

News Notes

Maneuvering Problems Recently the IUE operations staff both at GSFC and at VILSPA have noticed that maneuvers are less accurate than they used to be. Analysis by Bob Panek of long maneuvers during May and July of this year shows a sizable fraction having errors that are 0.1% to 0.2% of the length of the maneuver. In January and February of 1980 very few maneuvers had errors exceeding 0.05% of the maneuver length.

These problems may be associated with failures in the gyro attitude control package on the spacecraft. William Crabb of Bendix Corporation reports that the temperature of gyro #1 began to fall inexplicably on 1981 June 30. He further reports that on August 15 the temperature of gyro #3 also began to fall. On August 18 the electronics of the stalled gyro #6 were turned on to try to maintain higher temperatures in the gyro assembly. Several hours later gyro #2 developed anomalously high currents. Gyros #6 and #2 were shut down as an emergency procedure and then gyro #2 was successfully turned on again. At the present, the temperatures in gyros #1 and #3 are continuing to fall slowly. Gyro #2 is operating normally. The gyro engineers are discussing the problem and are considering whether the maneuver lengths need to be recalibrated.

From the point of view of the Guest Observer, there is a finite chance that his target will not be in the field of view after a long maneuver. For example, a recent survey showed that 70% of the maneuvers longer than 150° have pointing errors exceeding 6 arcmin. The staff will use their knowledge of the system to minimize the time required for target identification and acquisition. They may suggest intermediate stars for updating the attitude if long slews are required. In any event, you should bring adequate finding charts with you.

Power Problems The continued deterioration of the solar arrays has resulted in the expected limitation of observations near the solar avoidance zone and near the anti-sun. For example, one observer who was using both cameras, exposing one while reading the other, was required to leave his target at a Beta * angle of 132° after less than 6 hours observing. The length of time you can observe at a given Beta angle depends on the prior condition of the

batteries as well as the degree of activity you generate. The science operations staff will be able to advise you if the spacecraft power will be a problem to you.

* Beta is the angular distance between your target and the anti-sun.

Beta Angle Formula Errors For various reasons, some observers calculate the Beta angles of their targets before they arrive for their observing run. Bob Panek points out that the formula for Beta given on page 11 of ESA IUE Newsletter No. 9 has a missing minus sign. The correct formula for Beta is given by Schiffer (1980, NASA IUE Newsletter, No. 9, page 32).

Instrumental Sensitivity A study of the sensitivity done by Skip Schiffer for the 3-Agency meeting in May shows that since early 1979 the sensitivity has changed by no more than 1.2% per year in broad wavelength bands.

Staff Changes Cathy Imhoff, an IUE Guest Observer since the first episode, has joined the Telescope Operations staff as a Resident Astronomer. Dr. Imhoff comes to us from Steward Observatory where she was making a near infrared photographic sky survey and analyzing her IUE spectra of T Tauri stars.

Kit Harvel, a Resident Astronomer for image processing, has left IUE to assist in setting up the image processing system for the Space Telescope Science Institute.

Two new telescope operators have joined our staff. Steve Walter received his B.S. in astronomy from the University of Maryland. Kevin Hart received his B.S. in astronomy from Villanova University.

Al Holm

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