I would like to thank the JSA/JLab Graduate Fellowship during 2020–2021, I have been working on various projects in CLAS12 including the cross section measurements of Deeply Virtual Compton Scattering (DVCS).

1 Analysis Works

The Deeply Virtual Compton Scattering is the phenomenologically cleanest channel to access the proton Compton Form Factors. The cross section measurement of DVCS is one of the most important analysis method to enable assessing the new CLAS12 data quality, and extracting the CFF at the same time. I have performed the preliminary extraction of cross sections with the RG-A fall 2018 data set. This was presented at the CLAS12 Deeply Virtual Exclusive Process meeting [1]. Later, I released the proton energy loss correction study results at the CLAS12 software meeting [2], which is necessary for the better understanding of particle kinematics at the simulation. Recently, I have adjusted the DVCS radiative generator [3] to install them on the official repository [4] for the radiative correction.

2 Service Tasks

I have worked on mainly three parts of service tasks during this past academic year. First, I have been maintaining the timeline monitoring codes [5, 6]. Secondly, I worked on the background simulation with the RG-H polarized target that can be useful for designing the target of any upcoming run group [7]. Lastly, I have been involved with developing and maintaining the off-site farm MC simulation using the Open Science Grid [8].

3 Conference Talks

I presented the progress reports of the DVCS cross section measurements at

- the 2020 Fall Meeting of the APS DNP [9]
- the APS April Meeting 2021 [10].

References


[9] https://meetings.aps.org/Meeting/DNP20/Session/RL.2

[10] https://meetings.aps.org/Meeting/APR21/Session/Q15.5