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Systematic Effects in the $H\to\gamma\gamma$ Decay Channel in the ATLAS Detector R. ISHMUKHAMETOV, D. JOFFE, R. STROYNOWSKI, Department of Physics, Southern Methodist University, ATLAS COLLABORATION — $H\to\gamma\gamma$ is an important decay channel for the Higgs particle search with the ATLAS detector at the LHC. Important systematic effects in this decay channel include the uncertainty on the amount of material in front of the electromagnetic calorimeter and the inter-calibration of the calorimeter. This study describes how these systematics will effect an exclusion limit that may be set using early data.

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