Contribution ID: **119** Type: **not specified**

# Searches for light neutral bosons of an extended Higgs sector via decays of the SM-like Higgs boson

*Thursday, November 10, 2022 4:40 PM (15 minutes)*

Extensions of the Higgs sector beyond the standard model, in particular models with two Higgs doublets and possibly additional singlets, predict the existence of additional particles in the Higgs sector. These additional particles include a neutral Higgs boson with a large allowed mass region. When the mass of the neutral Higgs boson is less than half the Higgs boson mass, an important search channel is via decays of the SM-like Higgs boson that include these additional neutral bosons. These decays leave a rich variety of possible experimental signatures, with the dominant decay mode depending on the neutral Higgs boson mass range. This talk summarizes the latest search results for light neutral Higgs bosons via SM-like Higgs boson decays, using the full LHC Run-2 dataset collected by the CMS experiment.

## Type of talk

Experimental measurements

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**Session Classification:** Thursday Session B

**Track Classification:** Physics Topics: Beyond the Standard Model