

Central Exclusive Production at the LHC

Prof. Ronan McNulty

University College of Dublin, Ireland

Most collisions at the LHC result in hundreds of particles being produced. However, in central exclusive production, mediated by colourless propagators, the final state is particularly simple, typically consisting of a few particles that in some cases can be fully reconstructed. This provides an ideal laboratory to investigate aspects of QCD that are not completely understood, including the transition from the non-perturbative to perturbative regime, the onset of saturation, the formation of hybrid or tetraquark states beyond the quark model, the presence of glueballs, and the existence of the Pomeron and Odderon. The talk will be illuminated by recent experimental results from the LHC and connections made to previous results from HERA and future prospects at an EIC.