DEIMOS
SSC Presentation: March 10, 1999
Nineteenth Quarter

Progress on DEIMOS since our last report in October 19998 has continued to be slow, owing to the higher priority given to work on ESI. As of April 1, 1999, we estimate that DEIMOS will have been delayed by three quarters. Resources are expected to come free in the Lick Shops on March 15, 1999, and we expect soon to be forging rapidly ahead.

Progress since last report:

- It *may* be possible to rescue the MIT/LL Lots 9 and 10 CCDs for use in DEIMOS by careful tuning of the operating parameters. Further tests are required.
- The replacement for Element 8, broken at Coherent last summer, should be completed by the end of this month and will be coated immediately by Coherent. The polishing took longer than anticipated.
- The signal chain electronics and CCD controller are fully fabricated and are in the CCD lab undergoing tests.
- Two Orbit CCDs were tested in the test dewar. Crosstalk between CCDs is negligible, but crosstalk was detected in the amount of 3 parts per 65,000 between channels A and B on the same video board. The problem is inherent in the design and will have to be taken out in image-processing software.
- Roughly half of the Quantum gift disk drives for the 200-Gbyte DEIMOS RAID array are proving inoperable. The cause is under investigation.
- A menu of 24 sign-off tests has been developed for the grating system (see attached). Similar menus are being created for all major subsystems.
- A complete model of the telescope and DEIMOS has been created in ZEMAX.
- The mechanical design of the filter wheel was completed.
- Fabrication drawings exist for the entire grating system.
- The cantilevered mounting of the DEIMOS nose support structure was found via FEA analysis to induce undesirable flexure of the inner portion of the drive disk, which holds the grating mount. The design is being reworked to shift the mounting for the nose support structure to the outer rim of the drive disk. Some mechanical rework will be necessary.
- The parts for Camera Body 1 were machined out-of-house. Assembly of this body is set to start next week.

Delays and concerns: These are mostly repeated from the previous report, since little progress was made in most cases.

- The slitmask cassette still has too much flexure and requires more rework.
- The PA drive surged and required rework (now complete). It is about to be tested.
- The grating slide drive was originally belt driven, then chain driven. The chain proved noisy and is being replaced with a roller chain, requiring additional rework.
- It proves difficult to counterbalance the torque of the camera mount using the grating mount, as originally planned. In the interest of cost savings, we may leave it uncompensated, which would produce approximately ± 1 px motion of passive flexure under gravity (the total error budget for passive flexure is ± 2 px).
- The punch-list of outstanding items is still long (see attached).

Schedule and Budget:

- See attachment.