

Masashi Aiko "Higgs Probes of axion-like particles"

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We study axion-like particle contributions to the Higgs boson decays. The particle is assumed to couple with the standard model electroweak gauge bosons. Although direct productions of axion-like particles have often been discussed, we investigate indirect contributions to the Higgs boson decays into fermions, photons, $W W$, and $Z Z$ bosons at the one-loop level. We found that the corrections to the fermions are suppressed, whereas precise measurements of the di-photon channel of the Higgs boson decay can provide a significant probe of the model especially when the axion-like particle is heavy and its coupling to di-photon is suppressed.

Session Classification: Short talks