HET Users Committee
Meeting Minutes 2022 October 28

Present: UC Members: **W. Cochran, W. Kollatschny, D. Fox**, **J. Chisholm,**
                          C. Morley, C. Gronwall
              Ex-Officio: **G. Zeimann, G. Hill**, **H. Lee, S. Janowiecki, P. MacQueen**

The HET Users Committee recommendations to the HET Board to permit HET partner TACs to distribute as much as 13.3% of their total HET allocation as P0 time for partner science programs was approved by the Board at their September 2022 meeting.   The goal of this recommendation is to provide increased access for dark time high priority non-HETDEX science, while not impacting HETDEX completion. This change was implemented in time for the 2023-1 HET trimester.   The UC Chair thanked the UC members who worked so hard to formulate and implement this new policy.

HET Autoscheduler Project: (Janowiecki) HObS has been used successfully at night to observe HETDEX fields, in place of OCD.   The HObS GUI has expanded significantly to provide more feedback during observations.   There is still significant software development underway to improve a number of aspects.   Completion of a number of upcoming milestones is anticipated:

- Manual scheduling of targets from all spectrographs, e.g. Pr0 to interrupt HETDEX, targets to fill gaps, etc.
- Predict Collecting Efficiency for targets in schedule based on current sky conditions and timing
- Real-time display of suitability of sky/track conditions for scheduled targets
- Calculate an "urgency" parameter for each target in the queue, to support future auto-scheduling plans and modified priorities.   Derek Fox will work with the HObS group to help implement a modified priority strategy similar to the one which existed prior to the 2013 HET shutdown.

Science Operations: (Janowiecki) Poor weather in August caused program completion to lag behind the desired rates.   Weather improvements are now helping completion.   Many HPF programs used Pr0 and Pr1 time early in the trimester, which has changed the overall strategy/"economy".

A new "Collecting Efficiency" (CE) parameter will be phased in over the next few trimesters. This will combine the current "transparency" with the pupil illumination, and will describe the overall efficiency for photons landing on the primary mirror within the telescope pupil. This will allow users finer control over the delivery of light for their targets. A target filling factor calculator https://het.as.utexas.edu/HET/hetweb/ProgramPrep/fill.html web page is available to help users understand and implement this Collecting Efficiency factor. The timeline for CE implementation is:

- reporting to PIs starting 23-1 (1 Dec 2022, give education, share details)
- educate PIs in 23-1, start using HobS to predict CE in scheduled targets
  - advice for rules of thumb for typical science cases, share statistics
- 1 Apr 2023, announce plans to migrate to CE by 23-3, update TACs/docs/etc (will require new planning tools, tweaks to proposals, etc)
- 23-3 trimester Jun/Jul 2023, CE required in 23-3 proposals 1 Aug 2023, CE required in TSL for 23-3 queue

The UC was asked for feedback on dropping the TSL use of the   parameter value of "21.0" to indicate that the observation *must* be done with the Moon down. At present, *any other value* of SKYBRIGHT is taken at face value, while the "magic number" has this special meaning. This special meaning would be replaced by a new MOONDOWN keyword.   This change will require educating users on typical sky brightness for each filter. The goal is to implement this by 1 April 2023 for 2023-2.

Software: (Zeimann) A new code, LRS2MULTI, is being implemented for LRS2 to replace the current panacea code. Notebooks are now being used by a few people, and the code will soon be released to all users.   Also, LRS2RAW has been developed to process large amounts of archival data on corral at TACC. These will all be described in an upcoming paper.   The REMEDY and GOLDILOCKS codes are still in routine operation.

VIRUS: (MacQueen) Currently all 78 units are in service. About 300 of the 312 total amplifiers are giving useful data.   The bad amplifiers are due to controller failures, and the failure rate is decreasing with time.   The ion pump project is complete, with all pumps installed and in routine operation.   This has greatly eased the workload on the operations staff.   There are still a small number of CCDs with poorly built thermal links.   These will be cycled through the Austin lab for rework.   A close-out of VIRUS implementation is near, which will enable a welcome transition to "maintenance mode" for VIRUS.

HPF: No specific report, as Mahadevan is on sabaatical. All users appear happy with the return of HPF to normal operations following the instrumnet warm-up over the previous trimester.

LRS2: (Hill) There is occasional higher noise on one amplifier in LRS2B. Controllers are being swapped to fix this issue.