Monthly Status Report
Robert Stobie Prime Focus Imaging Spectrograph
June 2010

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This monthly report summarizes the RSS status as of July 7, 2010.

Optics and Testing

- Polarizing beamsplitter. The repaired calcite wedges were received by Pilot Group. They report:
  - The excess Sylgard from the previous effort has been removed so that we can measure the alignments of the existing six prism pairs.
  - Those alignments have been measured and are within tolerance (20 arcsec tilt, two arcmin twist), meaning that the mounting method appears to be stable.
  - The casting mold is being modified to make removal of the assembly easier after casting. The mods should be done by Friday.
  - We should be in a position to cast the new elements in place next week.

- Calibration System. The alternative RSS ground calibration system designed by Ted Williams has been completed, shipped to South Africa, and is in the process of being installed, in preparation for Fabry-Perot calibration testing in July.

Mechanical.

- Fabry-Perot. A mechanical fix has been agreed upon for the clearance problem between the LR etalon and the grating holder at the extremes of the instrument tilt. The end plates of the etalon holder are being replaced with plates thinner by 1/16". The end plates were completed, and have been successfully installed. Testing is expected in July.

- Slitmask mechanism. After many repeat operations, the magazine elevator has begun squealing. A similar problem has been observed for the filter magazine, which has a similar design. Replacement lead screws and one spare stage have been ordered by UW.

- Grating rotator. A grating rotator modification designed to greatly reduce the cross-dispersion flexure is proceeding at UW. The bearings have been received and a design for the attachment brackets has been developed for approval. Parts drawings are being finished.

- Baffling. Work continues on conceptual design of baffling modifications to be installed on RSS before lift.

Control/ PIPT

- RSS proposal tool/ simulator.
  - Extension of the long-wavelength limit to beyond 9000 Å has been completed and tested.
  - An update of the nominal order blocking filter selection table has been implemented.
  - An atlas of RSS arc lamp spectra is being assembled, starting with the spectra documented by Alexei Kniazev in SALT2115AA0100, plus additional spectra covering the full wavelength coverage of RSS for most of the six arc lamps. These will be used to establish a table of arc lamp settings to be used by the OCS to automatically implement standard on-sky arc spectra for each RSS configuration.

Management

- SPIE June 2010 Meeting. A poster on the immersion fluid UV throughput loss investigation was presented at the SPIE Astronomical Telescopes and Instrumentation 2010 meeting in San Diego. A manuscript prepared for the conference proceedings may be found at http://www.sal.wisc.edu/PFIS/docs/rss-vis/html/documents/talks.shtml

- Schedule. A schedule of RSS tasks through Acceptance is attached to this report. The scheduled RSS lift date is 20 Oct, 2010, unchanged from the last report

- Commissioning planning. Feedback was sent to PI's for the 35 highest-ranked LongSlit proposals for RSS Commissioning.

- Documentation. Two more maintenance documents to be prepared by UW have been identified:
  - Cleaning Procedures for Exposed Optics Surfaces
  - Functional Testing Procedure

Activities for next month

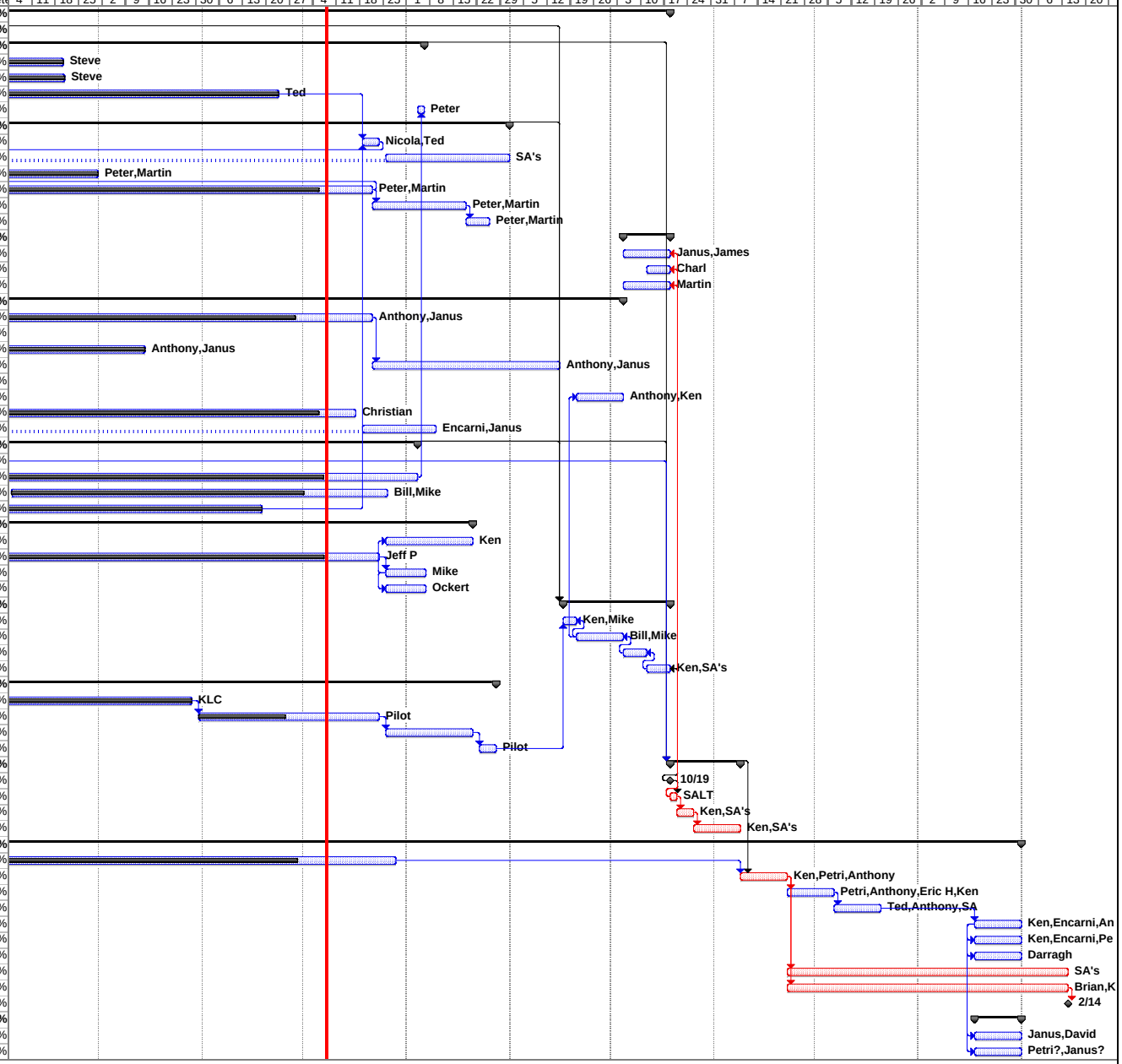
- Optics
  - Finish assembly of UV calcite beamsplitter. (Pilot Group)
  - Fabry-Perot wavelength calibration testing. (RU, SALT)

- Mechanical
  - Finish dolly modification for mechanism testing at all orientations. (SALT)
  - Implement grating stage modifications. (UW)
  - Design work for baffling improvements. (UW)

- Control
  - Continue coding of new PCON/ TCS high-level control software. (SALT)
  - Continue testing new high-level software on the instrument. (SALT)
  - Work on documentation improvements. (UW, SALT)

- Management
  - Finish review of commissioning proposals. (UW, SALT)

ID	Task Name	Start	Finish	% Complete
1	**SALT Pre-Lift Work**	**7/13/2009**	**10/19/2010**	**92%**
2	**Control System Fixes**	**7/13/2009**	**3/19/2010**	**99%**
9	**Optics Preps**	**7/13/2009**	**8/6/2010**	**99%**
10	Filter holders	7/13/2009	4/20/2010	100%
11	Filter barcodes	10/12/2009	4/20/2010	100%
12	FP Calibration system	4/1/2010	6/23/2010	100%
13	Install Grating Fork Mod	8/4/2010	8/6/2010	0%
14	**Testing**	**7/13/2009**	**8/31/2010**	**85%**
15	Fabry-Perot Calibration	7/19/2010	7/23/2010	0%
16	Functional Testing	9/7/2009	8/31/2010	80%
17	Mechanism Reliability - I	7/13/2009	4/30/2010	100%
18	Dolly Modifications	4/1/2010	7/21/2010	85%
19	Mechanism Reliability - II	7/22/2010	8/18/2010	0%
20	Thermal Testing	8/19/2010	8/25/2010	0%
21	**Lift Preps**	**10/5/2010**	**10/19/2010**	**0%**
22	Fix guide probe interference with front	10/5/2010	10/19/2010	0%
23	Reroute payload & RSS cabling	10/12/2010	10/19/2010	0%
24	Improve lifting arrangement for RSS	10/5/2010	10/19/2010	0%
25	**SALT Software**	**7/13/2009**	**10/4/2010**	**84%**
26	PCON/ TCS Communications	7/13/2009	7/21/2010	90%
27	ATP Document	7/27/2009	8/7/2009	100%
28	PCON/PDET test on hardware	8/10/2009	5/14/2010	100%
29	PCON Commissioning procedures	7/22/2010	9/15/2010	0%
30	PCON/PDET test on hardware	8/10/2009	9/18/2009	15%
31	Acceptance Test	9/21/2010	10/4/2010	0%
32	Simulator Commissioning upgrades	11/9/2009	7/16/2010	95%
33	PIPT/ OCS Commissioning upgrades	11/9/2009	8/9/2010	80%
34	**UW Prelift Engineering**	**10/2/2009**	**8/4/2010**	**89%**
35	Grating Fork Flexure investigation	10/2/2009	1/27/2010	100%
36	Grating Fork Modification	1/27/2010	8/4/2010	85%
37	Baffling Engineering	10/2/2009	7/26/2010	80%
38	LR Etalon Holder Mod	3/29/2010	6/18/2010	100%
39	**Documentation**	**8/10/2009**	**8/20/2010**	**82%**
40	High Level maintenance	7/26/2010	8/20/2010	0%
41	Control System Software	8/10/2009	7/23/2010	95%
42	Control System hardware	7/26/2010	8/6/2010	0%
43	Magazine installation, Lift	7/26/2010	8/6/2010	0%
44	**UW Prelift at SALT**	**9/17/2010**	**10/19/2010**	**0%**
45	Fix HWP; install beamsplittter	9/17/2010	9/21/2010	0%
46	Baffling installation	9/21/2010	10/5/2010	0%
47	Functional Testing	10/5/2010	10/12/2010	0%
48	Flexure Tests	10/12/2010	10/19/2010	0%
49	**Beamsplitter UV Thoughput Repair**	**9/14/2009**	**8/27/2010**	**82%**
50	Repair wedges	9/14/2009	5/28/2010	100%
51	Realign/ Reassemble	5/31/2010	7/23/2010	50%
52	Monitor for Bubbles	7/26/2010	8/20/2010	0%
53	Ship -> SA	8/23/2010	8/27/2010	0%
54	**On-Telescope Testing**	**10/19/2010**	**11/8/2010**	**0%**
55	Pre-Lift review	10/19/2010	10/19/2010	0%
56	Lift	10/19/2010	10/20/2010	0%
57	Functional Testing	10/21/2010	10/25/2010	0%
58	On-Telescope Acceptance Testing	10/26/2010	11/8/2010	0%
59	**RSS Team Commissioning**	**4/1/2010**	**1/31/2011**	**44%**
60	Review Commissioning Proposals	4/1/2010	7/28/2010	75%
61	Spectroscopy End-to-End	11/9/2010	11/22/2010	0%
62	MOS End-to-End	11/23/2010	12/6/2010	0%
63	Fabry-Perot Spectroscopy End-to-End	12/7/2010	12/20/2010	0%
64	Linear Polarimetry End-to-End	1/18/2011	1/31/2011	0%
65	MOS Linear Polarimetry End-to-End	1/18/2011	1/31/2011	0%
66	High-Speed Spectroscopy End-to-End	1/18/2011	1/31/2011	0%
67	Consortium Commissioning Project Continua	11/23/2010	2/14/2011	0%
68	Analyse; Write Up Tests	11/23/2010	2/14/2011	0%
69	Acceptance Review	2/14/2011	2/14/2011	0%
70	**SALT Advanced Commissioning**	**1/18/2011**	**1/31/2011**	**0%**
71	Circular; All-Stokes Pol End-to-End	1/18/2011	1/31/2011	0%
72	Nod-and-Shuffle Spect End-to-End	1/18/2011	1/31/2011	0%



Project: 20070103_RSS Rework Sche
Date: 7/7/2010

Critical Task Milestone Summary Task