

# Hobby-Eberly Telescope Observing Form Instructions

## (Version 10/04/2008)

These are the instructions for filling out the  $H_{\text{ET}}$  observing time request and progress report forms. The regular time request form should be used for new programs. The long-term status form should be used for new long-term programs, while the progress report form should be used to report on the progress of an **already approved** long-term program. The forms have similar cover pages. The time request form has a scientific justification section and several other sections thereafter, while the progress report only has a section for reporting progress to date.

Long-term status requests can be made only in the first proposal cycle of each observing year (October deadline). Even requests for long-term status only in the 2nd and 3rd trimester should be made by the October deadline. Long-term proposals should indicate clearly the number of trimesters for which long-term status is needed (up to 3 trimesters) and the request for long-term status should be justified carefully in the same section. The detailed policy on long-term status programs is available on the PSU local-access HET page. All proposers are advised to read this before submitting a request for long-term status.

A summary of instructions is also included in the  $\text{\LaTeX}$  file containing the form, but the instructions given here are more detailed. Proposers submitting requests for long-term status should also read the detailed long-term program policy, which can be found on the PSU internal HET web page.

It is the responsibility of the proposer(s) to read these instructions carefully, understand them, and follow them. A great deal of useful information on the current instrument and telescope properties and performance is available at the  $H_{\text{ET}}$  Resident Astronomer ( $H_{\text{ET}}\text{R}_A$ ) web site at

<http://het.as.utexas.edu/HET/hetweb/>

### Observing Request Summary

Summarize your time and instrument request and observational constraints. Timing and other constraints should be justified in later sections of the proposal (*e.g.*, in the *Scientific Justification* or in the *Experimental Design*). Entries should consist of pure numbers in the units given, or allowed options, as specified. Some of the entries in this summary are self-explanatory; the others are clarified below. In the case of observing constraints, if no constraint is desired give a sufficiently extreme number (see specific instructions below).

If this is a progress report, just summarize the time request and observational constraints for this trimester only.

**EXPOSURE TIME / TOTAL TIME.** – Give both the net exposure time and the total time requested in hours. The total time should include overhead as applicable. After completing the proposal, check your own entries in this section against the accounting summary at the end of the proposal. The current overhead rate is 10 minutes per visit for the MRS and HRS and 10 minutes per visit for the LRS. In the case of a *long-term proposal* you should give a detailed breakdown of the time request and number of targets for all the trimesters for which time is requested, as well as the total, as well as the totals for the entire program. In the case of a *progress report*, the requested time and number of targets on the cover page should refer to this trimester only.

**COLLABORATIVE PROPOSAL.** – Those proposals that represent a collaboration between the  $H_{\text{ET}}$  partner institutions. For such proposals, the time request should include only the PENNSTATE share of the time. Explain in the *Description of Observations* how the total time is divided up between institutions.

**MAXIMUM SKY BRIGHTNESS.** – Specify the desired sky brightness as **D** (dark; near new moon), **G** (grey, near 7-day moon), or **B** (bright, near full moon), or **N** (no constraint). Do not leave this entry blank and do not use combinations of the allowed letters (one allowed letter only). If you can use dark or grey time, for example, then enter “G”. **Note that** the sky brightness as seen by the H<sub>ET</sub> appears to be 1–2 mag higher than what one might expect, namely: 0-day moon →  $\mu_V = 20.8 \text{ mag}/\square''$ , 7-day moon →  $\mu_V = 20.4 \text{ mag}/\square''$ , 14-day moon →  $\mu_V = 18.0 \text{ mag}/\square''$  (see the relevant H<sub>ET</sub><sup>R</sup><sub>A</sub> web page).

**MAXIMUM SEEING.** – The maximum acceptable seeing (*i.e.*, image quality) for your observations. Consult the relevant H<sub>ET</sub><sup>R</sup><sub>A</sub> web page for the most up-to-date statistics and make your choice accordingly. If you do not want to impose a constraint set the maximum seeing to 10''.

**SKY TRANSPARENCY.** – Choose one of the following: **P** (photometric,  $\geq 95\%$ ), **S** (spectroscopic, 50–95%), or **N** (no constraint).

**SPLIT EXPOSURE.** – Give the maximum interval of time (in days) over which the exposure can be broken up without affecting the scientific goals of the program. Enter 120 if no constraint is desired.

**SPECIAL CALIBRATIONS.** – The standard calibration observations (taken by default, without any special request) are described on the relevant H<sub>ET</sub><sup>R</sup><sub>A</sub> web pages. If you need additional or different calibration data, you should answer “y” to this question and give details in the *Description of Observations*.

## Scientific Justification / Progress to Date

Make your scientific case concisely and clearly. Do not overflow the allowed space, defined by the box. If this is a progress, summarize the status of the data obtained in previous trimesters. Do not neglect to give the trimester in which this program started and the original program number. Figures, tables, and references, up to one page, can be added on the following page. See the instructions in the L<sup>A</sup>T<sub>E</sub>X file, in the block just after the *Contingency Plan*.

## Contingency Plan

Describe briefly how the scientific goals of your program will be affected if only a fraction of the requested time is allocated. Give the minimum time (or sample size in case of survey programs) and/or target requirements to attain a meaningful scientific result. Do not to overflow the allocated space (bounded by a box).

## Experimental Design

Describe the strategy and scientific requirements for your observations. Explain how the scientific goals of the project dictate the choice of instrument, instrument configuration, and exposure time. Also describe the path from the data to the conclusions (e.g., what do you aim to measure and how well do you need to measure it). Give enough information for the TAC to evaluate the feasibility of the observations. There is no formal page quota for this section, but please be concise.

*If you are requesting long-term status* you should make the case for your request in this section. The arguments should be placed in the context of the PSU long-term program policy, which can be found on the PSU internal HET web pages. The target list of long-term proposals should include all targets (or representative examples, if the list is large). The division of time and objects among different trimesters should be explained in this section. For example, (a) if you are carrying out a survey and the objects are divided among trimesters according to their location on the sky, you should explain it, or (b) if you are monitoring objects for variability and you have multiple visits in different trimesters you should explain it. In other words make clear to the TAC how you have planned your observations.

## Description of Observations

Describe the strategy and scientific requirements for your observations. Give enough information for the TAC to evaluate their feasibility and for the H<sub>ET</sub> resident astronomer to understand how to carry

them out. Any requests for non-standard calibrations should be described in this section and the calibration targets should also be included in the target lists.

OBJECT TABLE. – For large surveys, only enter enough objects to show the range of observation parameters. But you should give the total number of objects so that these can be counted correctly in the automatic accounting summary. *If you are requesting long-term status*, list all the targets for all the trimesters in your proposed program.

EXPOSURE TABLE. – The instrument configuration should be described using Phase II notation, but with underscores replaced by spaces. For example, for an LRS configuration such as LRS\_g1\_1.5\_0G515, you should enter LRS g1 1.5 0G515. For more details about Phase II notation see the  $H_{\text{ET}}^{\text{R}}$  web pages on target lists. For large surveys, you need not enter a list of all objects. But you should give the total number of visits (OBJECTS  $\times$  VISITS PER OBJECT) and the **average** exposure time per visit, so that the total exposure in the automatic accounting summary is correct. *If you are requesting long-term status*, list all the visits and exposures for all the trimesters in your proposed program.

OBSERVING AND TARGET NOTES. – Give any special instructions or special notes for individual targets here. Number your notes and use the same number in the Exposure Table, above, to indicate an association between notes and targets.

### Results from Previous $H_{\text{ET}}^{\text{R}}$ Observations

Describe the results of observations that you carried out with the  $H_{\text{ET}}^{\text{R}}$  in the past three trimesters. If this proposal is a continuation of a previous observing program, summarize the results to date (*e.g.*, number of observations, status of data reduction, publications). If this is a new proposal, describe the status of unrelated  $H_{\text{ET}}^{\text{R}}$  programs. If you did not receive time in the past year, you may describe the status of older programs. At any rate, keep the description short and do not include too many references; focus on descriptive information.

*If this is a long-term proposal*, Describe the status of your two most recent long-term programs. If you have only had one long-term program ever, describe just that. If you have never received long-term status before, describe your regular programs within the past year.