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Observation of the $Z \to 4\ell$ decay and use of $Z \to 4\ell$ for calibrations of the measured cross section and scale of the new boson near 125 GeV in the $H \to ZZ \to 4\ell$ channel[1] MATTHEW SNOWBALL, University of Florida, CMS, CMS COLLABORATION — $Z \to 4\ell$ decays were first observed in pp collisions at the CMS detector in 2011. These decays are especially useful as a standard candle for the new boson near 125 GeV in the $H \to ZZ \to 4\ell$ channel due to their kinematic similarity and proximity in mass. The $Z \to 4\ell$ peak has a well measured mass and therefore can be used to calibrate the scale of the new boson. Here an update on the observation of the $Z \to 4\ell$ decays is presented, as well as results using the $Z \to 4\ell$ peak as a calibration tool for the new boson near 125 GeV.

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