



UNITED STATES DEPARTMENT OF COMMERCE  
 National Oceanic and Atmospheric Administration  
 NATIONAL ENVIRONMENTAL SATELLITE, DATA,  
 AND INFORMATION SERVICE  
 Washington, D.C. 20233

June 12, 1984

E/RA32/LJC

Memorandum for the Record

FROM: E/RA32 - Lawrence J. Crone

SUBJECT: NOAA-6 Pitch-up Maneuver

On March 15, 1984, the NOAA-6 spacecraft was inverted to point away from Earth. The purpose of this maneuver was to see the effects of scan position on the MSU measurements looking at space. This memo presents results of such a study.

A set of 160 consecutive scan lines were chosen from the middle of the inverted orbit (1441 GMT to 1549 GMT). A preliminary look at the raw data showed a general drift with time, presumably related to temperature changes in the instrument. To account for this, the deviations of the measurement at the eleven scan positions from the space look were used as input data for each scan line. A plot of the sample averages at each scan position showed smooth behavior within each channel, and related behavior from channel to channel. As a measure of the significance of these variations, the accompanying figure shows a 95% confidence interval for the means of 160 scan lines of data at each of the scan positions and for each channel. It should be noted that the units are counts.

From this data it may be safely concluded that: I) There is a definite scan angle dependence in the measurements; II) There is a definite correlation between the behavior of channels 1 and 3, and between channels 2 and 4.

The magnitude of the observed effects is not large, but is noticeable (with the exception of channel 4). However, it is unclear with what magnitude these effects exist in a normal Earth view.

Attachment

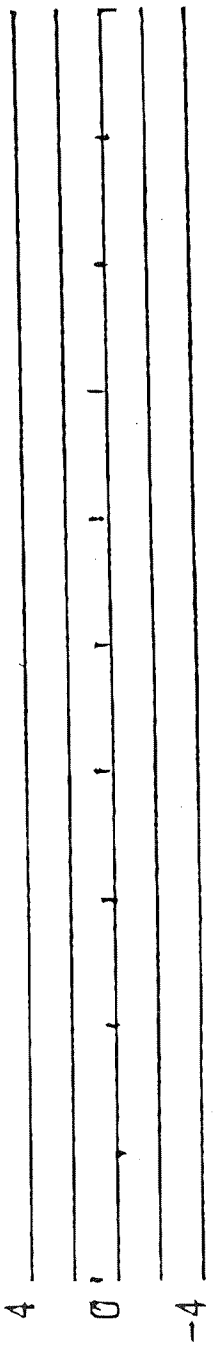
cc: E/RA34 - M. Chalfant  
 E/RA34 - N. Grody  
 E/RA21 - L. McMillin  
 E/RA34 - C. Novak  
 E/RA22 - G. Reinhardt  
 E/SPD3 - A. Schwalb  
 E/RA - D. Wark  
 E/RA - H. Yates



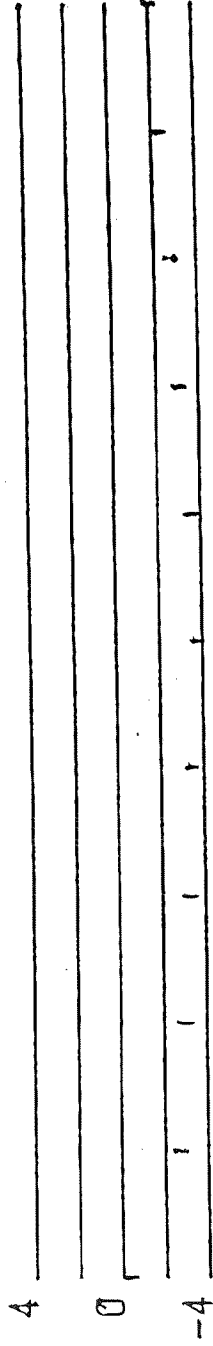
SCAN POSITION

4 0 1 2 3 4 5 6 7 8 9 10

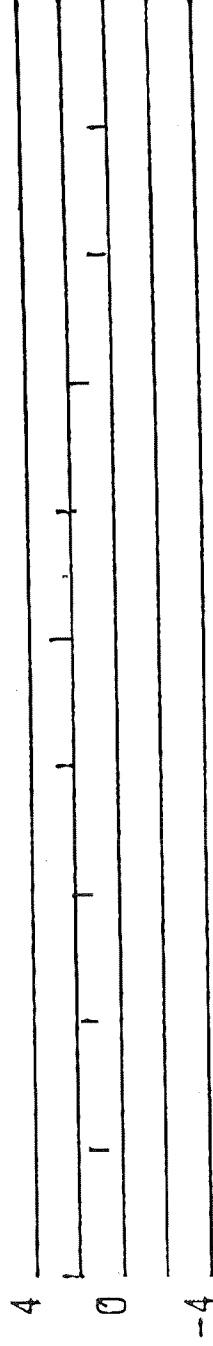
MSU 4



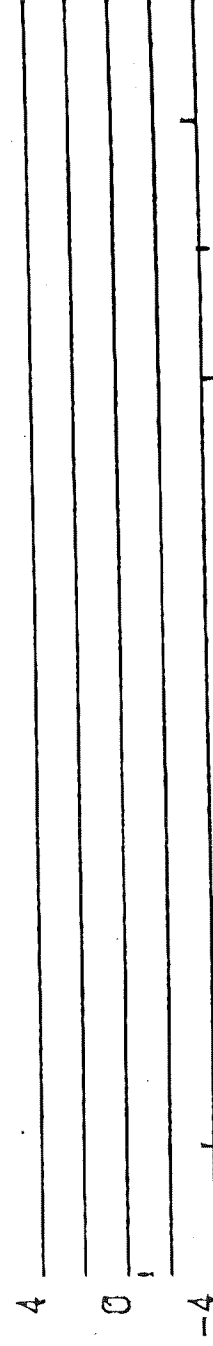
MSU 3



MSU 2



MSU 1



NOAA-6 PITCH-UP MANEUVER AVERAGE DEVIATIONS FROM SPACE LOOK