{\text{QCD}}^{\text{NLO}} = 26.30 \text{ pb}, \quad \sigma_{\text{QCD/EW}}^{\text{NLO}} = 27.70 \text{ pb}. \quad (3)$$

The relative increase of the NLO QCD cross sections due to the inclusion of electroweak corrections is not affected by this oversight.

We are grateful to C. Anastasiou for pointing out this mistake.