

Monthly Status Report
Robert Stobie Prime Focus Imaging Spectrograph
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This RSS monthly report summarizes the RSS status as of January 31, 2007.

Optics and Testing

- The monochromator system has been set up at Pilot Group and the first transmission measurement obtained, of the field flattener (dewar window). The transmission is ~100% above 750nm, drops to 80% at 550 nm, and is between 80 and 90% down to 340 nm. This is compatible with the 630 nm laser reflectivity measurement made in October and with the reflectivity inferred from the RSS ghost intensity through interference filters from 380 - 850 nm: transmission ~ 1 - reflectivity, with the possible addition of ~10 -20% absorption loss below 450 nm.

Mechanical

- Slit Mask mechanism. The slitmask mechanism is being redesigned to eliminate the jamming which plagued its early operations. The reworked mechanism has been disassembled for anodizing, and the test apparatus is ready for testing, likely to begin with the next two weeks.
- Grating mechanism. The "preload plate," developed to reduce the grating flexure, has been fabricated.
- Filter mechanism. A modification of the filter holders has been designed that will prevent wear on the bar codes that makes them unreadable after several months of use. One filter holder will now be modified in this way, and tested.
- Waveplate mechanism. The unreliable actuation of the waveplate slide has been investigated and fixed, by adjusting the pneumatic exhaust.
- Beamsplitter mechanism. The articulation cable wrap has been modified to avoid interference with the beam splitter mechanism.
- Etalon mechanism. A modification to the etalon seating fixture is being designed to improve the etalon flexure during an observation.
- Storage boxes are being designed for slitmasks and filters when they are not in the magazines. The slitmask storage box has been designed and is in the machine shop.

- Procedures have been written for removal and installation of the etalons, the filter and grating magazines, and for RSS itself.

Control

- Electronics box fixes:
 - The unreliable mains power connector has been fixed.
 - The power supply for the "yo-yo sensors" on the slitmask, grating, and filter magazines has been fixed.
 - An additional heat exchanger has been installed in the main power supply box, in an attempt to reduce marginal temperatures in the box. This will be tested in the next few weeks.
- The guide probe interface to RSS, damaged during removal of the instrument, has been fixed on the RSS side.
- Detector work continues on the anomalous CCD full well and the amplifier crosstalk.
- The new RSS Software Requirements Document, documenting high level operation of RSS, has been reviewed. Work proceeds on the Design Document.
- The SALT FITS keyword document was reviewed, and a new version of the corresponding RSS document, SALT-3173AS0003 (version 1.2) has been released.

Management

- The RSS schedule has been updated, and is attached to this report.
- The 2006 Quarter 2 Quarterly Management Report was completed. Work proceeds on Quarter 3.

Activities for next month

- Analysis
 - Work on analysis of polarimetric commissioning data.
- Optics
 - Continue transmission testing of disassembled optics at the Pilot Group.
 - Send tested field flattener to Spectrum Thin Films for inspection prior to recoating.
- Mechanical
 - Finish assembly and start testing of the reworked slitmask mechanism.
 - Order spare grating rotation stage.
 - Test filter holder bar code modification.
 - Finish design of etalon anti-flexure seat.
 - Ship spare invar tubing to South Africa for use in modification of the RSS mechanical interface to simplify instrument installation and removal.
 - Review optics and instrument installation/ removal procedures.
 - Finalize redesign of articulation fall arrester.
 - Work on baffling improvements for the moving baffle and filter insertion seal.
- Control
 - Order replacement 24V supply.
 - Finish repair of guider interface.
 - Review Software Design Document.
- Detector
 - Complete full well and crosstalk investigations.
- Management
 - Finish Quarter 3, 2006 Quarterly Report.

