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## Study of the boosted Higgs boson production

*Thursday, 30 November 2023 11:00 (15 minutes)*

The study of Higgs boson production at large transverse momentum is one of the new frontiers for the LHC Higgs physics programme. Measuring the properties of highly Lorentz-boosted Higgs bosons can test the existence of physics beyond the SM (BSM) in the scalar sector, as well as test higher order EW radiative corrections in Higgs production. In this presentation we discuss CMS analyses targeting the boosted Higgs boson production followed by the Higgs boson decay into bottom quarks, charm quarks, and tau lepton pairs. Experimental studies are performed using full Run 2 dataset and make use of dedicated algorithms, which resolve overlapping decay products of the Higgs boson, thereby facilitating its detection in the boosted regime. Results of these analyses are presented in terms of measured fiducial cross sections and differential distributions and compared to the state-of-the-art theoretical predictions.

### You are

non-PhD student

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**Session Classification:** Parallel: Precision & Yukawas

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