Beam displacements effect on CLAS12 DC occupancies

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**Abstract**

This note details the Drift Chambers (DC) occupancy as a function of transverse position of the beam. Shifts have been generated between zero and one cm at three different values of phi angle: 300, 1800 and 3000.

**Simulated Hardware**

This simulation study is based on the FTOn standard configuration with a 5cm LH2 target, or ‘rga\_fall2018’. The downstream beamline has been updated.

**Summary**

**Conclusions**

Both the rates and the radiation damage benefit from 51 microns of tungsten shield around the CLAS12 scattering chambers. There is no benefit in additional thicknesses. The rates have been compared with physics run data at several beam currents. There is a good agreement between the real and the simulated data.

**References**

[1] *M. Ungaro*, CLAS12-note 2024-006: Importing the downstream beamline from engineering

models

[1] *M. Ungaro*, clas12 simulation software / geometry tags: <https://github.com/gemc/clas12Tags>.