



Contribution ID: 86

Type: 20 min.

Study of the running coupling constant of π^- mesons and protons from $p+p$ and $p+C$ interactions at 10 GeV/c

Tuesday 16 September 2025 14:40 (20 minutes)

We investigate the running coupling constant $\alpha_s(q^2)$ for π^- -mesons and protons produced in $p+p$ and $p+C$ interaction at 10 GeV/c. The precise determination of $\alpha_s(q^2)$ critically depends on the choice of the cut-off parameter Λ_{QCD} in its defining expression. For this analysis, we adopt $\Lambda_{QCD} = (c\hbar)GeV = 0.197GeV$. The resulting $\alpha_s(q^2)$ values are computed and systematically compared with the theoretical predictions of Quantum Chromodynamics (QCD).

Authors: Mr BAATAR, Otgongerel (Institute of Physics and Technology, Mongolia); GOMBOJAV, Sharkhuu (Mongolian Academy of Science, Institute of Physics and Technology); KHISHIGBUYAN, Narankhuu (Institute of Physics and Technology Mongolian Academy of Sciences); MAAMUU, Sovd (IHEP); MALAKHOV, Aleksandr (JINR); MURDORJ, Urangua (Mongolian Academy of Science, Institute of Physics and Technology); Mr TSEEPELDORJ, Baatar (Institute of Physics and Technology, MAS)

Presenter: KHISHIGBUYAN, Narankhuu (Institute of Physics and Technology Mongolian Academy of Sciences)

Session Classification: Applied use of relativistic beams

Track Classification: Cumulative and subthreshold processes