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# Quantifying Charge Flips for Same-Sign WW Production: Insights from the Z→ee Channel

Electron charge misidentification constitutes the most significant background in the ee decay channel and the third-largest background in the all-inclusive dileptonic channel in the ATLAS measurement of electroweak production of same-sign WW boson pairs in proton-proton collisions. Electrons in the ee channel are produced with well-defined opposite charges, making it an excellent process for studying charge misidentification (e.g., charge flips). By comparing the reconstructed charges of the two electrons with their expected opposite charge configuration, the rate of charge flips can be quantified and scale factors that compensate for the differences between the data and the simulation can be derived. In my talk, I will discuss the various sources for the electron charge misidentification. Also, I will discuss the criteria for the measurement of charge misidentification for the combinations of identification and isolation criteria followed by the derivation of the rates and scale factors.

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