

Abstract Submitted  
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**Measurement of non-exclusive dimuon pairs produced via photon-photon scattering Pb+Pb collisions at 5.02 TeV with the ATLAS detector**<sup>1</sup> SOUMYA MOHAPATRA, Columbia Univ, ATLAS COLLABORATION — Muon pairs produced via two-photon scattering processes in hadronic Pb+Pb collisions provide a potentially sensitive electromagnetic probe of the quark gluon plasma. First measurements by ATLAS and STAR of dileptons produced via two-photon scattering in non-ultra-peripheral (non-UPC) nucleus-nucleus collisions showed an unexpected centrality-dependent broadening of the angular correlation between the two leptons and/or of the two-lepton  $p_T$  distribution. ATLAS has recently measured dimuons produced via two-photon scattering in non-UPC Pb+Pb collisions at 5.02 TeV using data collected during the 2018 Pb+Pb run at the LHC corresponding to an integrated luminosity of  $1.73 \text{ nb}^{-1}$ . This data set represents a factor of four increase in statistics over the 2015 data set used for the first ATLAS measurement. The increased statistics allow new features to be observed in the data, as well as differential studies of the dependence of the pair-distribution on the transverse-momentum and pseudorapidity of the two muons. The results of the new measurement and the possible physics implications will be discussed.

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