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SHARE with CHARM describes PbPb hadron yields at 2.76 TeV

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Soft hadron production at LHC energies presented a new challenge for the statistical hadronization mode (SHM). We show that the SHARE chemical nonequilibrium model describes well the available hadron yield data. We then extend SHARE to include CHARM contribution to hadron yields and present a remarkably accurate description of hadron yields at energy $s_{\{NN\}} = 2.76$ TeV for several high multiplicity centrality bins. We show that ignoring the charm contribution can introduce up to 40% contribution in yields of certain hadrons which, when measured, offer an indirect evaluation of charm production yield. We demonstrate that employing SHARE with CHARM our current fit of pions, kaons, protons, Xi's and Omegas is fully consistent with our understanding of AuAu and CuCu data at 62.4 and 200 GeV. This demonstrates the overall superiority of the chemical nonequilibrium SHM model in predicting hadron production in relativistic heavy ion collisions.

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