e⁺@CLAS12 Meeting Notes

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- The need for a calibration of the effects of the beam polarity change for the control of systematics is reinforced. Elastic $e \pm p$ scattering at low Q_2 appears a natural candidate starting with a measurement using the primary electron beam of CEBAF, and the secondary positron and electron beams created at the production target of the positron source. At this stage of the source design, it is unclear whether secondary electrons and positrons can be symmetrically selected.

- The CLAS12 detector (forward tagger) and torus (in- versus out-bending) configurations must be similar the one of run group A to minimize systematics.

List of tasks & assignments

- i) Identification/review of issues with operating Hall B beam line with positrons
- ii) Identification/review of issues with operating CLAS12 with positrons for comparison with electrons
- iii) Identification/review of the different source of systematic errors in the comparison of electron and positron cross section
- iv) Characterization of the electron/positron background environment (Latifa)
- v) Definition of an electron and positron calibration experiment (Volker)
- vi) Modifications of the Møller polarimeter to operate in Bhabha scattering mode (Eric)
- vii) Generation of DVCS quasi-data considering approved DVCS measurements with CLAS12 and expected positron measurements with the same luminosity than electrons (**FX**)
- viii)Extraction of D-term from expected data and evaluation of the impact of unpolarized positron beams (**FX**)
- ix) Extraction of the CFF from expected data and evaluation of the impact of unpolarized and polarized positron beams (Silvia)
- x) Evaluation of the impact of the beam momentum spread and emittance on experimental observables