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The statistical model in Pb-Pb collisions at the LHC

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We investigate, using the newest LHC data, the energy dependence of hadron production within the framework of the statistical hadronization model. The data are confronted with predictions based on extrapolation from lower (RHIC) energies. While the yields of hadrons made from light (u,d,s) quarks generally exhibit little change apart from the overall increase in multiplicity, a characteristic energy dependence is observed for J/ψ production. This feature is well described by statistical generation of J/ψ mesons at the phase boundary, as predicted in [1,2]. We also search for possible deviations from the statistical picture in the yields of (anti-)baryons and light (anti-)nuclei.

[1] P. Braun-Munzinger, J. Stachel,
Phys. Lett. B 490 (2000) 196.

[2] A. Andronic, P. Braun-Munzinger, K. Redlich, J. Stachel,
Nucl. Phys. A 789 (2007) 334; Phys. Lett. B 652 (2007) 259.

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