

## Designating Priority Level(s) for Your Program

Time allocations in the NEID Queue are divided into 5 "priority" levels, which help to schedule observations requiring stringent timing or rare observing conditions with less chance of conflict with competing programs which may be schedulable on many different nights during a semester. The priority allocations also help to balance usage of queue time among partners. Proposers should request queue time at certain priority levels and TACs will award time to programs by priority level. The distribution of total queue time by priority level, from the highest priority (P0) to lowest (P4) is: 8%, 17%, 25%, 25%, 50%. These time allocations overfill available time in order to help keep the queue full. This, along with time lost due to weather and other factors, results in incompleteness. Below is a brief description of the NEID priority levels to help proposers identify the priority levels for their programs that best match their requirements.

**P0:** The highest priority level and appropriate for extremely time sensitive long-duration observations, especially if there are few possible opportunities available during a given semester. Also appropriate for shorter observations with very stringent requirements to their epoch of observation.

**P1:** Appropriate for time sensitive observations, such as RV measurements at quadrature, periastron, or a small number of observations evenly-spaced in orbital phase. Appropriate for long-duration observations, but with multiple possible epochs of observation during the semester (~4 or more).

**P2:** The lowest priority for science requiring a very high completion percentage under good conditions, such as a proposal requiring a large number of observations spread over many nights. Appropriate for long-duration observations that have quite a few possible epochs of observation during the semester (~8 or more). This is the lowest priority that should be considered eligible to schedule long observations with strict timing requirements, such as a sequence of spectra spanning an exoplanet transit.

**P3:** Appropriate for programs that can tolerate suboptimal observing conditions, are not time sensitive, and can tolerate some incompleteness.

P4: Similar to P3. Also good for proposals to observe an arbitrary subset of a large number of targets spread around the sky, such as single spectra of any of a large number of TIC stars. Because observations requested with P4 time will tend to have the lowest chance of being completed, consider requesting higher priority, but describe for the TAC how P4 time and the potential incompleteness would affect your program.

### Caveats and Other Advice

It may be instructive for proposers to consider the amount of NEID queue time available during the semester at each priority level. This is dependent on the queue partner, and whether the partner has a fixed amount of queue time. For GO proposers, who will be proposing to use NN-EXPLORE time, the amount of telescope time available for allocation by the TAC in a given semester of 46 NEID queue nights is (assuming 10 hours/night and including the 25% oversubscription):

Priority	% at This Level	Total Hours
P0	8	37
P1	17	78
P2	25	115
P3	25	115
P4	50	230

Note that there is a relatively small amount of time at high priority levels, thus it's a precious resource and will be in demand by many programs. Proposers are encouraged to be mindful of the scarcity of high priority time and to carefully consider whether their programs can be executed with lower priority time, or a combination of high priority and low priority time. Proposals that can make use of lower priority time would be quite useful to keep the queue scheduled at all times.