

# Quarkonia Studies in PbPb Collisions by the ATLAS Experiment at LHC

A. Lebedev<sup>a</sup> for the ATLAS Collaboration

<sup>a</sup>Department of Physics and Astronomy, Iowa State University  
Ames, IA 50010, USA, *lebedev@iastate.edu*

The measurement of quarkonia production in heavy ion collisions provides a powerful tool for studying the properties of hot and dense matter created in such collisions. Especially important is simultaneous measurement of different quarkonia states, since they are predicted to dissociate at different temperatures, and thus provide valuable information about deconfinement.

We studied the possibility to measure Upsilon and  $J/\psi$  quarkonia families via di-muon decays in heavy ion collisions in the ATLAS experiment at LHC. We present the simulation results for expected acceptance, reconstruction efficiency, mass resolution, rates and background estimates for Upsilon and  $J/\psi$  states in PbPb collisions at LHC.