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Exploring experimental heavy-ion centrality dependence of particle production in MC Glauber model

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The model analysis of particle production in heavy ion collisions depending on number of emission sources (wounded nucleons or partons) at different centralities is performed in a wide collision energy range from RHIC to LHC and for all measured pair of heavy ions.

The model of wounded partons based on Glauber calculations gives better scaling for the ratio of charged particle multiplicity to the number of wounded constituent partons N_{ch}/N_{c-part} depending on collision centrality for all considered energies and colliding systems.

Also, the eccentricity density distribution in Glauber Monte Carlo framework has been fulfilled for several centrality intervals. Assuming linear dependence between eccentricity and elliptic flow, the eccentricity density distribution is compared with CMS data on flow fluctuations for Pb+Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV data. The probability density distribution with wounded partons better describes experimental data for more central collisions.

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