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## Measurement of Correlation of Lambda Pairs with the ATLAS Detector

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We report here the first observation of a direct spin correlation between pairs of like-type and unlike-type  $\Lambda$  hyperons produced in inclusive processes at the LHC. The analysis is based on hyperon pairs collected at the ATLAS experiment from pp collisions at a center-of-mass energy of 7 TeV in 2010. A depletion of like-type events when compared to unlike-type events is observed for  $Q < 3$  GeV and is known to be the effect of the Fermi-Dirac statistics between identical fermions. The correlation parameter of the decay angles for decay  $\Lambda \rightarrow p\pi^-$  ( $\bar{\Lambda} \rightarrow \bar{p}\pi^+$ ) is extracted for data as a function of  $Q$  using a data-driven reference sample in which uncorrelated hyperon pairs are selected from different events in the same data sample. No spin correlation has been observed for unlike-type events, while deviation from zero is observed for like-type events in the same region where depletion of differential cross-section occurs.

### Oral or Poster Presentation

Oral

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