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Operations Corner

Gemini news you can use. Highlights of current operational issues and changes, progress with instrument upgrades and repairs, and opportunities for our users. This installment highlights work on GMOS-N&S, GNIRS, a successful (and very quick) supplementary call for proposals with T-ReCS, and news on Gemini's newly planned visitor instrument program.

Gemini South

The Gemini South Multi-Object Spectrograph (GMOS-S) was offline from September 17th to October 8th, following a failure in the MOS mask exchange mechanism. Most of the functionality was restored by the second week of October, with the Integral Field Unit (IFU) following later. All in all, spectroscopy was offline for three weeks, and the IFU for five.

Queue scheduling helped greatly in this case. It provided the obvious flexibility to operate other instruments (and continue with GMOS imaging) while spectroscopy was offline. It also allowed us to move some high-priority observations from the south and execute them in the north. GMOS failed because a mask was not fully retracted into its cassette before the cassette exchange moved sideways. Work is in progress to ensure that this does not happen again, at either Gemini South or North.

During the downtime for GMOS, a "special call" was put out for observations with the Thermal-Region Camera Spectrograph (T-ReCS) to ensure that the queue could continue productively. This call received a very strong response, with more than 50 proposals received, far exceeding the available time. A rapid response put about 15 of these programs into the observing database and we were ready to observe them within a few days of the call going out. In the end, these observations met with limited success due to poor weather, but observations of more than a dozen targets were carried out successfully.

The Gemini Muti-Conjugate Adaptive Optics System (GeMS) returned to the telescope and began a series of engineering runs; a call for System Verification proposals produced some 29 applications, from which 13 were selected. We also had a welcome visit from François Rigaut, now based in Canberra, Australia, to take part in one of the commissioning runs. The commissioning has proved to be challenging, with a combination of instrument problems and laser issues; a lot of work remains to bring GeMS to early science operations, scheduled to begin within 2013A. However, every night on the telescope produces a system that is better understood and more easily run.

Gemini North

The Gemini Near-Infrared Spectrometer (GNIRS) was removed from the telescope in June – the commencement of a four-month engineering period aimed at remedying mechanical unreliability apparent on the telescope since 2011. The engineering was carried out by the GNIRS team, and produced significant improvements in positioning of the acquisition mirror and grating drum. The instrument recently returned to the telescope after successful lab testing, and recommissioning is ongoing.

One of the outstanding issues – replacement of camera lenses with non-thoriated-coating lenses – was not completely resolved, because the team discovered a crack in one of the other lenses in the short-red camera barrel. The risk of the crack propagating was too great, so this lens will be replaced during a short engineering break (approximately a month) in the northern summer of 2013. The thoriated-coated camera lens in the popular short blue camera was successfully replaced, leading to a factor of ~40 decrease in the radiation event rate on the detector.

Visiting Instruments

Gemini North welcomed a visiting instrument in the northern summer of 2012. The Differential Speckle Survey Instrument (DSSI), a speckle camera, and its team of investigators led by Steve Howell, came to the telescope with an allocation of ten hours of Discretionary Time spread over a week of observing nights (see page 5 of this issue). Both the instrument and the telescope performed well, providing superb resolution. This visit was truly exciting for everyone involved, and it went about as well as we and the instrument team could have hoped.

The excellent results (and their quick publication) show how well a visiting instrument can do at Gemini. A policy for visiting instruments has been under development and was recently agreed upon by the Gemini Board of Directors. It will be posted on the web shortly. This allows for the offering of successful visiting instruments to the community, and we anticipate doing this with both Speckle and TEXES (a high-resolution, mid-infrared spectrometer and previous visitor) in the 13B call for proposals.

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