

Observation of suppressed charged-particle production in ultrarelativistic oxygen-oxygen collisions

—Supplemental Material—

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Comparison to different nPDF models

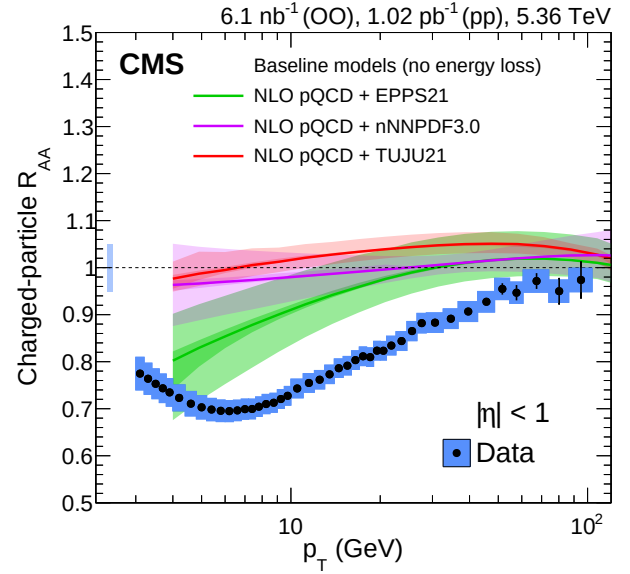


FIG. 1. Comparison of the OO R_{AA} to a theoretical model [1, 2] without energy loss effects that uses three different nPDF choices [3, 4, 7].

Figure 1 shows the baseline model described in Refs. [1, 2] with three different nPDF hypotheses. The data lie under all three nPDF choices. The EPPS21 model predicts the strongest nPDF modification of R_{AA} , whereas the nNNPDF3.0 [3] and TUJU21 [4] nPDF sets predict a rather modest suppression effect. TUJU21 currently does not include LHC data having hadronic final states. These data tend to favor a stronger shadowing of the gluon nPDF, so this difference could potentially explain why TUJU21 and EPPS21 predict different behavior [5]. EPPS21 and nNNPDF3.0 include similar data in their global fits, but the models predict different A-dependence of nPDF modifications. In particular, nuclear effects tend to be smaller for low-A nuclei in nNNPDF3.0 as compared to EPPS21 [6].

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