



Contribution ID: 503

Type: Poster

Strange and Non-strange Sea Quark-gluon Effects for Pions

Tuesday 13 December 2022 14:00 (1 hour)

Within the statistical model approach, we investigate the contributions of sea quarks and gluon to the structure of pion. In this approach, hadrons assumed to be an ensemble of quark-gluon Fock states. The principle of detailed balance is used to calculate the probability of each Fock state in pions. Various sub-processes like $g \leftrightarrow gg$, $g \leftrightarrow q\bar{q}$ and $q \leftrightarrow qg$ are considered. We calculated the contribution of strange quark-antiquark pairs in the pions which are generated from considering the $g \leftrightarrow s\bar{s}$ process. With the help of these probabilities, we calculated the masses of pions in a statistical approach. The strangeness suppression factor is also calculated.

Session

Quark and Lepton Flavour Physics

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Session Classification: Poster - 2