A DSPSE status meeting was held at 1000 (EDT) at the BATCAVE on 21 April 1994 and chaired by Don Horan. This meeting discussed spacecraft activities from 1000 on 4/20/94 to 1000 on 4/21/94. This memorandum briefly summarizes the results of the meeting.

**Engineering**

Spacecraft systems continue to be nominal at this time. There were no resets. All temperatures and pressures are within limits, but are increasing because of the present phase of the Moon. Engineering commanded a momentum dump last night during a SSDR transmission because the reaction wheels were over 850 rpm and causing slews to take longer. This was affecting scripts which assumed a certain time for the slews. Because of this, the north pole mosaic script did not work. In the future, a rpm value will be established at which the Spacecraft Engineer can do a momentum dump without contacting the ACS engineer first. This will save time and have the least effect on current operations. A possible reason for the momentum build up is solar pressure on the solar panels.

IMU#1 (Litton) Z axis drift has not changed since yesterday and the drift is still approximately 11.5 degrees/hour.

**Flight Software**

The main topic discussed was the centroiding software required for the asteroid flyby. It seems that the centroiding algorithm is only good for objects if the object is approximately 10 pixels or smaller. For larger objects that nearly fill the field of view, the algorithm scans from the bottom and locks on the first of the brightest set of pixels and tracks this point. For a fully lighted moon, the algorithm tracks the bottom of the image. LLNL is sending a more detailed description of the algorithm.

It seems that the current algorithm may work for closed loop tracking until 30 sec before the flyby and then a good solution should be obtainable and open loop tracking may be possible. During the discussion, another algorithm was discussed that may work better for the type of image expected for the asteroid flyby. Bob Stapleford, Bob Reisse, and Triet Tran will meet and develop the algorithm and Bob Stapleford will code and test it.

**TAMP**

The spacecraft orbit and overlaps are looking good and are within specification as predicted.

TAMP handed out data showing the estimated times based on the latest post LOD trajectory including AOS/LOS times, planned and contingency maneuvers, and plots of various bodies in relation to the spacecraft and Sun.
Sensors

The are still some oddities in filter rotations, possibly caused by sequence table or DHU software problems. A detailed analysis of all imaging is continuing.

The LWIR temperature is remaining stable. There are no more “railroad tracks” in any of the images. Further Vega data analysis indicates that there is really very little degradation in the HiRes camera.

During orbits 290/291 tests were conducted to develop procedures for obtaining flat field images scheduled for orbit 309.

SMOP

Imaging and data transmission has been completed for orbits 286 through 289. We are ready to start SSDR transmission for orbit 290. The GOES burn did not occur yesterday and was delayed until this morning. Thus, we lost support this morning for 2.5 hours (0125 - 350 GMT), but they did give us a 70 m antenna for downlink in the blind. There is still a possibility that GOES will need more support this weekend and this may affect our bistatic radar (BSR), Apollo 15, and orbits 35 and 36 data recovery activities.

The north pole mosaic script was aborted because of the excessive reaction wheel speeds. We will reschedule this later. Autoscheduler planning is proceeding and the first test will be during orbit 303. Several small gaps in mapping data have been noted (orbit 164) which will be made up during orbit 297 at 30°N.

On orbit 292, the spacecraft will be passing over (near) the Apollo 11 landing site. The Science Team requested a HiRes color strip from 20°S to 20°N latitude. They also want the same for the Apollo 12 and 14 sites. We will be flying almost directly over the Apollo 12 landing site. The only problem is that the Science Team has also requested a mosaic of both landing sites (calibration data sites) so they need to tell us which type of imaging has priority.

The Apollo 15, BSR and orbits 35 and 36 data recovery scripts are almost finished for orbits 299, 300, 301, and 302. We can upload all these scripts before hand and have them schedule each other if GOES takes our uplink support and if they give us some notice ahead of time.

Schedule

GOES is still planning burns. Yesterday’s burn was canceled and rescheduled for this morning. If the burn scheduled for yesterday had occurred, they were planning more burns on Friday and Sunday. With the delay, they may schedule a burn for Saturday which could affect the BSR activities.

For post LOD, the DSN schedule is being updated for the new view times. We have good coverage through 7 May. We are waiting to see what the new schedule will look like after 7 May.