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Comparison of LHC results with the predictions of the Modified Glauber Model: centrality dependence of total charged-particle yields in O+O and Ne+Ne collisions

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We present a comparison of Monte Carlo modified Glauber model predictions with recent measurements of the centrality dependence of total charged-particle yields in $^{16}\text{O}+^{16}\text{O}$ and $^{20}\text{Ne}+^{20}\text{Ne}$ collisions at the LHC. The model extends the Standard Glauber approach by introducing a single parameter, k , the mean fractional momentum loss per inelastic nucleon-nucleon collision due to multiparticle production; this reduces the inelastic cross section and multiplicity in subsequent nucleon collisions. The parameter k was fixed from the previously successful description of the non-linear centrality dependence of charged-particle yields measured by ALICE in Pb+Pb collisions, and the resulting predictions are confronted here with the newly available data for the light collision systems.

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