

Hugues Beauchesne "Observability of the Higgs boson decay to a photon and a dark photon"

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Many collider searches have attempted to detect the Higgs boson decaying to a photon and an invisible massless dark photon. For the branching ratio to this channel to be realistically observable at the LHC, there must exist new mediators that interact with both the standard model and the dark photon. In this talk, we present experimental and theoretical constraints on an extensive set of mediator models. We show that these constraints limit the Higgs branching ratio to a photon and a dark photon to be far smaller than the current sensitivity of collider searches.

Session Classification: Short talks