Measurement of Double Deeply Virtual Compton Scattering in the di-muon channel

DDVCS @ SoLID

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Status

Phase 1 : DDVCS run **parasitic** to the **J/ψ @ SoLID** experiment.
Phase 2 : high luminosity **dedicated** run with specific detector configuration.

" The PAC endorses the phase of this experiment that would be in the run group led by the E12-12-006, which is at lower luminosity than the second phase. This run would be enough to **demonstrate operation of the muon system** and **observe the reaction**, albeit at relatively low Q^2. Consideration of this phase will still require a **run group proposal**, **vetted by the SoLID collaboration** using whatever are the appropriate internal means. The second, high luminosity, phase must be considered as a separate proposal, along with whatever other physics goals might be achieved in the new run group defined by this high luminosity configuration. "

We wish to discuss today phase 1 of the DDVCS@SoLID experiment.

DDVCS Group

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Parton Imaging

Beam Spin Asymmetry

Detector Configuration

Mechanical Design

Electronics

Acceptance

Muon Discrimination

Muon Trigger

Counting Rates

Expected Results

Conclusion

- Addition of **muon detection** capabilities based on the CLEO muon detector is a good opportunity for the **SoLID** performances.

- It will allow investigation of the experimentally unknown **DDVCS** reaction channel, of importance for the **partonic tomography** of the nucleon.

- It will enhance the **statistical reach** of the **J/ψ** experiment, and will contribute to the **physics impact** of the **J/ψ SoLID run-group**.

The **DDVCS** experiment would run with a **specific trigger**, and **parasitically** to the **J/ψ experiment**.