

Measurement of the Central Exclusive Production of pion pairs using tagged forward protons at the STAR detector at RHIC

Jacek Turnau for the STAR Collaboration

Institute for Nuclear Physics PAN, Cracow

We shall present preliminary measurement of the invariant mass spectrum of the two oppositely charged pions produced in the process $pp \rightarrow p\pi^+\pi^-p$ (Central Exclusive Production), obtained with the STAR detector at RHIC at $\sqrt{s} = 200$ GeV. The Roman Pots were used to tag forward protons and the invariant mass of the pion pair was obtained using tracks reconstructed in the STAR Time Projection Chamber (TPC). The non-exclusive background estimated from events with like-sign track pairs is small, thus proof of principle of this type of the measurement at small momentum transfer to proton is established. Plans for the future will also be discussed.

E-mail:jacek.turnau@ifj.edu.pl