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Observation and Measurement of the Higgs Boson with the $H \to WW^{(*)} \to \ell\nu\ell\nu$ Channel JONATHAN LONG, Univ of Michigan - Ann Arbor, ATLAS COLLABORATION — We present the observation and measurement of the Higgs boson decaying to $WW^{(*)}$ in the leptonic final state using 25 fb^{-1} of data collected with the ATLAS detector at the LHC in 2011 and 2012. We find an excess over the background expectation for $m_H = 125.36$ GeV corresponding to 6.1 standard deviations, while the expectation is 5.8. This is the first discovery level sensitivity to the $H \to WW$ process. The ratio of the observed to expected number of signal-like events is $1.09^{+0.23}_{-0.21}$, the most precise such single-channel measurement with ATLAS. These are the final Run I ATLAS $H \to WW^{(*)} \to \ell\nu\ell\nu$ results.

Jonathan Long
Univ of Michigan - Ann Arbor

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