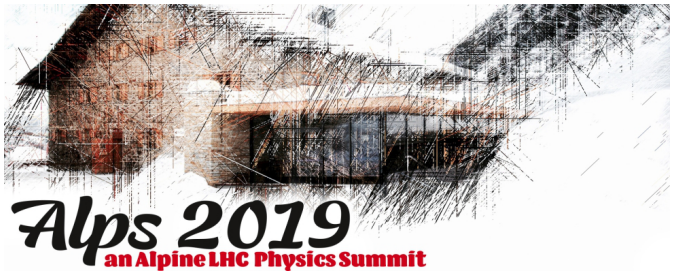

Contribution ID: **58** Type: **Young Scientist Forum**

Compact Linear Collider sensitivity to measure σ(Hνν) X BR (H->γγ) at the 3 TeV center-of-mass energy

Thursday 25 April 2019 18:35 (10 minutes)

In this talk we address expected measurement accuracy of the Standard Model Higgs boson decay into two photons at 3 TeV Compact Linear Collider (CLIC). This process is induced via loop exchange of heavy particles either from the Standard Model (SM) or beyond, modifying the SM expectations in the latter case. The study is performed using a full simulation of the CLIC_ILD detector model, considering all relevant physics and beam-induced processes in the full reconstruction chain. It has been shown that the Higgs production cross-section in WW-fusion times branching ratio BR (H⟶γγ) can be measured with a relative statistical accuracy of 7.5 %, assuming an integrated luminosity of 5 ab-1 and 80% of the data being collected with -80% electron-beam polarization and 20% of the data with +80% electron-beam polarization.

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