

## Leptonic observables in $\sqrt{s_{NN}}=2.76$ TeV PbPb collisions measured with the ATLAS detector at the LHC

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A broad program of measurements using heavy ion collisions is underway in ATLAS, with the aim of studying the properties of QCD matter at high temperatures and densities. Leptonic observables are essential tools for the study of heavy ion collisions since leptons do not interact strongly and thus pass through the strongly-coupled medium unaffected. The centrality dependence of  $J/\psi$  and  $Z$  yields, observed through their di-muon channel, are important measurements both for assessing modifications of particle production as well as probing particular regions of the nuclear PDFs.  $W$  boson measurements are also possible using single leptons, and provide another handle on the initial state.

This talk describes measurements performed using up to  $9 \mu\text{b}^{-1}$  of lead-lead collision data provided at a nucleon-nucleon center-of-mass energy of 2.76 GeV by the Large Hadron Collider and collected by the ATLAS Detector during November and December 2010

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