Contribution ID: **55** Type: **Poster**

# The full electroweak $\mathcal{O}(\alpha)$ corrections to charged Higgs pair production via photon-photon collisions

*Monday, 10 January 2022 16:23 (1 minute)*

We provide high-precision predictions for the charged Higgs pair production via photon-photon collisions in the framework of two Higgs doublet model (2HDM), taking into account a full set of one-loop-level scattering amplitudes. We include the full electroweak (EW) corrections together with soft and hard QED radiation in the calculations. The production rates in different polarization collision modes of initial beams are also discussed. It can be enhanced up to two-times by oppositely polarized photons at high energies and right-handed polarized photons at low energies. Our results show that the full EW corrections must be included to improve a percent level accuracy.

**Primary author:** Dr DEMIRCI, Mehmet (Karadeniz Technical University)

**Presenter:** Dr DEMIRCI, Mehmet (Karadeniz Technical University)

**Session Classification:** Beyond the Standard Model

**Track Classification:** Beyond the Standard Model