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Type: Poster Presentation

## Studying the effects of pileup on the leptonic properties for the $H \rightarrow ZZ \rightarrow 4l$ channel with the ATLAS detector at the LHC

Tuesday, 26 June 2018 15:00 (2 hours)

The background composition and shapes are studied in spectral control regions which are constructed inverting selections or lepton identification requirements. I will be looking at the effect of pileup for the  $H \rightarrow ZZ \rightarrow 4l$  channel with weighted histograms, normalized to the expected luminosity. The background considered is the  $qq \rightarrow ZZ$  reducible background which is from a dominant quark-antiquark initial state. Comparisons between mc16a, mc16d and mc16e samples for the pile effect and the expected yield will be studied for all channels. I will also look at studies on the high mass  $qq \rightarrow ZZ$  samples.

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