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Thermal production of Sexaquark in relativistic heavy Ion Collisions

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We consider the probability of thermal production of uuddss states with small radii $r = 0.1 - 0.4$ fm and small masses $m < 2$ GeV in Pb+Pb collisions at $\sqrt{s}=2.76$ TeV. We use thermal model which was tuned to AGS, RHIC, LHC data and predicts $T = 150 - 170$ MeV.

Hereby we compare the production rates for Sexaquarks with different masses and different radii.

We found that sexaquarks are produced with relatively high rates for both 0.1 and 0.4 fm radii and for masses of 1700 and 1960 MeV.

We estimate ratios of Sexaquarks uuddss to hadrons (protons, kaons, Lambda) and deuterons in Pb+Pb collisions at LHC.

At $T=170$ MeV the ratio of thermal Sexaquark with mass 1960 MeV to thermal deuteron is about 0.45.

Present via

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