Lick Observatory Strategic Planning Committee Minutes

November 29, 2007

In attendance: Graeme Smith, Burt Jones, Don Gavel, Jason Prochaska, Alex Filippenko, Matt Malkan, Geoff Marcy, Maureen Mclean, Jacky Leighton, Mike Bolte, Josh Bloom, Gabriela Canalizo, Bryant Grigsby, Rem Stone, Michael Bolte, Burt Jones

Absent: David Tytler, Ellinor Gates, and Steve Vogt

UCO Director opened the meeting by thanking the members for serving.
Survey:

Burt Jones reported briefly on some areas of consensus from the first meeting. There was general agreement that there needs to be more emphasis on education and public out-reach at Mt Hamilton in the future. There was agreement that in the UV and ir the Mt. Hamilton sky remains good. Even with brightening skies, KAST will continue to be a workhorse instrument. Remote observing will grow in importance, and should be supported.

Burt Jones reported on follow-up from the last meeting. In the last three years 53 graduate students have been PI or on 3m proposals. A box has been added to the Shane time proposal form asking how much time would have been requested if no internal limits are imposed. For 2008A that amounted to an additional 215 nights for 2008A, in addition to the 343 requested nights. Based on a survey of Shane users, there was a minimum of 74 publications based on Shane data in the last three years.

The committee then went in to break-out sessions to consider Science landscape in 2020, observing models, EPO, and instrumentation. After each breakout session the committee reconvened as a group to report on the discussions.

Science

There was agreement that spectroscopic follow-up to the large surveys on the horizon would be an important niche that Lick should fill. The follow-up from Lick should not be in the IR, (the Shane is too small), but the optical UV looks fruitful. Lots of time would need to be devoted to these kinds of programs for them to be successful.

AO-based astrometry over wide fields could lead to all kinds of applications in survey mode (e.g. preimaging of supernovae).

The APF has terrific potential as a rapid follow-up instrument (slew time and acquisition), and has a huge potential for ToO observations where speed is essential.

There was a discussion about Lick large-scale surveys. Wide-angle surveys are perhaps not the strength of Lick. The only possible window is the near-IR.

Observing models

There was general agreement that large/high impact programs and ToO observations are valuable, and time should be set aside for such programs. For ToO observations, there is a need to have the ToO members involved in the observations, preferably at a remote site. There was not agreement on going to a Service Observer or queue observing mode. For service observing or queue observing, Lick needs scriptable and stable instruments. Some expressed a strong desire to keep a classical observing mode, at least for a significant fraction of the time. We need to consider the value of graduate student training at telescopes in the future.

There was general agreement on the value of the Shane for Postdocs and graduate students, since they cannot be PI's on Keck proposals. The question of whether we should set aside a fraction of time for them was left open

Education/Outreach

There was general agreement among the groups that we need to do more. Resources are a problem. We need more personnel if we want to expand our programs, and that requires increased spending. Possible sources are fund-raising (which Bolte is pursuing) and tapping into NSF/NASA grants to faculty. Some ideas (not all inclusive) brought forward were:

- Giving the buildings on the mountain a facelift.
- Opening a public restaurant or snack bar.
- Changing and expanding the concert series (rock, dancing)
- Have a large annual event.
- Have prime focus rides for a fee
- Instituting a science teacher program
- Instituting a summer under-graduate program

- Collaborating with local institutions (Exploratorium/Tech Museum/Chabot)
- Carrying through the safety modifications to the 36”

Instruments

There was not general agreement on what new instruments were needed. Some suggestions were:

- A Hamilton CCD upgrade would gain a lot. A complete redesign of the Hamilton could gain a factor of 4-5 over existing design. This would not only benefit Shane users, but also CAT users (the CAT has received heavy usage recently).

- A spectrometer for lambda>630nm that could utilize AO-size slit.

- A low-medium resolution UBVRIJHK multi-arm spectrometer would be valuable.

- Cass bay that would allow rapid instrument shift

- A new IR imager and a new optical spectrometer for the Nickel.

- Improvements to the Shane AO system. It was designed around K-band, and does not reach diffraction limit shortward of K. It needs better camera sampling, higher-count deformable mirrors, and more laser power.