

Evidence for the dimuon decay of the Higgs boson in XX collisions with the ATLAS detector

Thursday, 30 October 2025 16:40 (20 minutes)

The Higgs boson's decay to a pair of muons provides a direct probe of its Yukawa coupling to second-generation fermions. In this talk, I will presents the newest results from the ATLAS experiment based on proton-proton collision data collected in LHC Run 3 during 2022~2024, and the combination with the Run 2 results, incorporating several improvements. This measurement significantly enhance the sensitivity over previous ATLAS publications, provides the first evidence for the $H \rightarrow \mu\mu$ decay by the ATLAS experiment.

Primary author: MUSAJAN, Ehsan (USTC)

Presenter: MUSAJAN, Ehsan (USTC)

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