



SARA-KP OBSERVATORY DIRECTOR'S REPORT

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by

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I. Introduction

The April 2024 – October 2024 observing period occurred with very good spring weather and very minimal equipment/instrument issues. A very wet end of June period predicated an early onset of the monsoons and the observatory summer shutdown occurred at the beginning of July with an initial restart to observing at the very end of August. Fall observing has also seen minimal problems although weather perhaps worse than typical.

II. Telescope Usage

Table 1 on the next page illustrates the statistics for use of the telescope compiled from the observer's report archive. The format remains simple percentages for the hours used for data acquisition versus the hours lost due to either weather or technical issues from the nightly observer reports. The last column lists the number of nights for which a report was not filed for each month. For this calendar period, ~40% of scheduled nights (not including the summer shutdown for all of July and August) had no report filed. Board members should note to remind all observers of the importance of these reports, even for nights never used due to weather or other issues. From the existing reports and spot checks of the KP nightly observer logs, it is clear many unreported nights were simply due to extended poor weather periods. However, it also seems clear that many clear nights still go unused by any observer.

With a very wet weather cycle present at the end of June, the decision was made to commit to an early monsoon shutdown while ACE had staff available for the work. Thus, the observatory was closed for essentially all of July and August. No work was done at the observatory or on observatory equipment during this summer shutdown period.

Table 1: Telescope Usage Statistics for April 15, 2024 through October 15, 2024

Month	Hours Worked	Clear	Weather Losses	Tech Losses	Unreported Nights!
April- from 16th	54	97%	0%	3%	9
May	165	94%	5%	1%	10
June	94.5	73%	27%	0%	13
July	SHUTDOWN	0	0	0	0
*August	SHUTDOWN	0	0	0	0
September	125	80%	19%	1%	13
October to 15th	42	50%	25%	25%	7

*Bill Keel attempted initial reopen on August 30/31 for DragonCon Outreach but too cloudy for any real use.

Tech losses were very minimal and none appeared due to any major failure. There were a few reported communication issues but likely local to the observer in origin. Some initial question of the ARC ccd cooler's behavior upon startup at the end of August quickly stabilized. Other incidences of lost time were mainly due to various glitches requiring system restarts and resets to fix the problem. The only major problem was the camera control computer going offline in October. This was fixed with a patient restart of the computer and software but observers were not clear on the procedure.

III. Observatory Issues

At the time of this report, the observatory is fully operational. All instruments including the telescope and dome control appear to be working nominally. The ARC ccd is cooling, shutter working, filter wheel working, and spectrograph working. There remains an issue with Maxim DL occasionally losing communication with the guide cameras (both for the main imager and for the spectrograph). The cameras do quickly reconnect, but long exposure images can be lost along with the time to reset the software, both very inconvenient. The cause and therefore any fix are unknown so observers are just reminded they should keep an eye on such guiding use. Telescope pointing and tracking occasionally needs to be reset, more typical for west HA positions as the historically chronic issues for large west HA's remain. {I'll note I was able to successfully track Comet C/2023 A3 down to 25 degrees altitude for a spectrum attempt but was able to assist guiding in real time.}

Although its control software typically needs restarting, the weather station has been working and the new PZT dome camera has been working very well. Observers are able to access the mountain weather stations and all-sky cameras. The mountain LTO's do monitor "dust" in the air so observers should make a habit of always checking the mountain Dome Opening Status. They should also be aware that the LTO's will often not update that status efficiently if conditions change for the good during a night.

I'm certain the primary mirror was not aluminized during summer shutdown as we had hoped would be done, ACE dealing with major dome issue at RM and loss of key employee. That will need to be planned for and scheduled ASAP to insure it can be done next summer. The gain in flux that would result is both the easiest and most significant way to improve observations all around! There is still no All-Sky camera from ACE for the dome but again the mountain camera is accessible. Long term concerns are for the reliability of the ARC camera and cooler (systems getting very old although somewhat new parts in place last year) and for the control card hardware for the ACE system (again very old and somewhat without the availability of spare parts). Both items will be very expensive to replace but are also points of failure that would result in a very long, extended downtime for the observatory.