

Measuring $Z \rightarrow ee$ with ATLAS

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Some of the earliest measurements to be made with the ATLAS detector are of the rate and properties of Z boson production. Intense theoretical attention in recent years has culminated in next-to-next-to-leading order calculations of the production cross section of this channel, with just a few percent uncertainty. Confirmation of these predictions with LHC data, as soon as possible after collisions begin, will improve confidence in the accuracy of predictions of the rates of various backgrounds critical for Higgs and other new physics searches. Predictions relating to Z boson production, and prospects for the measurement of the total $Z \rightarrow ee$ cross section in ATLAS, will be discussed. This channel also acts as a source of electrons which will be used to calibrate and test the performance of ATLAS with early data. Performance studies measurements will be presented, with an emphasis on measurements of electron trigger efficiencies.

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