

# Central Exclusive Production with the STAR detector at RHIC

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## Abstract

The Central Exclusive Production (CEP) processes with Double Pomeron Exchange (DPE) in p+p collisions are particularly intriguing as they can generate  $h^+h^-$  pairs with an even spin and positive parity. This unique characteristic makes them an ideal environment for the exploration and discovery of glueball states. In this talk, we will present results on CEP of charged hadron pairs  $h^+h^-$  ( $h = \pi, K, p$ ) measured with the STAR experiment at RHIC in proton-proton collisions at  $\sqrt{s} = 200$  GeV and 510 GeV. The differential fiducial cross sections at  $\sqrt{s} = 200$  GeV will be presented and compared to the theoretical calculations from DPE models. Structures observed in the mass spectra of  $\pi^+\pi^-$  and  $K^+K^-$  pairs were found consistent with the DPE model, while angular distributions of pions suggested a dominant spin-0 contribution to  $\pi^+\pi^-$  production. We also present preliminary results on the measurement of the same physics process at higher  $\sqrt{s} = 510$  GeV.