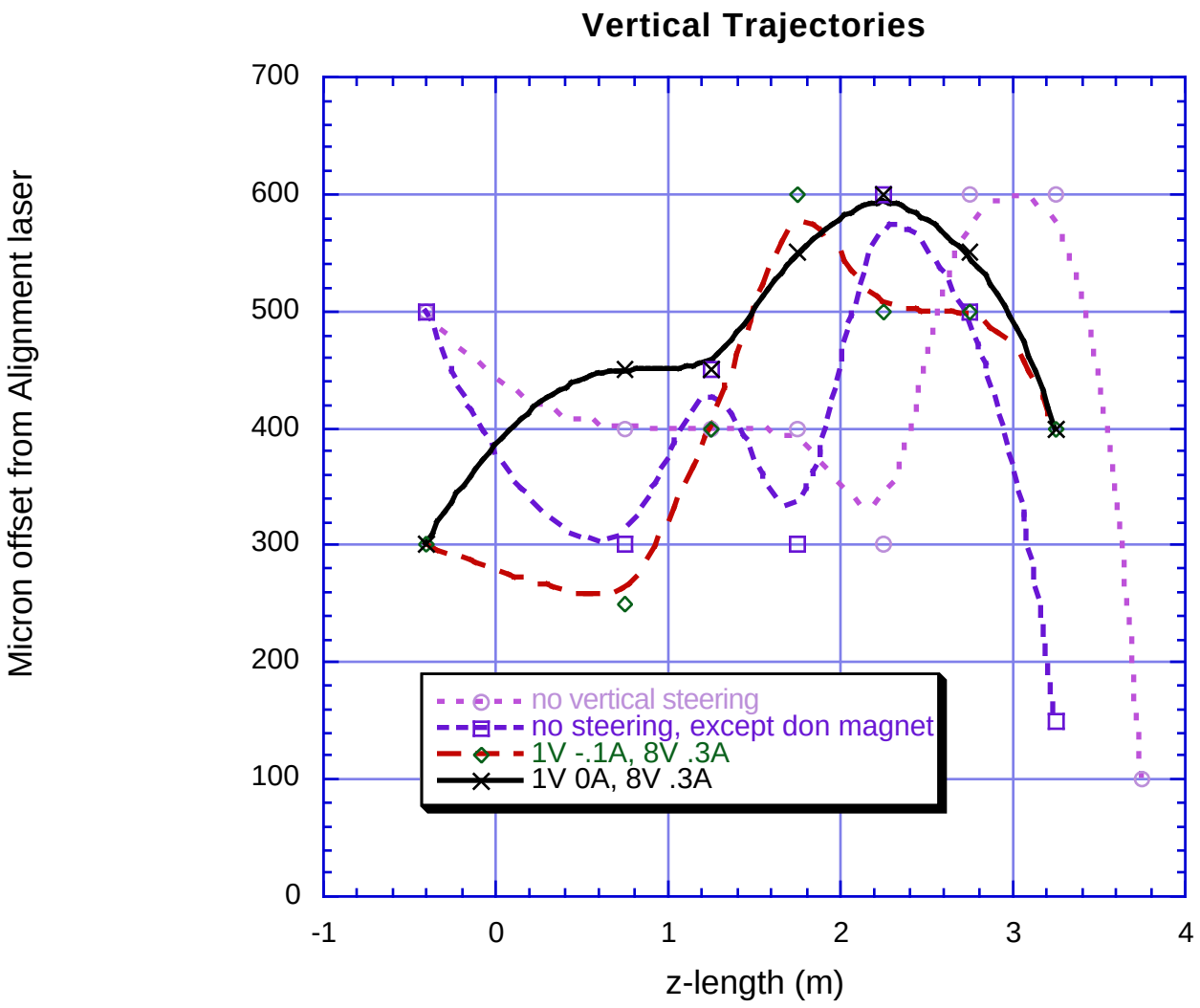
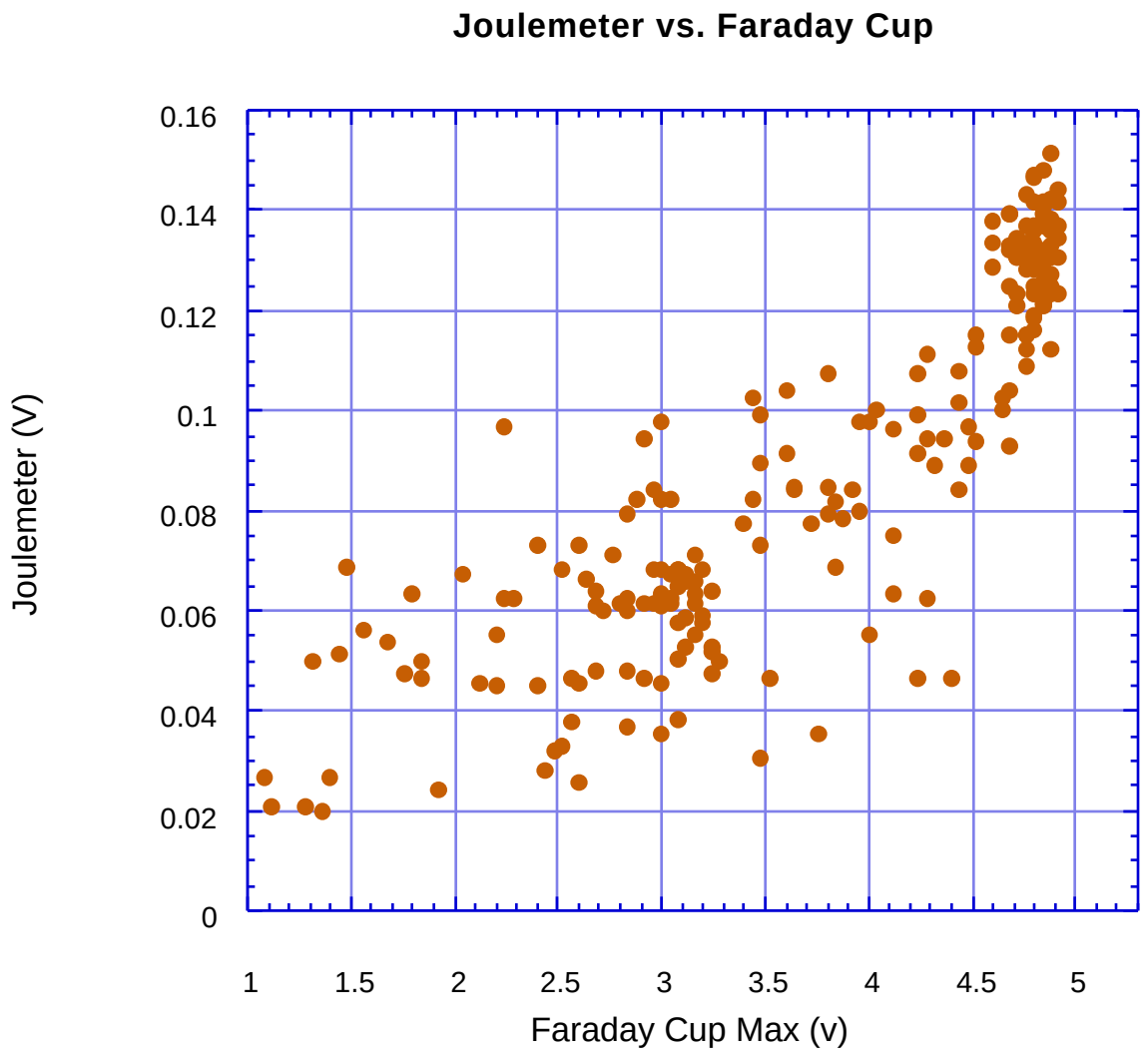
When we ran beam through the undulator, we studied the e-beam trajectory relative to the alignment laser. Since the horizontal was studied last time we focused on the vertical trajectory through the undulator. As expected it was much easier to contain. At first the peak-peak was ~1mm. After about an hour of upstream steering magnet changes, the peak-peak was found to be <200um. This correction is repeatable and we made this trajectory correction twice during the run. (The darker the line the better the peak to peak inside the undulator.)



At the end of the night we decided to take Detector vs. Faraday cup measurements. There was evidence of the Joulemeter signal having more Peak oscillation than the Faraday cup. Better collection of radiation could possibly help. Since the detector is inside the experimental hall, x-ray background noise adds error to the lower charge measurements for faraday cup voltages <2).




In addition, I think the Data Acquistion this run was not symced well. Were were using two different types of scopes this time, and the detector scope was fairly old and had trouble updating traces from when the sync trigger hit. This would increase error. Changing the charge, the charge read out would be immediate, but it would take a shot or two for the Joulemeter scope to read the corresponding signal.