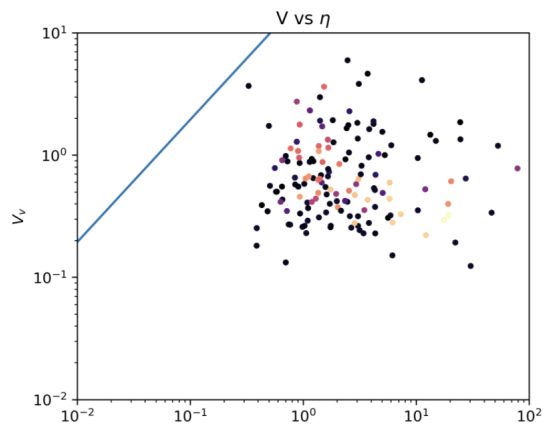


Effect of Systematic Uncertainties on η Plots

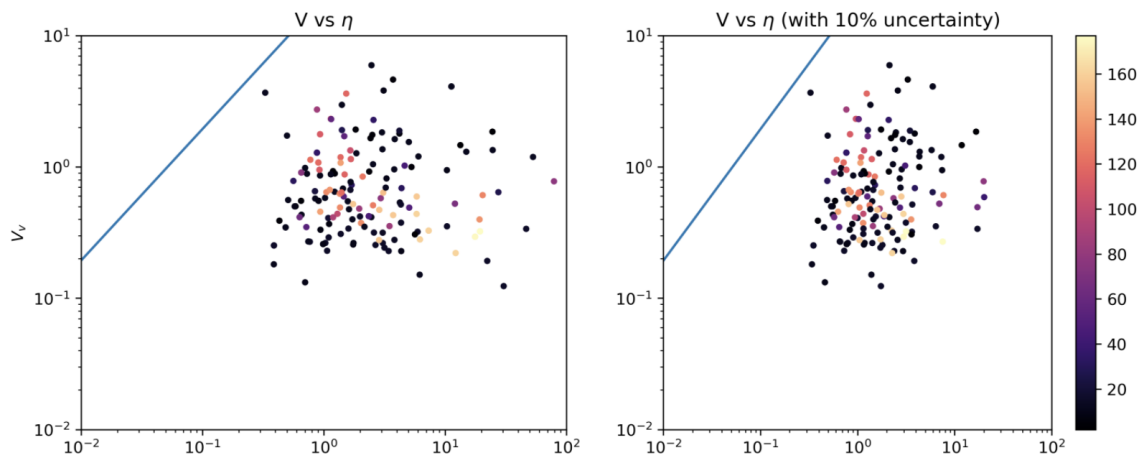
This report looks at the effect of systematic uncertainties on the η variability parameter presented in the Rowlinson et. al paper. We use data run through TraP that have the associated variability parameters, peak fluxes, and median fluxes to reproduce these plots. We only look at η as it is defined as a function of some systematic uncertainty whereas V is independent of this uncertainty.

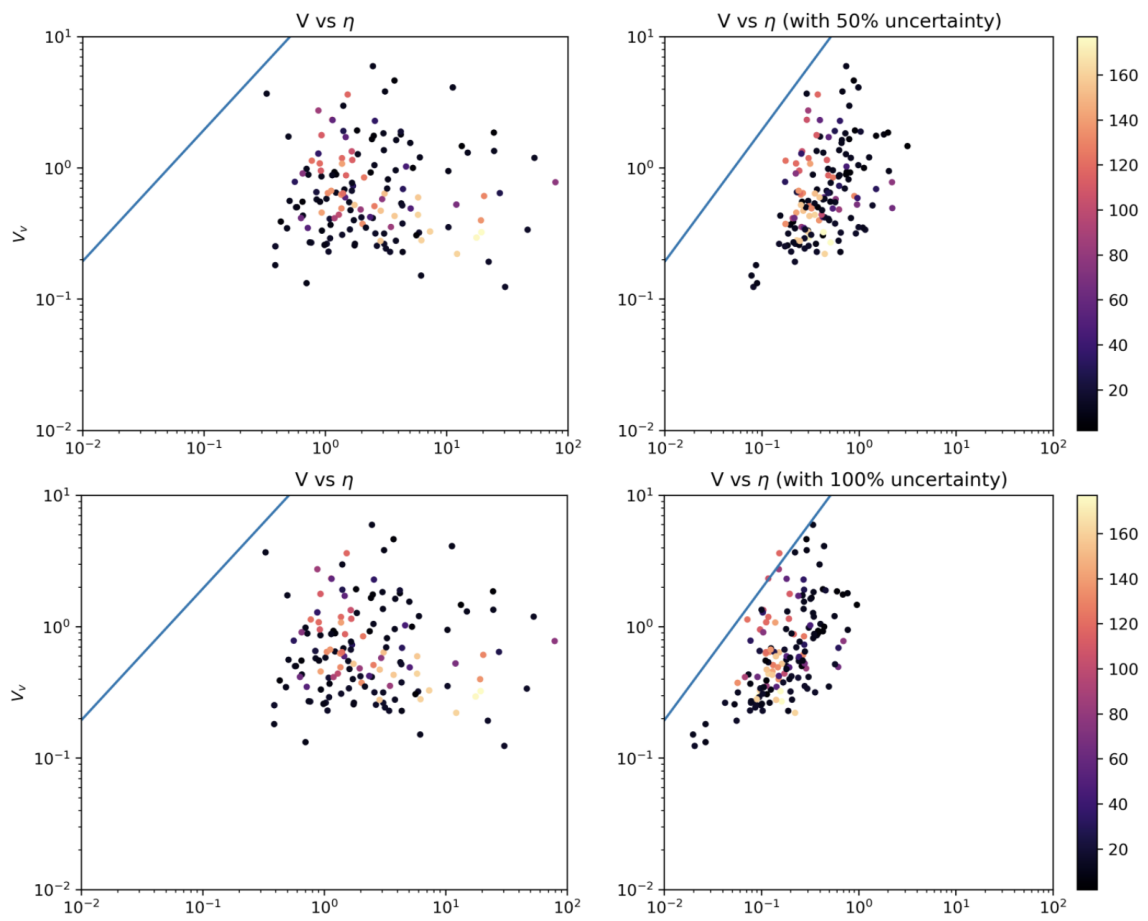
First, we present the η - V plots presented in the paper for the all-day data.



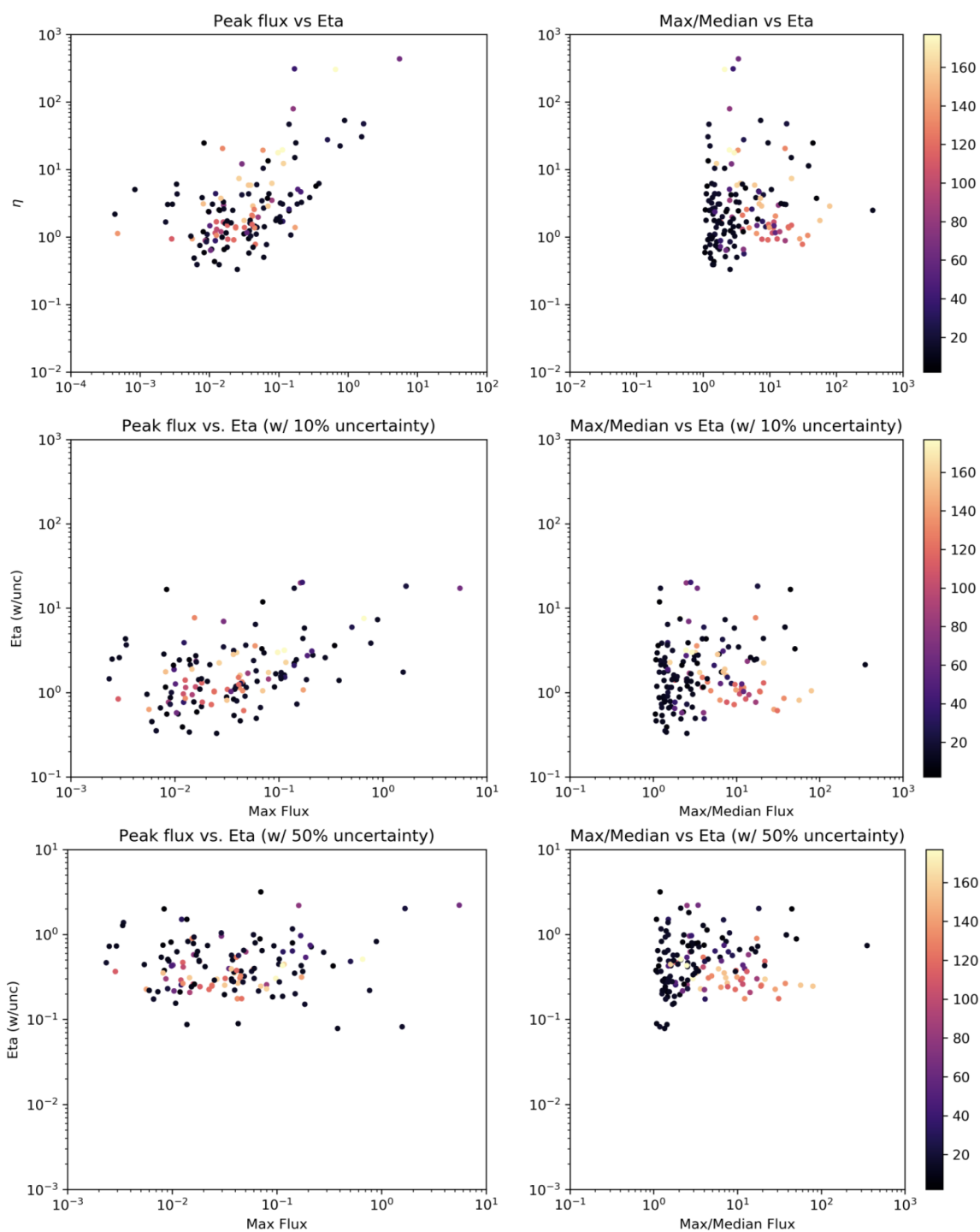
The blue line in the graph above is a line that graphs $V = \frac{1}{I_v} \times \sqrt{\eta}$.

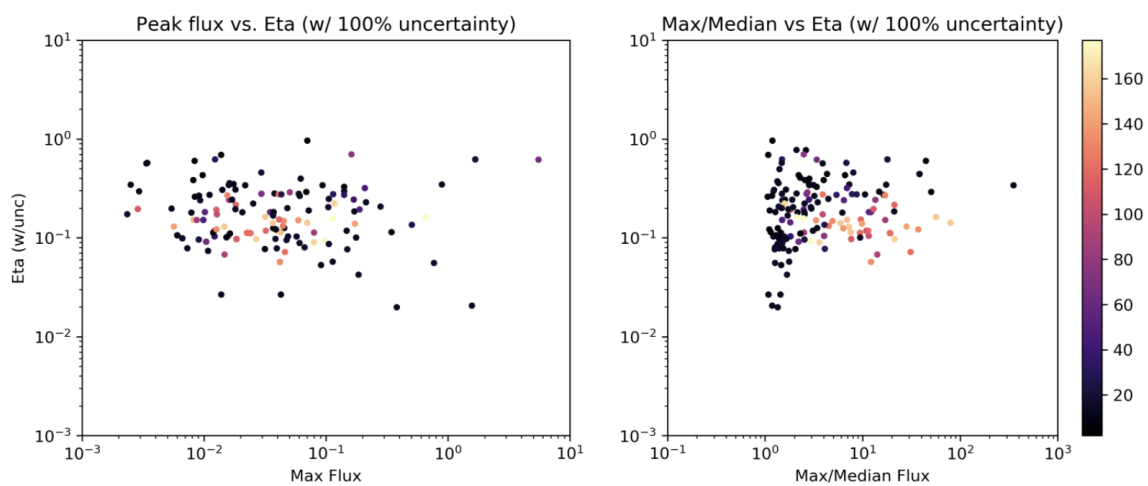
We now look at the effect of a 10%, 50%, and 100% systematic uncertainty on each of these plots.



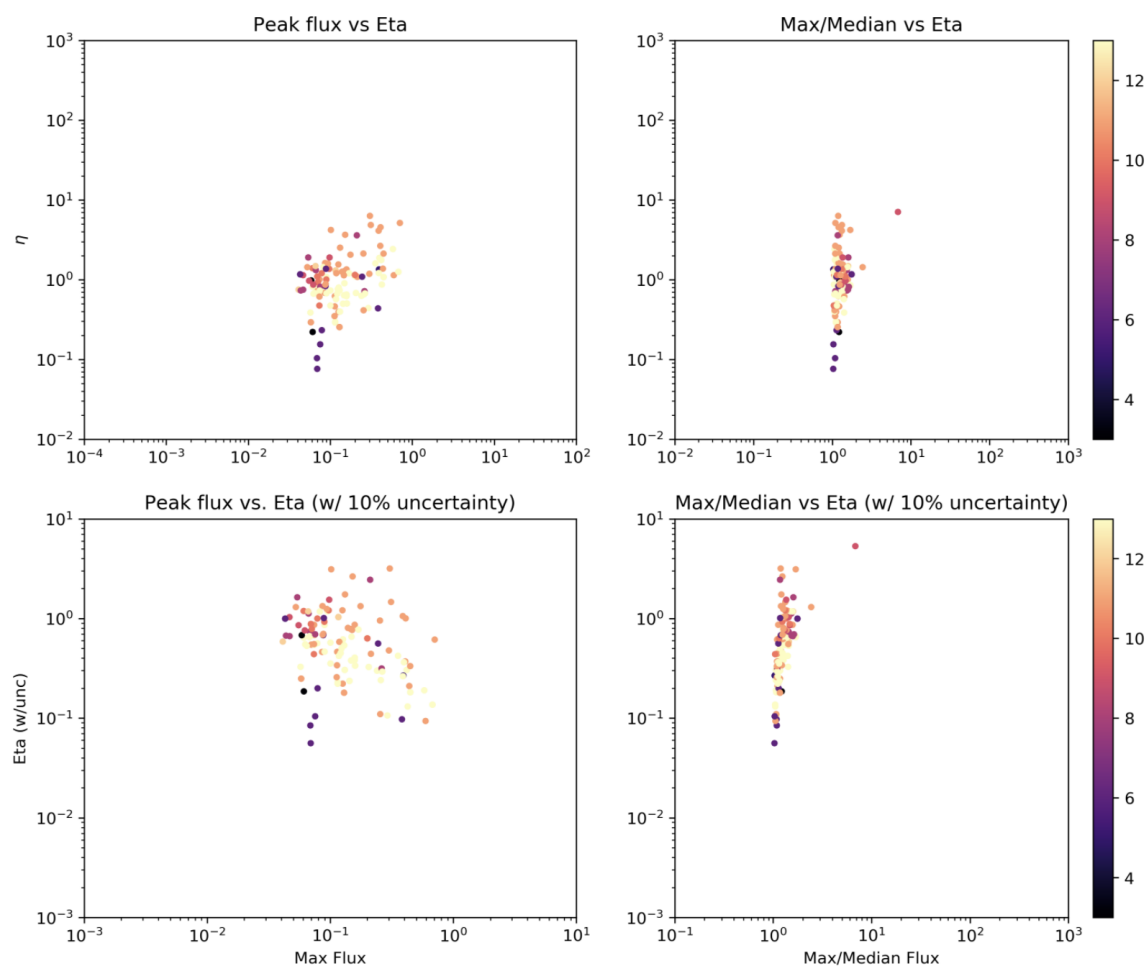


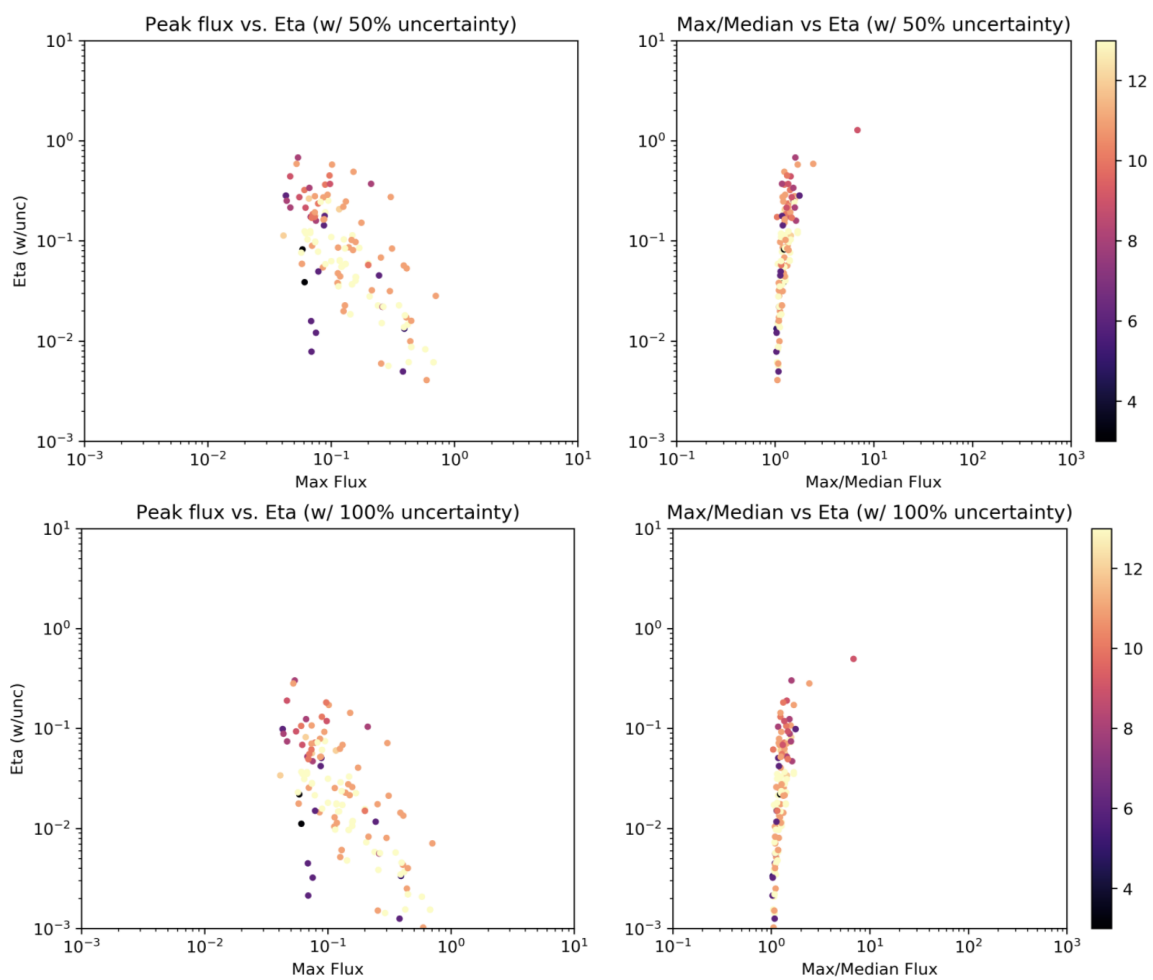
Now, we look at the effect of these uncertainties on the Peak flux vs η plots and the Max/Median vs η plots.





We now look at these plots for the 10-minute data with the uncertainties.





As seen from these plots, we note that as the uncertainty approaches 100%, the η -V plot data approaches the model line. Previously, we considered the model line to be a boundary beyond which data would not theoretically fall. We still see that the data follows roughly the same slope of the model, but the uncertainties may prove the model line not to be a boundary.