



SALT Board Meeting #35 SALT Science Director's Report

**4-6 June 2014
University North Carolina
Chapel Hill**

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21 May 2014

This report is a compilation of the three Board Executive Committee reports (BEC #52, #53 & #54) presented since the last Board report at meeting #34 in Nov 2013. Developments since the last report of BEC #54 (16 May 2014) will be presented at the meeting.



SALT BEC#52 SALT Science Director's Report 22 January 2014

David A.H. Buckley
SALT Science Director & Astronomy Operations Manager

Summary

HRS commissioning continued and Science Verification programs were initiated during this review period. Progress has been steady with various teething troubles being addressed. From data in hand, all indications are that the performance specifications are on target. Some technical issues and poor weather, including power and internet outages from floods, have conspired to reduce SALT science efficiency during the semester. The next proposal call was prepared and 2014-1 semester (May – Oct) are due 31 Jan 2014. SAMS testing has continued, both at FOGALE and at SALT, and we foresee the FAT followed by delivery of the first batch of sensors happening before the end of Feb.

1. SALT Observing Statistics: 2013-2 Semester

Monthly statistics for the two full months completed are summarized in the following table.

Observing Statistics for SALT 2013-2							
Month	Median Night Length (hr)	Fraction of Science Time	Fraction of Engineering Time	Fraction of Time Lost to Weather	Fraction of Time Lost to Technical Problems	Fraction of Time Charged for Science	Fraction of Shutter Open Time
Nov 2013	7.06	0.37	0.28	0.27	0.08	0.22	0.15
Dec 2013	6.39	0.44	0.07	0.36	0.09	0.33	0.17
Jan 2014*	6.53	0.20	0.03	0.49	0.10	0.08	0.05

*to date

On the basis of the actual *available* science time (averaging ~35% compared to expected 55%), the completion rate for charged 2013-2 programs at this stage (with ~45% of the semester completed) should be ~27%. In reality the completion rate is more like ~19% on average (26 – 27% for P0 & P1). The difference reflects additional time taken for HRS commissioning and Science Verification. With less intensive SV observing going forward, and the better weather we are now experiencing, we anticipate improvements in the rate of program completion.

2. Astronomy Operations activities

2014-1 proposal call

The proposal call document for semester 2014-1 was revised by Ast Ops ahead of the 17 Dec call and posted on the SALT for Scientists webpage. Changes since the last call include:

- new information on HRS.

- BVIT iris was closed slightly, reducing the field of view, in order to lower overall background counts and avoid use of ND filters.
- Subtraction of a master bias frame for faint/slow mode on RSS is now suggested. As such, bias frames for faint/slow mode are now part of the default calibration and the pipeline will start applying them during 2014-1.
- There is a website giving all up to date telescope and instrument information: <http://salt4scientist.salt.ac.za/>
- By default acquisition images are not expected to be of science quality. A note explaining this is included
- Long term proposals are now accepted and the Phase 1 PIPT caters for them.
- Director's Discretionary Time (DDT) policy is now defined.
- There is a new late submission policy for Phase I
- There is a new section in the Phase 1 PIPT to input a brief summary of the program for the general public.
- The template for the science case has changed which can be downloaded from: <http://salt4scientist.salt.ac.za/phaseiproposaltemplates/>.

The key dates for semester 2014-1 is as follows:

- 17 Dec: proposal call
- 31 Jan: Phase 1 deadline (giving ~5 weeks)
- 14 Mar: TAC decisions (giving 6 weeks, with ~1 week for tech reviews)
- 11 April: Phase 2 deadline (giving 4 weeks)
- 1 May: semester commences

Other Activities:

- Following some feedback with the SW Eng staff, the new SA logging system has been reviewed and will be implemented very soon. This will aid in efficiency and improve information content, reliability and automated queries.
- Tests were done on stay light (nominal) and additional flexure testing, particularly relevant for radial velocity studies (report being written)

Director's Discretionary Time proposals

To date two DDT proposals were accepted and observed in the 2013-2 semester:

- 3342s for an observation (on 13 Nov) of a new WISE source which is potentially a new brown dwarf (and possible binary) hiding close to the galactic plane at an estimated distance of 6 ± 2 pc (Vaisänen; RSA)
- 3560s for an observation (on 12 Dec) of a new transient X-ray pulsator in the SMC found in the Chandra archive (see ATel 5552) and recently (17 Nov) observed by SWIFT and identified as a probable new Be X-ray binary (Bartlett; RSA/UKSC)

3. Instruments

RSS-VIS

RSS-VIS is in routine operations and has been quite reliable in general, notwithstanding occasional glitches with the slitmask and the odd PCON control issue, which are now few and far between.

The monochromator has been installed, tested and commissioned. It will aid in the calibration of Fabry-Perot modes. The replacement Fabry-Perot controller for LR mode has been successfully installed.

Additional flexure tests were done in Dec and a new pinhole mask is about to be fabricated to allow for additional image quality characterisation.

RSS-NIR

The main achievement in this reporting period is the fabrication of the dichroic by *Infinite Optics*, which according to the latest report is not ideal but is probably acceptable. The crossover position is within spec, whereas the width is 90nm compared to the specification of 40nm. The near IR transmission spec is met but the UV-VIS reflectivity spec is missed in the UV (320-340) by 4% and VIS (340-817) by 2%. The original spec, based on JDSU (a past potential supplier), was probably too optimistic, since current models, which have more plausible UV absorption numbers, are closer to what is actually seen. It seems unlikely that much of an improvement can be made on the current dichroic performance.

Ken Nordsieck has completed his review and analysis of the Wasatch data for the fabricated VPHG and the measurement results gathered by Chris Clemens. Overall, the grating meets, or is close enough to the specification, to be acceptable. For example, the measured peak efficiency is 85% while the specification is 89%.

The vendor has completed to pre-dewar cooling system design which Mike Smith is currently reviewing before presenting it to SALT Tech Ops for comments and inputs.

Monthly progress meetings on RSS NIR will be re-instigated shortly, involving both UW and SALT/SAAO, as happened previously for RSS VIS (and NIR).

SALTICAM

No change in status since the last report. It is hoped that the guidance system will be recommissioned soon.

BVIT

The iris diameter was decreased by 10%, so it is currently set at a diameter of 1.3 arcmin. This was done to help decrease the global count rate for crowded fields in order to avoid using ND filters. This is important in attempting to observe fast varying faint targets, like pulsars (an observation of PSR B0540-69 seems to have detected the pulsar optical counterpart).

HRS

The HRS Science Verification (SV) programme began on 9 Nov and continued until 19 Dec, during which time observations were obtained for 15 out of the 21 accepted proposals (plus some on-going commissioning observations). The SV programme began again on 22 Jan and will continue, albeit at a lower level, until the end of the semester. The observing efficiency to date was somewhat compromised by a combination of poor seeing conditions and initial payload/FIF reliability issues, which have been improving steadily. The instrument efficiency is of course crucially dependent on the FIF guider performance and how well the telescope's image quality is maintained.

A preliminary draft of the commissioning report has been produced by Durham CfAI, together with an update on the ATP testing results. All indications are that the main instrument performance specifications (e.g. resolution, wavelength coverage and throughput) are being met. Radial velocity stability is still being tested and has only really been possible since the temperature control of the enclosure has been stable, which now seems to be the case at last. The latest results indicate stability in the HS mode is ~ 8 m/s, but this was before the temperature control issue was resolved. Further stability testing began in earnest from 16 Jan and we hope to have a continuous set of data to address this over the coming weeks and months. An initial meeting of the HRS ATP committee will be held shortly to review performance and deliverables.

Good progress has been made on the “quicklook” reduction tool run at the telescope, which is due to be implemented in the next few weeks. Parallel to this is the development of the instrument GUI, which will be installed and commissioned towards the end of Feb, when Eddy Younger (Durham) will return to SALT.

4. SAMS Progress Report

Following on from the report at the Nov Board meeting, intensive testing has continued both at FOGALE and SALT, particularly long term (5-13 day) continuous sensitivity tests. Our investigations have highlighted some issues relating to the FOGALE testing, mostly a consequence of the somewhat inferior test setup (compared to ours at SALT). This has meant that some hysteresis/repeatability effects have been seen in FOGALE’s testing, albeit at a low level, which is likely to be due to their test set up rather than the sensor itself. That said, the sensor test results indicate that the sensors are performing within specification and the long term sensitivity tests are very encouraging. However, we desire to know as much as we can about the sensor’s performance during Phase I (culminating in the delivery of the first batch of 24 sensor for the 7 segment sub-array test), so we are doing as much testing as we can at this stage to mitigate any technical risks.

To ensure success and reduce technical risk, the Factory Acceptance Test (FAT) has now been divided into a provisional FAT, to be held at FOGALE, followed shortly thereafter by a final FAT at SALT. This was jointly decided given the inconsistencies mentioned above in the environmental results collected at FOGALE, where their experimental setup is thought to be responsible. All 3 sensor pairs intensively tested at SALT have not shown the same issues and are all comfortably within the overall error specification.

Progress with SAMS since the Board meeting in November 2013 can be summarised as follows:

1. Work has been ongoing on the characterisation and validation of the 3 sensor pairs sent to SALT.
2. We’ve independently shown the temperature sensitivity to be linear and repeatable over all temperature regimes including sub-zero temperatures. There is no long-term change in the behaviour of the sensor.
3. The relative humidity (RH) response has been reduced and made very repeatable after some improvements to the connector and cabling. We’ve tracked down two exposed joints introduced during the assembly of the sensor. After some experimentation sealing them with conformal coating and epoxy, we have eliminated the sensitivity completely on 1 sensor pair and reduced the residual error to 5nm on the other 2 pairs.
4. All 3 pairs we’ve validated and characterised comfortably meet specification under all environmental conditions.
5. The remaining sensors (21) required for phase 1 are being validated at FOGALE’s facility in preparation for the FAT. An ongoing problem has, however, been the inconsistency of their results. We are certain that their experimental setup is largely responsible for this. To accelerate the completion of the FAT, a decision has been jointly made that we validate the sensors at SALT using our test facilities over which we have better control.
6. FOGALE will continue to validate other aspects of the specification requirements, including EMI sensitivity, dynamic response, metrology and temperature sensitivity. This provisional FAT will take place in mid-February as a precursor to the final environmental validation at SALT, which will conclude the FAT portion of phase 1.

Key future milestones:

- a. Delivery of all the hardware (sensors, electronics, cabling) is scheduled to take place end-Feb.
- b. The final portion of the environmental testing at SALT for FAT is expected to take approx 3-4 weeks.
- c. Installation of hardware on the telescope, commissioning and testing early April.

5. Staffing Issues

Alexei Kniazev (SA) had a recurrence of his stomach problems at the start of his SALT week just before X-mas, necessitating his return to Cape Town and a replacement SA for the week. He has had further medical consultations and is expected to be fit for his next run towards to end of Feb.

Brent Miszalski was appointed as SA to replace Amanda Gulbis, beginning on 1 Jan.

Eric Depagne, appointed as SA to replace Tim Pickering, is expected to arrive next month, once his work permit/visa applications have been processed.



SALT BEC#53

SALT Science Director's Report

26 March 2014

David A.H. Buckley
SALT Science Director & Astronomy Operations Manager

Summary

HRS Science Verification programs continued during this current review period, but were recently curtailed due to a problem with the mode selector subsystem, which is currently under investigation. Most of the SV programs have been completed as defined and some preliminary feedback have been received, although the majority of PIs are still to report back. Notwithstanding some initial weather issues and priority to HRS commissioning and verification, continued progress has been made on the 2013-2 SALT programs. A total of 100 proposals were received for the 2014-1 semester (May – Oct) by the 31 Jan 2014 deadline. These proposals were technically reviewed by Ast Ops and the TACS completed their allocation by mid-March, accepting 90 proposals. SAMS testing, both at FOGALE and at SALT, continued and the results obtained deemed to meet the requirements to proceed with the first phase of the Factory Acceptance Test at Fogale, which was successfully carried out from 12-15 March.

6. SALT Observing Statistics: 2013-2 Semester

Monthly statistics for the two full months completed are summarized in the following table.

Observing Statistics for SALT 2013-2							
Month	Median Night Length (hr)	Fraction of Science Time	Fraction of Engineering Time	Fraction of Time Lost to Weather	Fraction of Time Lost to Technical Problems	Fraction of Time Charged for Science	Fraction of Shutter Open Time
Nov 2013	7.06	0.37	0.28	0.27	0.08	0.22	0.15
Dec 2013	6.39	0.46	0.07	0.36	0.09	0.33	0.17
Jan 2014	6.77	0.44	0.06	0.38	0.06	0.35	0.25
Feb 2014	7.85	0.49	0.08	0.34	0.07	0.40	0.26
Mar 2014*	8.85	0.51	0.14	0.29	0.04	0.31	0.22
Mean	7.30	0.46	0.12	0.33	0.07	0.32	0.21

*to date

One the basis of the actual *available* science time (averaging ~46% compared to expected 55%), the completion rate for charged 2013-2 programs at this stage (with ~75% of the semester hours completed) should be ~62%. In reality the completion rate is more like ~56%, on average (64%, 65%, 56% & 53% for P0, P1, P2 & P3 priorities, respectively). The difference reflects additional time taken for HRS commissioning and Science Verification. With less intensive SV observing going forward, coupled with the

better weather which we have recently been experiencing, we anticipate improvements in the rate of program completion.

7. Astronomy Operations activities

2014-1 proposal call

A total of 100 proposals were received from the SALT community for the 2014-1 semester and all of them underwent a technical review by Ast Ops, completed by 17 Feb and passed on to the TACs.

The key dates for semester 2014-1 were/are:

- 17 Dec: proposal call
- 31 Jan: Phase 1 deadline
- 17 Feb: Technical reviews completed
- 17 Mar: TAC decisions communicated to PIs
- 15 April: Phase 2 deadline
- 1 May: semester commences

Highlights of Other Ast Ops Activities:

- The new SA logging system has been implemented.
- Night sky brightness with SALT, its absolute level and stray light contribution. Official report in prep.
- New throughput measurements in March. Analysis pending gain calibration results.
- Continued RSS characterization and wiki updates
- Discussion/planning with Janus about getting SALT acquisitions more efficient, esp. tracker offsets, positioning on slit etc.
- Throughput and MOS wiki page updates, SASTAC, and Call-for-Props web-page updates
- Updates and release of *Pysalt 0.47* including improved performance on spectroscopic data
- Updates for *saltfirst* for increased performance and data handling
- Investigating MR calibrations issues with Ted and developing Fabry-Perot parallelism code
- SDB at version 6.61 (updates for long term props, DDT, F-P calcs, nightlogs, RSS arc cal info, Solar System objects)
- OPT at version 6.61 (incorporates DDT & comm. props., added HRS radial velocity standards, lunar phase mods)
- Updates to simulator tools, PIPT and WM (save plots in ASCII, multi-semester capability, finding chart mods and for non-sid. targets, PR summaries, improved PDF summaries,
- Progress on automatic scheduling tool (implement before 2014-1)
- Website redesign implemented and reviewed
- Summary of SALT capabilities w.r.t. supporting future radio astronomy programs (MeerKAT, SKA)
- Submission of NRF research rating applications (Enacarni, Petri, Alexei, Steve, David)
- Assistance with SA-German bilateral application
- NASSP OT1 lecturing

Director's Discretionary Time proposals

- One DDT proposal (2013-2-RSA-017) was accepted (for 3900s) since the last report, a ToO for an X-ray transient. The following update has been provided by the PI. Dr. M. Coriat (UCT):

A new neutron star X-ray transient, MAXI J1421-613, was discovered in outburst on January 9 2014 (ATel #5750, #5751, #5759, #5780). Following the initial X-ray detection, our team triggered a radio monitoring program with the Australia Telescope Compact Array and detected radio emission from the source, indicative of the presence of jets. X-ray and radio follow up were ongoing but we were lacking information on this source in the optical domain. A domain that is crucial as it stems for the combination of the emissions from the donor star and the outer parts of the accretion disc (and possibly the jet as well).

On January 25, we therefore submitted a DDT request to observe the source with SALT using SALTICAM in 3 photometric bands (u' , g' and I) in order to obtain spectral constraints. The observations were attempted on the night of the 31st of January. Unfortunately, we couldn't detect our target. We are now working on estimating the best upper limit out of these images to put constraints on the intrinsic optical luminosity of the source.

Regarding the previous DDT proposals reported at BEC #52, their status is summarized here:

- The 3342s observation (2013-2-RSA-016) done on 13 Nov of a new WISE source is currently being written up for a paper. (Vaisänen; RSA). The PI reports:

We are still waiting for a reduction of a NIR spectrum, but if we don't get that part, we'll just proceed with the SALT spectrum, which should be good for a paper given the interest in the solar neighbourhood and ultra-cool dwarfs.

- The 3560s observation (2013-2-RSA_UKSC-001) done on 12 Dec of a new transient X-ray pulsator in the SMC, found in the Chandra archive (see ATel 5552) and observed by SWIFT, was identified as a probable new Be X-ray binary. The PI (Bartlett; RSA/UKSC) reports:

The X-ray transient CXOU J005758.4-722229, was detected as a transient X-ray pulsator in Chandra archival data of the SMC collected in September 2013 (see ATel 5552). This new source has X-ray properties similar to those of many other Be/X-ray binaries discovered in the past within the SMC (for example, it exhibits a 7.9s pulse period). The source was re-discovered in an XMM Target of Opportunity observation, and a SWIFT/XRT snapshot observation, performed on the 20th November.

An candidate optical counterpart with unusual colours was located at the Chandra position (1.5'' radius accuracy), namely a variable $V=16.0$ object in the OGLE catalogue. Based on the unusual colours we requested a SALT DDT observation, which was performed 12th December 2013.

The SALT spectrum is unlike those of other, spectroscopically confirmed Be/X-ray binaries in the SMC, and have uncharacteristically narrow Balmer lines and of relatively late spectral type (B5-8V) for this class. The narrow absorption lines, with no evidence of infilling, seem inconsistent with the level of X-ray activity. CXOU J005758.4-722229 could therefore be a potentially important object in the framework of understanding the observed cut-off in the spectral-type distribution of the companion stars in Be/X-ray binaries. The spectral type is currently being independently verified to confirm this classification. It will be included in a paper on this source, currently in preparation, with the SWIFT, XMM-Newton and Chandra X-ray data.

8. Instruments

RSS-VIS

RSS-VIS is in routine operations and has generally been reliable in general, notwithstanding occasional glitches with the slitmask. A recent problem with varying gains is under investigation

The pinhole mask for flexure additional image quality characterisation, requested by Ken Nordsieck, has been fabricated and initial test images obtained for him.

There have been discussions between UW and SALT regarding the RSS VIS repair work and scheduling any other tasks in that period (e.g. waveplates). Ken Nordsieck reported that, while the tests with the bonding gel for the polarizing beamsplitter were positive, that some repolishing was needed following clouding by the old fluid. He thought that it was feasible that the beamsplitter could be installed and tested in the 2014-1 semester, and recommissioning of polarimetric modes begun.

See separate report on the RSS VIS collimator repair from Ockert Stydom.

RSS-NIR

Two status review videocons have been held this year, and will continue monthly involving the UW and SALT teams. Increasing involvement with Tech Ops is envisaged as various sub-systems are developed, particularly the pre-dewar liquid CO₂ cooling system.

The main achievements in this reporting period are:

- Fabrication has begun on a second (spare) dichroic
- The ASIC controller is being tuned to optimize performance with inputs from IUCAA engineers
- Chris Clemens is doing further measurements of the VPH grating
- An IR camera is being obtained for optical testing of the completed camera
- Design for the predewar is completed and the work is out for quotation

SALTICAM

No change in status since the last report. It is hoped that the guidance system will be recommissioned soon. Discussions are underway regarding the formal acceptance of the instrument and provision of a testbed to support its maintenance.

BVIT

In January a successful optical detection was made of the 50 ms spin period of the pulsar PSR B0540-69 (see <http://saltastro.blogspot.com/2014/03/optical-pulses-detected-by-bvit-of.html>), which demonstrated the capability of such detections.

HRS

The HRS Science Verification (SV) programme continued in the reporting period and data obtained for most of the accepted SV programs (some infrequent time critical ones were not successful). PIs have been requested to provide feedback, for which reports are now slowly trickling in. The first such report, which compared HRS spectra to VLT UVES were provided in the following blog posting:

<http://saltastro.blogspot.com/2014/02/hrs-science-verification-feedback.html>

A few technical issues developed during this period, some of which are discussed in more detail in accompanying reports. These include:

- Failure of the mode selector mechanism, which necessitated opening the tank and tightening a screw, which had worked loose. Some modifications to the mechanism maybe required and further investigation are planned next week (by L. Crause), ahead of the visit by Durham SW Eng, Eddy Younger.
- The vacuum on the detectors has failed on 3 occasions, two associated with power supply interruption, but the latest due to the need to bake the getter, which is planned for next week ahead of the next HRS SV campaign in the bright Moon week starting 15 April.
- A recurrence of the FIF guider cable wrap problems, which will necessitate removal of the HRS science fibres and removal and modification of the FIF. This will be done in the next week.

The final implementation of the HRS control GUI will happen in the period 8-24 April when SW Eng Eddy Younger will visit. The SW will be commissioned and tested, allowing HRS to be run by Ast Ops without using the lower level software. In this period the quicklook software, run at the telescope, will also be commissioned by Luke Tyas.

Further information of HRS appears in the separate report.

9. SAMS Progress Report

See separate report.

10. Staffing Issues

Alexei Kniazev (SA) has had continuing stomach problems, but is slowly making a recovery, and was able to fulfil his last SALT duty in Feb without any issues.

Eric Depagne, appointed as SA to replace Tim Pickering, arrived on 21 March. He has completed his SA training and will be flying solo next week.

Luke Tyas begins his 12 month Postdoc position on 1 April, following the lengthy process of obtaining his work permit.



SALT BEC#54

SALT Science Director's Report

15 May 2014

David A.H. Buckley
SALT Science Director & Astronomy Operations Manager

Executive Summary

HRS progress includes the installation and initial operation of the SALT Astronomer's GUI to control HRS, following the visit of the Durham SW Eng, Eddy Younger (see HRS report). Detector vacuum issues are still with us, but Durham are getting quotes for ion pumps. In their report, they also justify the request for contingency funds for the gas refill, as requested at the last BEC meeting.

SAMS hardware for Phase 1 (7 segment sub-array) has arrived and is now undergoing testing in Cape Town. There are still some small hysteresis and RH issues being addressed. At the current rate of progress we expect to begin to install the first batch of sensors on the telescope in June.

RSS electronics issues with the PXI interface led to instrument being offline for a couple of nights, but we could continue observing with HRS. Throughput measurements (see separate report) show a decrease of ~7% in the blue and ~4% in the red since the last report (Nov 2012).

The first *Nature* paper featuring SALT observations, of new distant Cepheids in the Milky Way, was published by Michael Feast his collaborators (including John Menzies and Patricia Whitelock) on 15 May. See:

<http://www.nature.com/nature/journal/v509/n7500/full/nature13246.html>

11. SALT Observing Statistics: 2013-2 Semester

Final statistics for the semester are summarized in the following table:

Observing Statistics (in fractions) for SALT Semester 2013-2							
Month	Night Length (hr)	Science Time	Engineering Time	Time Lost to Weather	Lost to Technical Problems	Charged for Science	Shutter Open Time
Nov 2013	7.06	0.37	0.28	0.27	0.08	0.22	0.15
Dec 2013	6.39	0.46	0.07	0.36	0.09	0.33	0.17
Jan 2014	6.77	0.44	0.06	0.38	0.06	0.35	0.25
Feb 2014	7.85	0.49	0.08	0.35	0.07	0.40	0.26
Mar 2014	9.00	0.52	0.11	0.32	0.03	0.43	0.30
Apr 2014	10.01	0.39	0.10	0.41	0.09	0.26	0.16
<i>Spec</i>		<i>0.55</i>	<i>0.07</i>	<i>0.35</i>	<i>0.03</i>		
Mean	7.84	0.45	0.11	0.35	0.07	0.33	0.22

Completion rates are shown in the following table, together with the expectations based on actual *available* science time (45% compared to 55%). The difference mostly reflects additional time taken for HRS commissioning and Science Verification.

Priority	Canonical completion fraction (assuming 55% science)	Expected completion fraction (with actual 45% science)	Actual completion fraction
All	87%	71%	69%
P0	100% of those activated	82%	79%
P1	100%	82%	70%
P2	100%	82%	51%
P3	67%	55%	47%

12. Astronomy Operations activities

2014-1 semester

Of 100 submitted proposals, 90 were accepted by TACs and are currently in the queue (some awaiting ToO activation or completion of Phase 2).

All MOS masks for the semester have been cut and an order for new masks is being processed.

Highlights of Other Ast Ops Activities:

- New scheduling tool progress.
- Update on the RSS commissioning document.
- Redesign of SALT website in hand.

Director's Discretionary Time proposals

- One DDT proposal from AMNH has been received and is in the process of being activated.

13. Instruments

RSS-VIS

See separate report on RSS-VIS throughput and the collimator repair.

A new imaging test mask using a small pinhole array was fabricated to conduct further image quality measurements, which have been completed and sent to Ken Nordsieck for analysis.

A commissioning report compiled following the analysis of many commissioning observations is currently being compiled by Anja Shroeder.

RSS-NIR

The latest quarterly report (Jan-Apr) has been received. The next status review will be held on 19 May.

The main achievements in this reporting period are:

- "First light" been achieved with the camera
- UW have received the potted Teledyne detector cable which is under vacuum and temperature testing
- Positive results from pre-dewar skin heater testing
- Progress on SW control of eight mechanisms with regular exercising

SALTICAM

No change in status since the last report. It is hoped that the guidance system will be recommissioned soon.

BVIT

A recent problem with the BVIT software precluded its use, which is under investigation. It could be related to computer license issue and/or a missing library file. Berkeley are aware of the issue and will be addressing this shortly.

HRS

See separate report from Durham.

14. SAMS Progress Report

Update summary since BEC53:

- Hardware including all electronics, sensors and sensor blocks have arrived.
- 18 of the 24 sensors have undergone initial temperature characterisation testing in preparation for installation on the telescope.
- The balance of the sensors will be completed shortly
- Environmental testing shows 16 of the 18 sensors tested thus far to be within temperature sensitivity specification.
- Commissioning the new 3 channel hardware has highlighted some software deficiencies within the Labview interface in the management of data. This will need some additional software development, which is currently underway.
- A few additional issues have also arisen whilst commissioning the new hardware which we're in the process of resolving with Fogale:
 - The new version of the cabling required by the 3 channel hardware includes a PCB which may make the sensor more sensitive to RH when compared to the single channel cable we've used during testing.
 - Aspects of the data being broadcast by the rack are not consistent and fixes to the embedded software are required. We have the equipment needed to apply the code.
 - There is some intermittent measurement noise in the piston measurement, which could be environmental, which is under investigation.
- Completion of all environmental, hardware and software tests is dependent on the outcome of the tests currently underway. Expected completion is early June.
- Installation of buttons and sensors on telescope expected to begin later in June.