

SSM Background Modelling

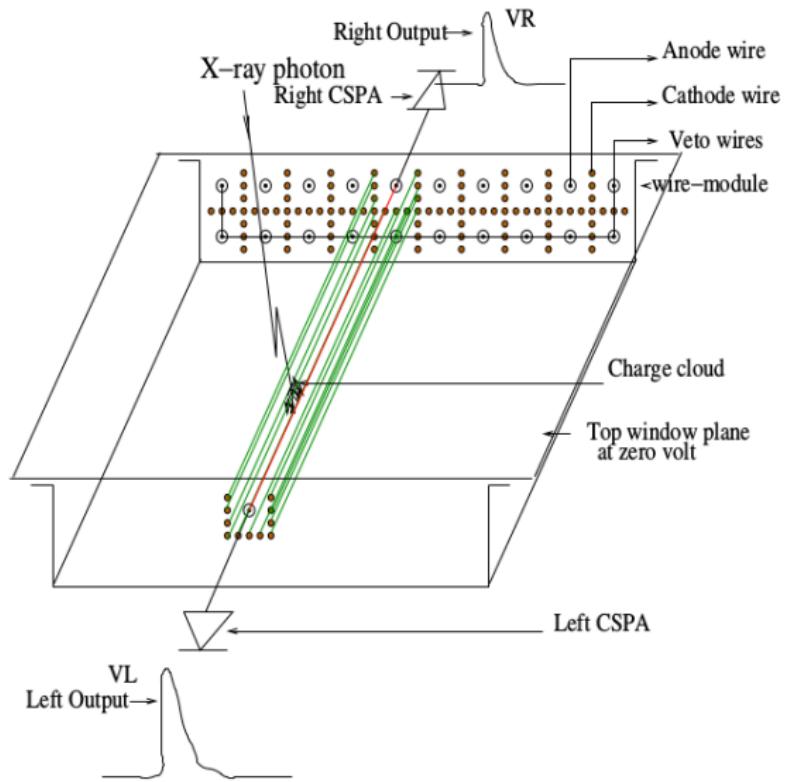
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SSM Detector



Effect on flux estimation due to background

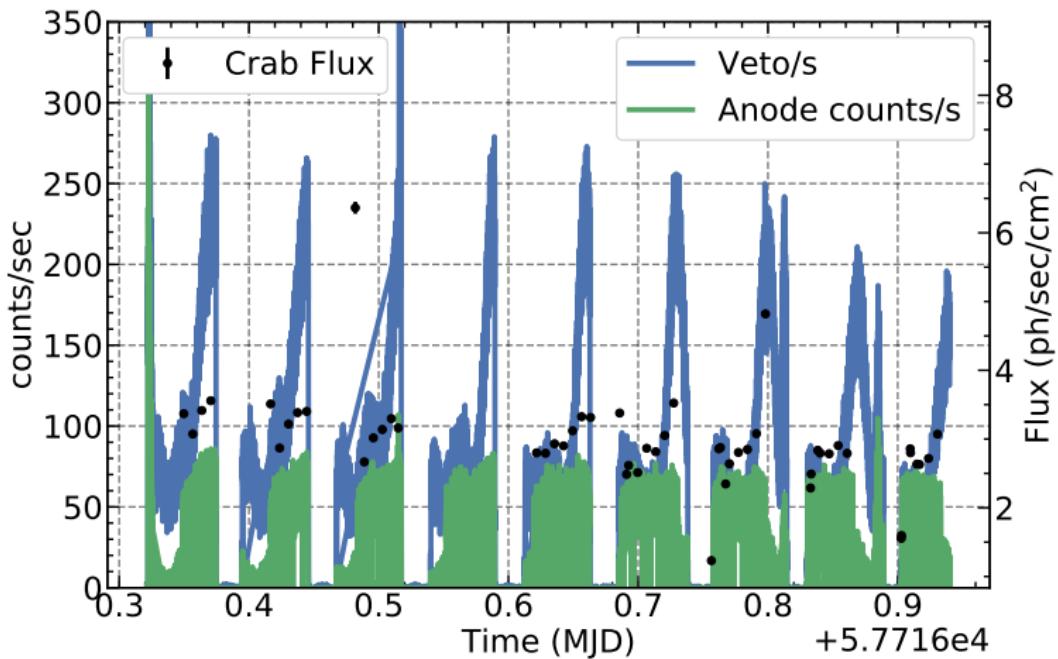


Figure 1: Overestimation of crab flux during high veto count rate

Faint Field Observations

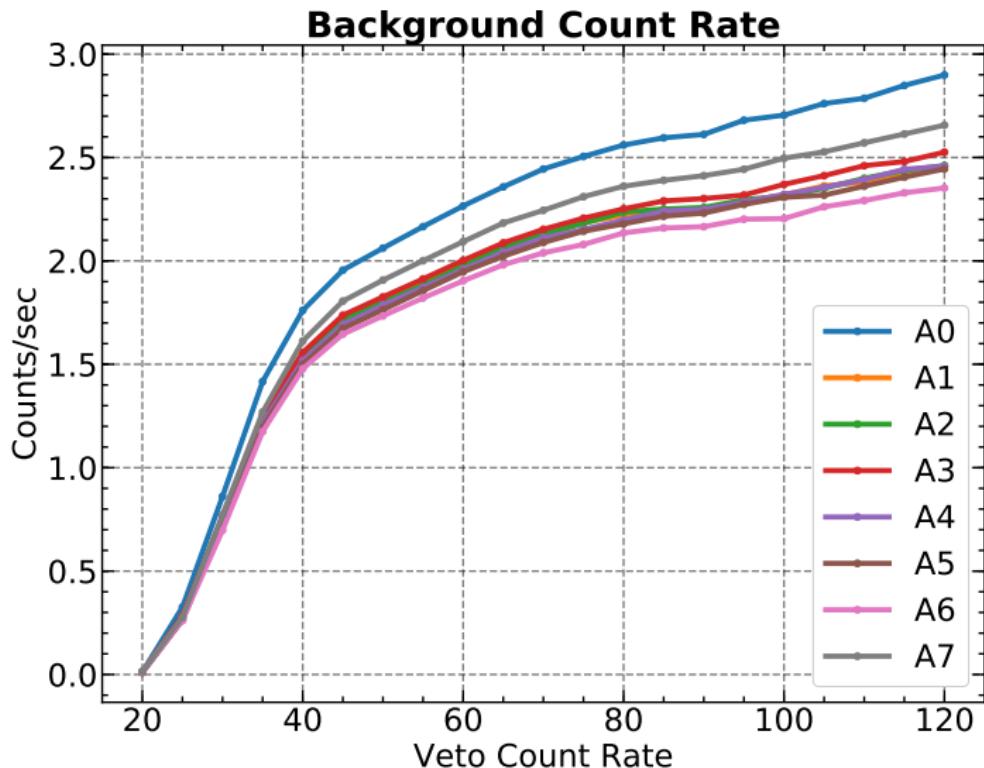


Figure 2: Faint Field: Expected flux in the $\text{FOV} < 0.3 \text{ ph/sec/cm}^2$

Faint Field Observations

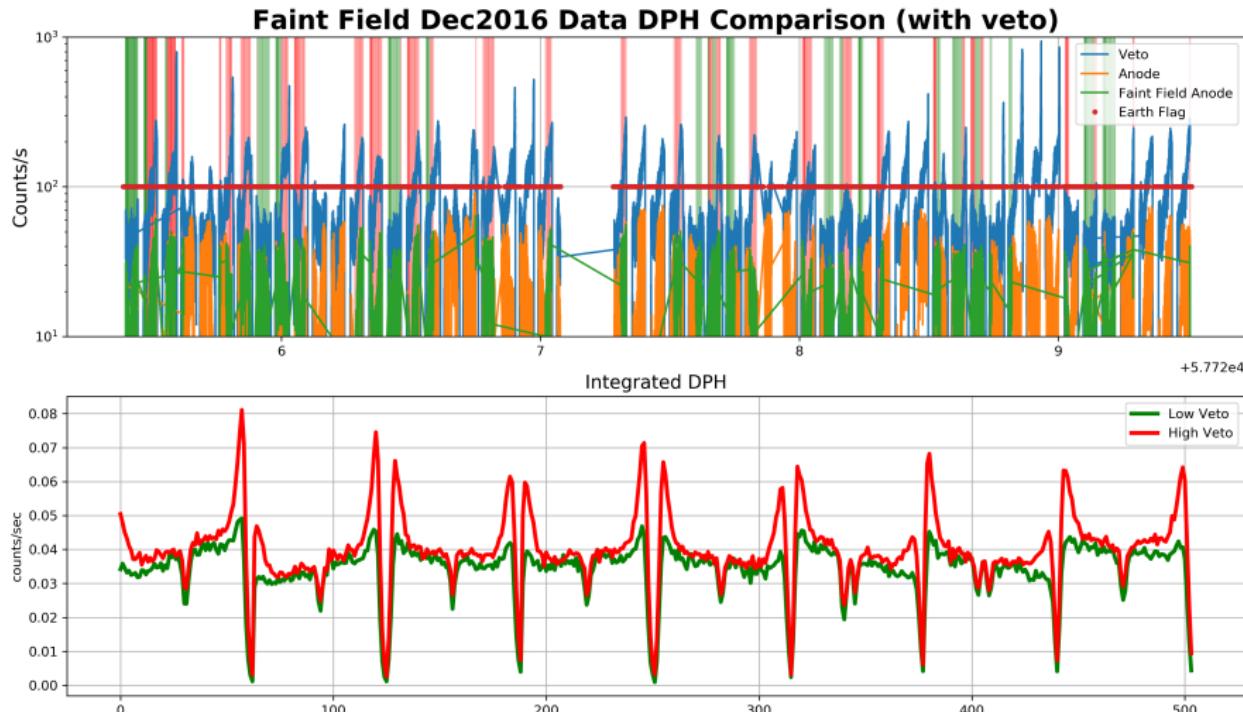


Figure 3: Anode edges register more counts during high veto count rate

Faint Field DPHs

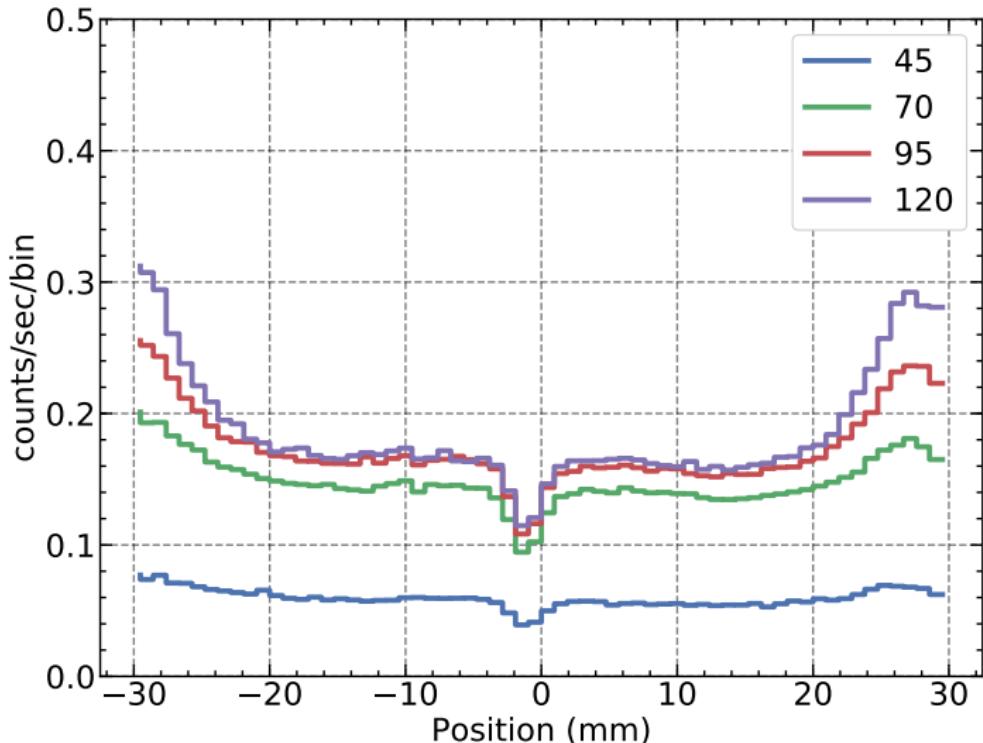


Figure 4: Comparison between faint field DPHs at different veto count rates

Variation in DPHs

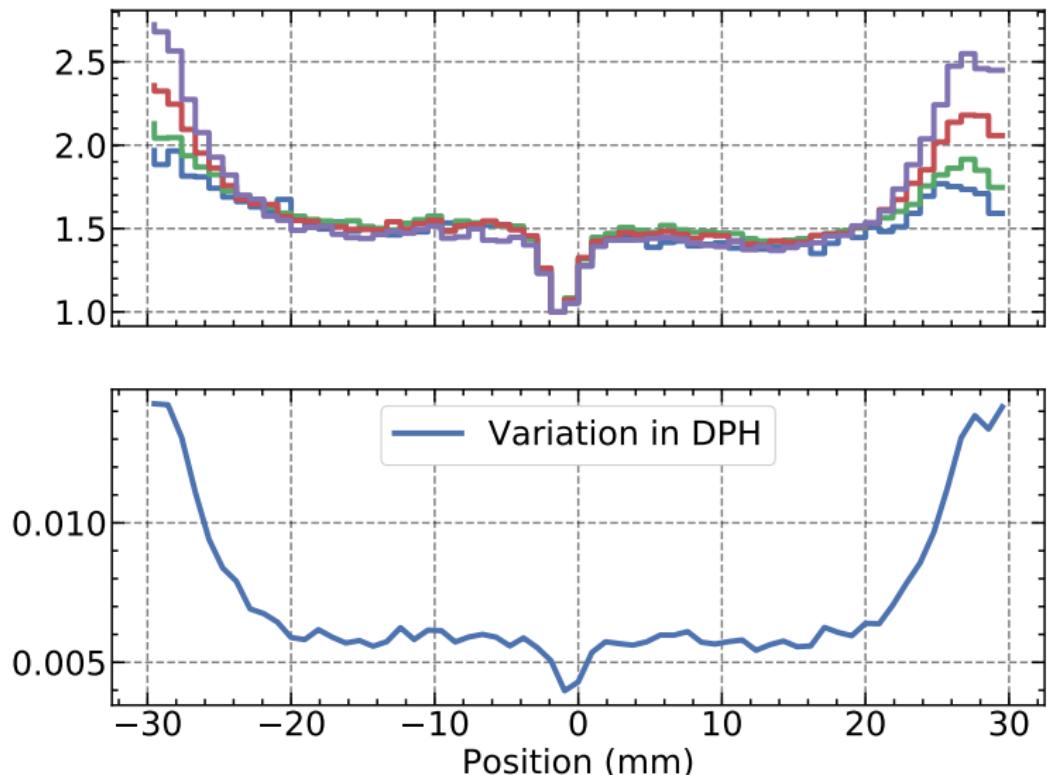


Figure 5: Standard deviation of DPHs across anode wire

Background DPH Templates

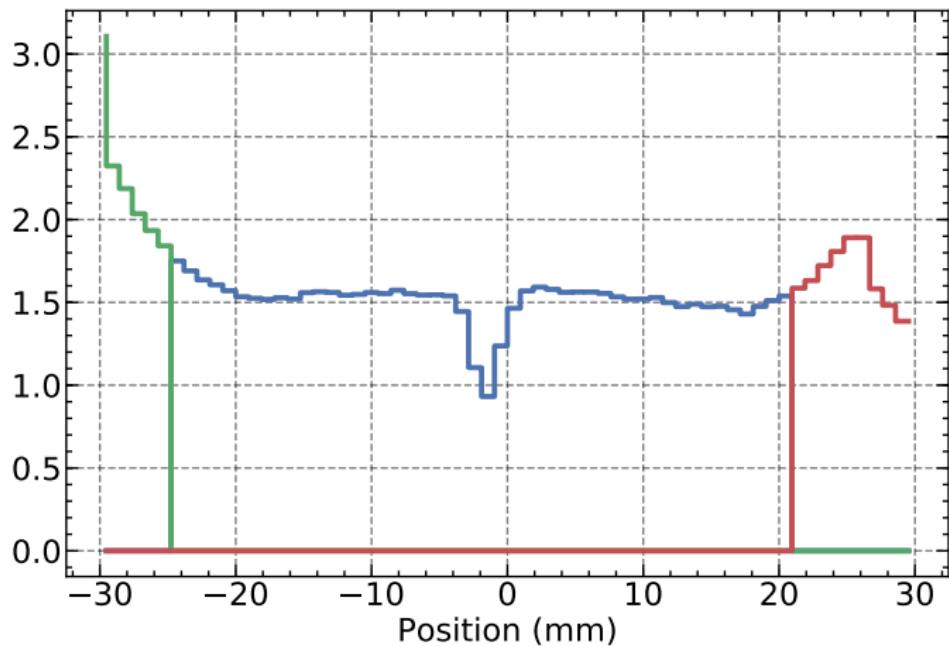


Figure 6: Three background templates; one at center and two at edges

Background DPH Templates

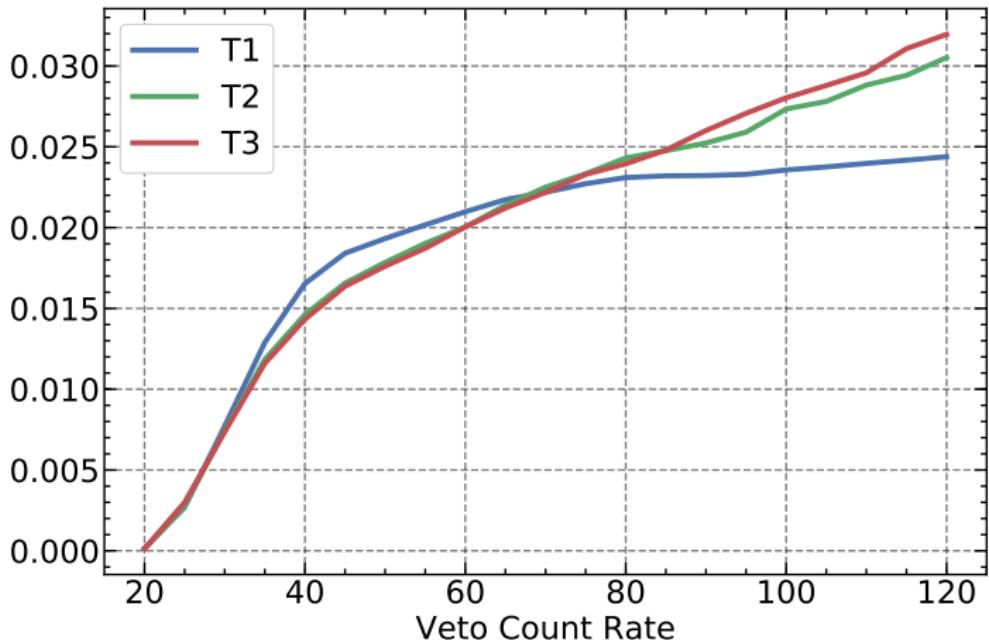


Figure 7: Template fit values at different veto count rates

Estimation of Background DPH

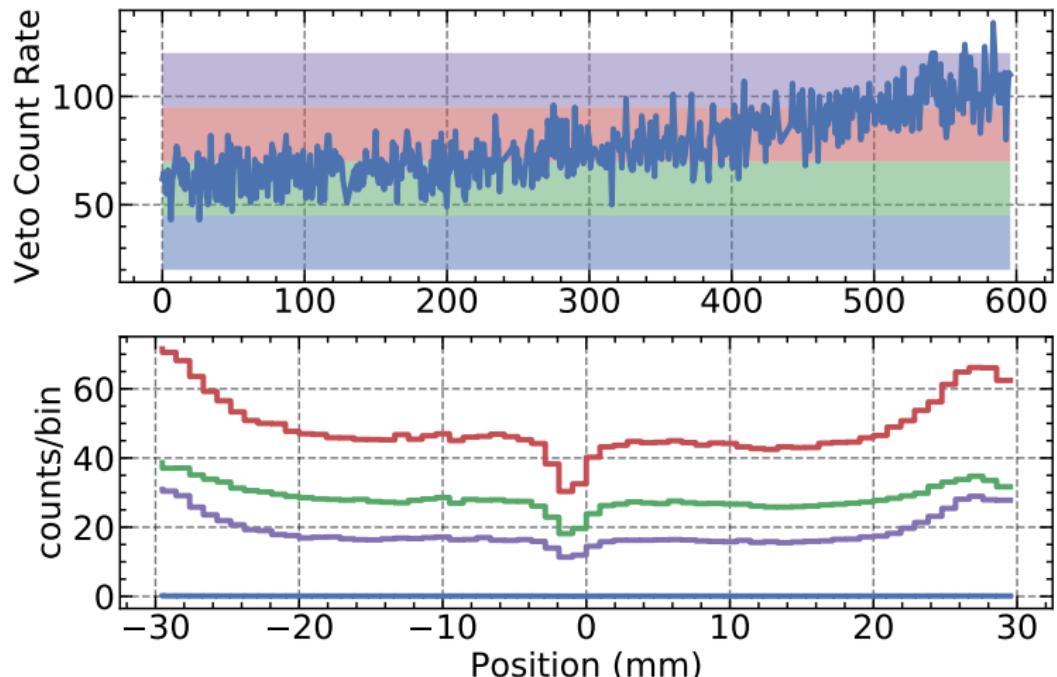


Figure 8: Background DPH estimated based on veto count rate

Background Template fits for Faint Fields

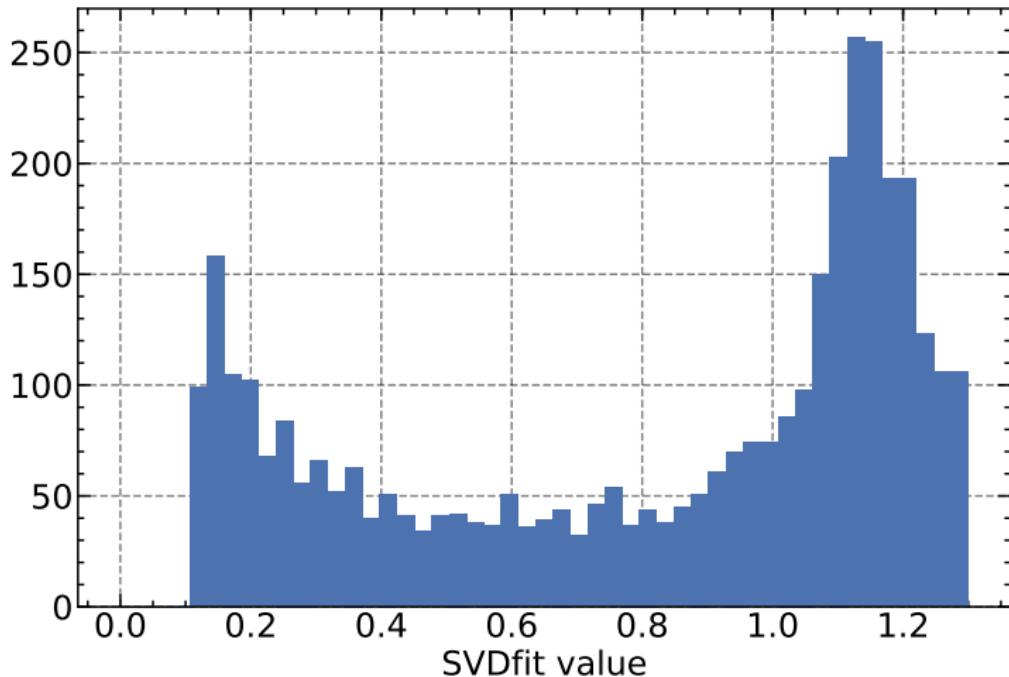


Figure 9: Distribution of SVDfit values for faint fields

Thank you.
