Hall B Virtual Seminar

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Studying QCD with CLAS12 and CMS : from timelike Compton scattering to diffractive top pair production

Abstract

I will present the main achievements that I obtained during my PhD and my current postdoc at INFN Genova. After briefly presenting my curriculum vitae, I will describe the first observation of the Timelike Compton Scattering (TCS) process. This measurement, performed with the CLAS12 detector at Jefferson Lab during my PhD, provides a way to test the universality of Generalized Parton Distributions (GPDs) and explore the mechanical properties of the nucleon. After that, I will introduce my current research, dedicated to the first measurement of the diffractive top pair production with the CMS experiment at CERN. This process, predicted by the Standard Model but never measured, could provide insight on the gluon content of the pomeron. Finally, I will describe my contributions to the current effort to develop the new tracker for CMS, that will be installed as part of the High Luminosity LHC upgrade. All along the presentation, I will highlight the competences that I have gained while conducting my research. In particular, I will highlight my programming competences for high energy physics, my interest in Machine Learning techniques and my wide range of hardware skills. I will conclude the seminar by exposing my interest for the future Hall B scientific program and emphasize how my skills can fit within the future Hall B activities, especially in the software area.

Wednesday, May 4, 2022

2:30 PM – 3:30 PM

https://jlab-org.zoomgov.com/j/1610735137?pwd=enB6RkdSUU4rOWhSckY2YlIvRXJkQT09&from=addon