Recent Increase in Maneuver Errors

A significant degradation in maneuver accuracy has been seen, starting roughly at the beginning of December 1984. Guest Observers should consider taking additional care in selecting targets with recognizable fields, good finding charts, and nearby bright offset stars.

The increase in maneuver errors has been traced to the failure of the temperature control thermistor on Gyro 4. Because of this, there are no longer any functional control thermistors in the gyro package and large temperature variations can occur. A recent rescaling of the gyro scale factors has reduced the systematic errors in maneuvers, but large random errors due to gyro temperature changes are expected to continue indefinitely. Errors of 6 arcmin after slewing 100° are typical; some errors as large as 15 arcmin have been seen. Frequently the target falls outside of the field of view of the FES acquisition camera. The larger errors scale to a 3 to 4 arcsec error after a typical offset slew of 30 arcmin. Thus in the worst cases this could place a target on the edge of the aperture after a blind offset. Since smaller offset slews result in smaller maneuver errors, offset stars could be chosen within 20 arcmin or better of the target.

Catherine L. Imhoff
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Spacecraft Status: PA#4/S-Band Problem

For some time now the transmission of data from S-band transmitter #4, the antenna for which is located on the rear of the spacecraft near the Z-axis, has been showing a variation in signal strength. The symptoms have been an intermittent 10 db drop in signal strength during a "warm-up" period that may last from a few minutes to longer than two hours. Thus far standard procedures for weaker signal data "reads" have been sufficient to cope with the problem. However, if the performance of S-band transmitter #4 should degenerate further, special procedures may have to be introduced to ensure the integrity of the science data for certain location/attitude situations.

The suspected source of the problem is the power amplifier unit of System #4. Data are being collected and analyzed to try to pinpoint the problem, as well as to evolve operational procedures that will have a minimum impact on current routine. The IUE Project will keep the User Community informed on the status of this situation and how, if at all, it will affect user operations.

Fred Gordon/IUEPOD
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