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Colour-singlet clustering of partons and recombination model for hadronization of quark-gluon plasma

Content :

SU(N_c) colour-singlet restriction, along with flavour and spin symmetry, on thermal partonic ensemble is shown to recombine the partons with internal colour structure into colour-singlet multi-quark clusters which can be identified with various hadronic modes at a given temperature. This can provide a possible basis for recombination model for hadronization of quark-gluon plasma. This also leads to a natural explanation for the ratio of (anti)protons to pions and the quark number scaling of the elliptic flow coefficient in relativistic heavy-ion collisions.

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