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In-Situ Calorimeter Calibration at the ATLAS Detector with $Z \to ee$ Events KATHRYN TSCHANN-GRIMM, Stony Brook University, ATLAS COLLABORATION — This presentation will describe the in-situ calibration of the ATLAS electromagnetic calorimeter using $Z \to ee$ events. The method is based on constraining the invariant mass distribution of the two decay electrons to the known Z-boson line shape. Monte carlo results will be presented showing that this $Z \to ee$ calibration method can achieve a long-range calorimeter resolution term of 0.5%, the value calculated as necessary to achieve the ATLAS experiment's physics goals (such as detection $H \to \gamma\gamma$). Performance and comparison of different methods to extract the calibration constants will be shown.

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