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Background estimation for multilepton and b -jets analysis at ATLAS at the LHC

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Background estimation is one of the most important aspects for all the analysis at the Large Hadron Collider. This proceeding presents the background estimation for the $A \rightarrow ZH$ search with the heavy scalar, H , decaying into a pair of Higgs, or Madala, S , bosons. The final state for this search is formed by 3 leptons, ≥ 2 b -jets and low jet multiplicity. The $t\bar{t}Z$ process is the dominant background contribution for this analysis. The second important background is the WZ for which a control region is defined to check the modeling and the normalization of this process. Finally, processes with fake leptons are expected to have a small contribution, estimated using a data-driven techniques.

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