

HET Users Committee

Meeting Minutes 2021 September 22

Present: UC Members: W. Cochran, W. Kollatschny, M. Fabricius, C. Morley, D. Fox,
Ex-Officio: S. Janowiecki, G. Zeimann, G. Hill, H. Lee, P. MacQueen
Guests: N. Drory

HET Auto-Scheduler Project: Niv Drory reported that progress has been steady but slow. They can not yet do their desired testing due to bearing wear on the tracker (lower X). They have been working more on fundamental code design efforts rather than application on the telescope. The OCD functionality of running HETDEX is integrated into a GUI tool. They can now test manual scheduling of individual target. They still need to do more work on auto-scheduling targets outside of HETDEX. They need to define an appropriate merit function for non-HETDEX targets, and will seek Users Committee input for this. Testing will be done in daytime to avoid loss of valuable night time. The goal is to integrate the current functionality of OCD and HTOPX into the final GUI. Niv would like to have a general users town hall with HET users to get their input into how everything will be implemented. Such an event will be most useful if the users are presented with concrete questions. The Users Committee will work with Niv to plan and coordinate this town hall.

We will hold a joint meeting of the U.C and Niv's group in early November.

Instrument Reports

LRS2: (Gary Hill) Everything continues smoothly. The web pages were recently updated to improve information content. The instrument is demonstrating good system response calibration. One can now get line ratios between LRS2/B and LRS2/R to a few percent (5%) that are reliable. A spare computer for LRS2 will soon be going to McDonald.

HRS: (Phillip MacQueen) Work on HRS is resuming. The wind-down of major VIRUS support in Austin has freed 2.5 labs in PMA, one of which has been reassigned as an HRS lab. The existing HRS hardware has been moved into this new lab. The various mechanisms are being connected to upgraded computers for operation. The HRS group is working on priorities for completing the HRS subsystems. They are still lacking some necessary engineering staff and resources.

VIRUS: (Phillip MacQueen) There are now 78 units in operation! Each unit has 2 CCDs, each with 2 amplifiers. 294 out of the total 312 amplifiers are working in specification, which corresponds to ~73 fully functional equivalent VIRUS units. This is very near the HETDEX specification. VIRUS has now produced over 17 million FITS files. There are a small number of amplifiers that are out of spec for various reasons: bad CCD silicon, amplifier issue or spectrograph issues. Next week they will retire one VIRUS unit and replace it with a new unit. They are working to improve the image quality (mostly focus) of some units, and are close to deploying ion pumps on all units. A new computer will separate array tasks from data processing tasks. Good progress has been made on fixing the multiplexer issues.

HPF: no report

Operations: The time deficit for UT is now down to 25 hours. The night operations team is now fully staffed. Plot of usage of time showed that many P2 and P3 targets were getting observed early in the trimester.

Software: All of the automated data processing pipelines are running smoothly. Work is progressing on an HPF telluric spectral library and completion is anticipated by December. This project will then flow into a similar library for LRS2. Software development for the VIRUS parallel survey is progressing. A paper on the VIRUS parallel catalog is being written. (N.B.: The parallel survey owned by HET, not by HETDEX consortium. So the parallel survey data will be available to HET partner institutions, and not to all HETDEX collaboration members.) So far there are about 200k unique continuum objects. Objects are extracted if they were in the PANSTARRS catalog. Spectra will get classified by the code DIAGNOSE. Multiple spectra of a given object are not yet combined. There are about 800k individually observed spectra. The software will enable a user to extract data from any desired location by inputting RA/DEC and then getting back the available spectra. The TACC file system has been successfully moved back to previous designations. Stampede2 now in routine use

An inquiry was made about current HET about dome seeing. H. Lee replied that we don't yet know the contribution of dome seeing to overall IQ. We have quantified other fixed hardware contributions. We have also started acquiring ultrasonic anemometers to measure wind motions inside dome and ultrasonic temperature variation. From these we can estimate index of refraction variation in dome, which cause the 'dome seeing'. So significant progress is being made in this direction.