

Confirming Instrument Consistency Between Sites

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1 Time Profiles

As you are probably aware, I have used the Forth Smith data to locate an object consistently that could be useful for calibration. As luck would have it, Jupiter appears to satisfy the requirement that a) Its apparent magnitude changes slightly in the time frame for the data (approximately 30 days) and b) is consistently visible for the time frame of the data in the Northern hemisphere i.e. all the ground sites.

Date	Filter 0	Filter 1	Filter 2	Filter 3	Filter 4	Filter 5	Filter 6	Filter 7
11-16-2011	33.25877187	19.18898113	18.62521366	19.45455774	20.39702736	19.89789971	20.90538591	40.37809931
11-13-2011	19.77787453	20.36632051	20.4142411	20.37873041	20.33391819	20.23574574	20.77285664	19.68766137
11-06-2011	19.7030148	20.15530508	20.27674315	20.40533988	20.20956014	20.40675277	22.16992428	19.83627407
11-05-2011	19.24335393	20.24865015	20.31491479	20.39165837	20.3926003	20.27622509	n/a	19.71132731
11-01-2011	7.351701084	20.80231544	21.23506072	21.29932376	20.68530443	26.09564478	30.4122654	20.30726162
10-31-2011	20.82508655	21.66363797	21.91324889	21.76103333	21.92803716	21.86174898	2.249380623	21.40788096
10-30-2011	19.65589485	20.18174971	20.34185393	20.57597014	20.40058314	20.49279789	21.4709195	20.02143357
10-24-2011	20.45648657	20.66046108	20.72505379	20.9127094	20.62506814	20.70878199	20.16413566	20.42349554
10-23-2011	19.78483773	20.45486174	20.56023994	20.65102532	20.74116076	20.74608234	21.1345099	20.18153778
10-21-2011	20.02807416	20.52430539	20.60460475	20.81416019	20.91525261	21.15325427	21.54949984	20.13062657
10-18-2011	19.52009238	20.20732306	20.58011462	20.47925768	20.60382766	20.60698312	19.68492978	19.48394589

Figure 1: A comparison of Jupiter's time profile over 11 different nights for the various filters. There are a couple outliers, and they are a result of artifacts in the data and should probably be ignored for any analysis performed on the data

2 Future Considerations

Next week I will find average values (excluding outliers) for the FWHM in each filter. From there I hope to produce a plot that will give some indication of the differences in what the photometer is picking up depending on the wavelength of light. Other important characteristics are the maximum photon counts the photometer receives, which should offer some insight into what is occurring within the instrument itself. This data will also likely be analyzed using some type of plot