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Measurement of the H to ZZ to 4l cross-section in pp collisions at sqrt{s} == 13.6 TeV with the ATLAS detector

Wednesday, 29 November 2023 15:20 (12 minutes)

The inclusive Higgs boson production cross-section is measured at an unprecedented energy frontier for the first time in the H to ZZ*to 4l decay channel, using 29.0 fb-1 of pp collision data collected with the ATLAS detector at a center-of-mass-energy of sqrt{s} = 13.6 TeV. To reduce the model dependence, the measurement is restricted to a particle-level phase space that closely matches the channel's detector-level kinematic selection, and corrected for detector effects. This talk presents the measured fiducial cross-section for the H to ZZ* to 4l process, which is found to be in good agreement with the corresponding Standard Model predictions. The fiducial measurement is also extrapolated to the full phase space, assuming Standard Model acceptance and branching fraction.

You are

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