

Monthly Status Report
Robert Stobie Prime Focus Imaging Spectrograph
October 2007

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This RSS monthly report summarizes the RSS status as of November 5, 2007.

Optics and Testing

- OL5 replacement
 - Figuring: The CaF₂ blank has been received by TORC, and is in generation.
 - Coating: A quote has been requested from Andrew Phillips at Lick Observatory for coating with their cleanable solgel process. They will do a test witness this week to see what performance they can deliver.
- Beamsplitter: The beamsplitter mosaic has been drained and refilled at Pilot Group after replacement of the expansion bladder with a compatible polyethylene one.
 - A fluid leak at the bladder feedline has been tentatively identified and fixed.
 - The transmission has been re-measured: whereas the transmission at 320 nm before the fix was zero, it now shows just a 16% drop-off from 450 nm, compared with an expected 10% drop-off due to the calcite blank transmission.
 - The grey transmission is measured at 75%; we believe this is spurious, due to the difficulty of getting all the beamsplitter light onto the detector.
 - The unit will now be stored at Pilot Group in a vertical position for a month to check for bubbles and leaks, then will be drained and refilled for a final time to see if the remaining 6% UV drop-off can be fixed. We are looking at a more sophisticated way of measuring the grey throughput using a polaroid and a fused silica wedge prism reference to ensure that a single polarized beam and its reference can be measured without moving the detector.

Mechanical.

- The sensor control electronics for the slitmask mechanism is being redesigned and rebuilt to achieve more reliable operation: Connector PCB layouts have been completed, and the electronics schematic is in process.
- The new grating rotation stage has been tested for flexure in the rotation direction and for side-play flexure in the bearing. The repaired old grating rotation stage has been received from PI. A side-by-side test of the new stage and of the repaired stage will be used to decide which one to use: the test setup has been discussed with MS.
- The guide probe is being modified to fix an interference with the front of RSS: Most of the new mechanical parts have been manufactured and are now being anodized.

- The detail drawing of the baffle for the payload/ RSS interface has been completed.
- The UW Startracker is being mounted on RSS as a cloud monitor and outreach tool. The base plate of the original Star Tracker box has been modified to fit on the RSS frame. The electronics will be mounted on this base plate. A suitable mounting bracket for the camera head still needs to be designed.

Control

- Electronics box fixes: New, more robust electronics box brackets have been designed for the electronics boxes: The detail drawings are complete. The detector box bracket design is still outstanding.
- Coding of the high level PCON control software is in progress. The PDET Labview code has been handed over to Anthony. He is currently working on a short redesign and re-code of this software.
- The spare RSS control system has been finished. It will be shipped to South Africa in the next month. A draft testing report is being circulated.

Management

- An RSS status report was presented to the 18th SALT Science Working Group meeting. It is available at
<http://www.sal.wisc.edu/PFIS/docs/html/documents/reports.shtml>
- An RSS capability presentation was given to the UKZN SALT Workshop. The presentation is available at
<http://www.sal.wisc.edu/PFIS/docs/html/documents/talks.shtml>
- The RSS schedule has been updated, and is attached to this report. The projected delivery of the optics has not been changed from the previous report.
- The 2007 Quarter 2 Quarterly Management Report is in progress.

Activities for next month

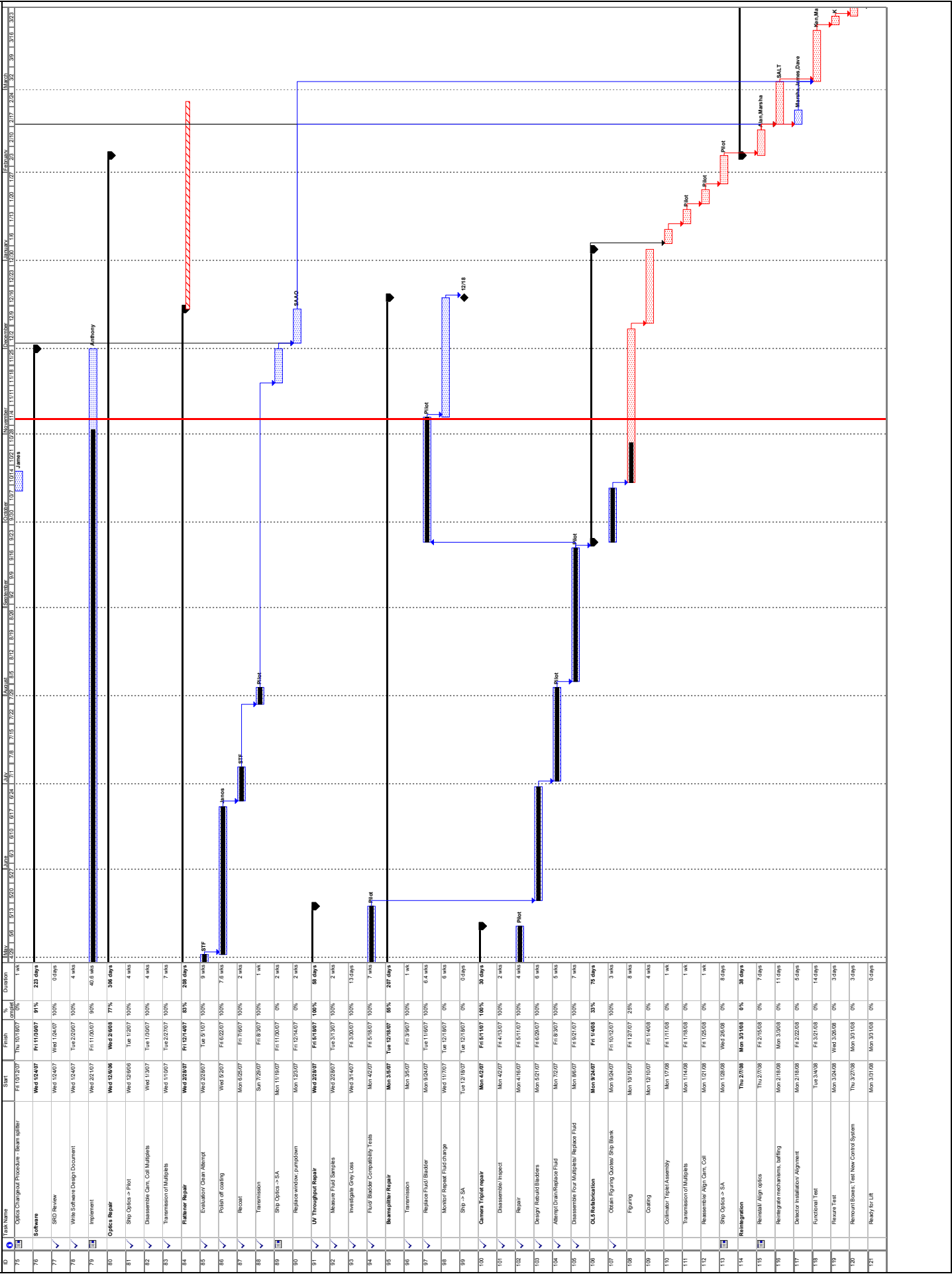
- Analysis
 - Work on analysis of polarimetric commissioning data.

- Optics
 - Figure replacement OL5 lens (TORC).
 - Issue PO for coating for OL5.
 - Monitor repaired beamsplitter for bubbles and leaks; procure fused silica wedge reference.

- Mechanical
 - Finish redesign of slitmask sensor electronics - aim for design review on 14 Nov.
 - Fix guider mechanical interface: proceed with integration and lowering of the cable wrap.
 - Payload/ RSS baffle: A design review and handover to Ockert is tentatively scheduled for Saturday 10 Nov in CT.
 - Side-by-side test of the two grating rotation stages.
 - Repair the moving baffle: A work session around the instrument is scheduled for Thursday 08 Nov.

- Control
 - Detector box bracket design review and handover to Ockert is tentatively scheduled for Saturday 10 Nov in CT.
 - Continue coding of PCON high-level control software, engineering controls, and PDET interaction.

- Management
 - Ship field flattener to South Africa
 - Ship spare control system to South Africa.
 - Finish Quarter 2, 2007 Quarterly Management Report.



ID	Task Name	Start	Finish	% Complete	Duration
75	Optics Changeout Procedure - Scan Optics	Fri 10/20/20	Thu 10/21/20	0%	1 wk
76	Software	Wed 12/4/07	Fri 11/09/07	91%	23 days
77	SFD Review	Wed 12/4/07	Wed 12/4/07	100%	0 days
78	Write Software Design Document	Wed 12/4/07	Tue 22/09/07	100%	4 wks
79	Implement	Fri 11/09/07	Fri 11/09/07	90%	40.5 wks
80	Optics Repair	Wed 12/4/06	Wed 2/08/08	71%	308 days
81	Ship Optics to Pilot	Wed 12/4/06	Tue 12/07/06	100%	4 wks
82	Disassemble Cam. Col Multiplets	Wed 12/07/06	Tue 13/09/07	100%	4 wks
83	Transmission of Multiplets	Wed 11/09/07	Tue 22/09/07	100%	7 wks
84	Reformer Repair	Wed 22/09/07	Fri 12/14/07	81%	208 days
85	Evaluation Clean Abzorb	Wed 22/09/07	Tue 5/19/07	100%	9 wks
86	Polish of coating	Wed 5/29/07	Fri 8/22/07	100%	7.6 wks
87	Recut	Mon 6/25/07	Fri 7/07/07	100%	2 wks
88	Transmission	Sun 7/29/07	Fri 8/30/07	100%	1 wk
89	Ship Optics to SA	Mon 11/09/07	Fri 11/09/07	0%	2 wks
90	Replace window/pumpdown	Mon 12/07/07	Fri 12/14/07	0%	2 wks
91	UV Throughput Repair	Wed 22/09/07	Fri 5/18/07	100%	58 days
92	Measure Fluid Samples	Wed 22/09/07	Tue 3/13/07	100%	2 wks
93	Investigate Crop Loss	Wed 3/14/07	Fri 3/30/07	100%	13 days
94	Fluid Backer Compatibility Tests	Mon 4/23/07	Fri 5/18/07	100%	7 wks
95	Beam splitter Repair	Mon 3/26/07	Tue 12/18/07	56%	207 days
96	Transmission	Mon 3/26/07	Fri 3/30/07	100%	1 wk
97	Replace fluid Backer	Mon 9/24/07	Tue 11/09/07	100%	6.4 wks
98	Monitor Repair Fluid Change	Wed 11/07/07	Tue 12/18/07	0%	6 wks
99	Ship to SA	Tue 12/18/07	Tue 12/18/07	0%	0 days
100	Camera Rigid repair	Mon 4/23/07	Fri 5/18/07	100%	30 days
101	Disassemble Inspect	Mon 4/23/07	Fri 4/13/07	100%	2 wks
102	Repair	Mon 4/16/07	Fri 5/11/07	100%	4 wks
103	Design Renewal Bladders	Mon 5/21/07	Fri 6/29/07	100%	6 wks
104	Align Optics/Replace fluid	Mon 7/23/07	Fri 8/30/07	100%	5 wks
105	Disassemble four Multiplets/Replace fluid	Mon 8/6/07	Fri 9/21/07	100%	7 wks
106	OLE Fabrication	Mon 9/24/07	Fri 11/09/07	33%	75 days
107	Ocean Figuring Queue/Ship Blank	Mon 9/24/07	Fri 10/26/07	100%	3 wks
108	Figuring	Mon 10/15/07	Fri 12/07/07	26%	6 wks
109	Coating	Mon 12/10/07	Fri 1/4/08	0%	4 wks
110	Collimator Repair Assembly	Mon 1/7/08	Fri 1/11/08	0%	1 wk
111	Transmission of Multiplets	Mon 1/14/08	Fri 1/18/08	0%	1 wk
112	Reassemble Align Cam. Col	Mon 1/21/08	Fri 1/25/08	0%	1 wk
113	Ship Optics to SA	Mon 1/28/08	Wed 2/26/08	0%	8 days
114	Reintegration	Thu 2/27/08	Mon 3/10/08	0%	38 days
115	Reinstall Align optics	Thu 2/27/08	Fri 2/15/08	0%	7 days
116	Reintegrate mechanics, balling	Mon 2/18/08	Mon 3/24/08	0%	11 days
117	Diagnose installation/Alignment	Mon 2/18/08	Fri 2/22/08	0%	5 days
118	Functional Test	Tue 3/4/08	Fri 3/21/08	0%	14 days
119	Reura Test	Mon 3/24/08	Wed 3/26/08	0%	3 days
120	Re-mount Blanks, Test New Control System	Thu 3/27/08	Mon 3/31/08	0%	3 days
121	Ready for LIT	Mon 3/31/08	Mon 3/31/08	0%	0 days