

National Radio Astronomy Observatory  
Tucson, Arizona

April 17, 1989

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*jm*

MEMORANDUM

To: Distribution

From: P. R. Jewell *PRJ*

Subject: Further Tests with the Laser Quadrant Detector

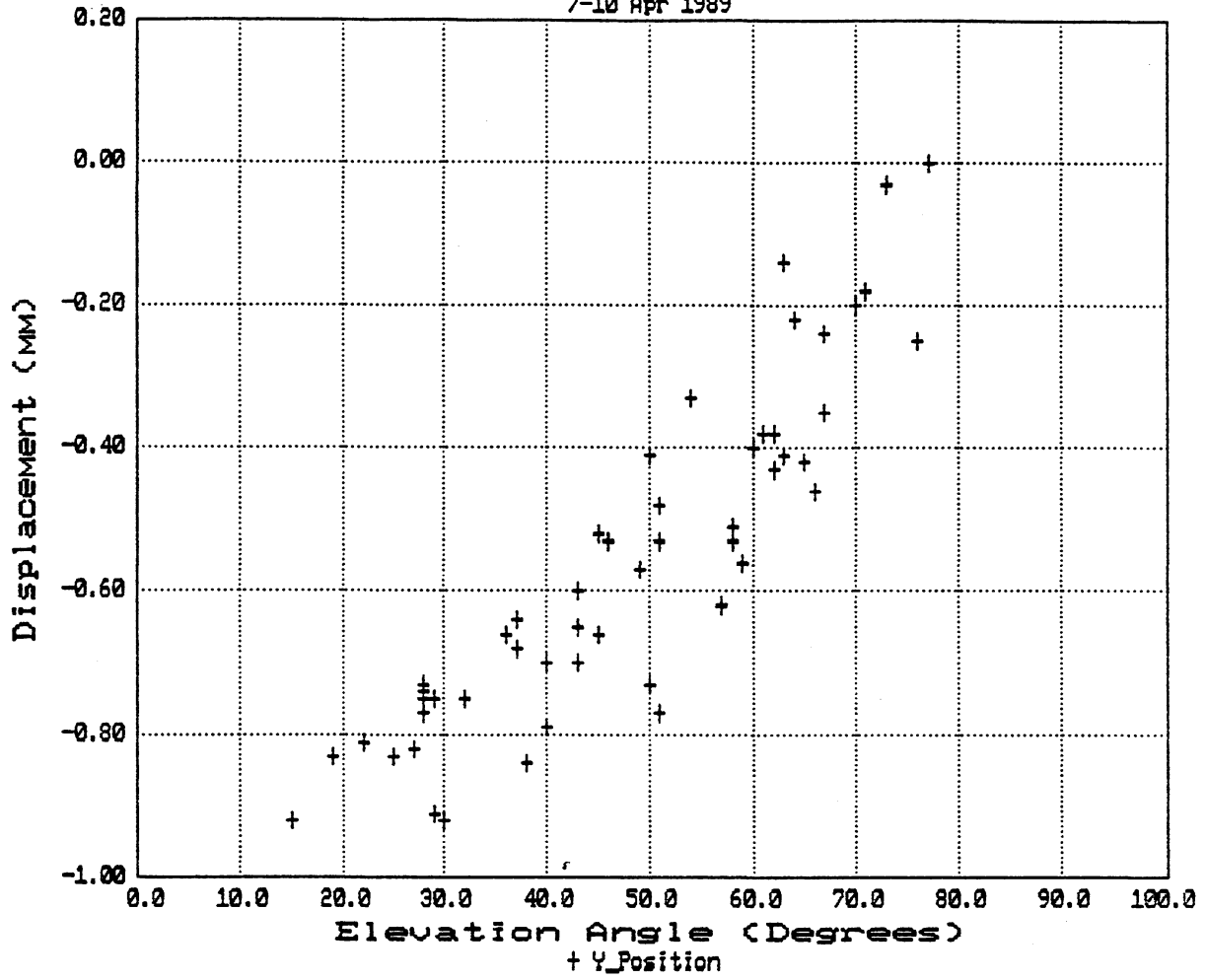
Last week the telescope operators (Tom & Duane) recorded a number of readings of the laser quadrant detector at various elevation angles throughout the day. The results (see attachments) show quite a lot of scatter and a strong effect in the X direction as well as the Y direction. For every 1 millimeter of real translation of the prime focus, telescope pointing changes by 34 arcseconds on the sky. This does not include calibration of the quadrant detector, which is, in fact, about 20% too low at present. If the scatter and X movement on the plots is a real effect, then movement of the prime focus could be an important contributor to our pointing problems.

To investigate this further, we need to correlate more tightly the quadrant detector readings with radio pointing measurements, i.e., we need to find out if radio pointing excursions correspond to large movements of the prime focus, as indicated by quadrant detector readings. For the next two weeks (concluding on Wednesday morning, May 3), I am asking the telescope operators to write down the quadrant detector reading each time a radio 5-point measurement is taken. I have attached a form for recording these measurements, and have sent several photo-copies to the day operator. Each time one of these sheets is full, please send it down to me.

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Quadrant Detector Readings  
7-10 Apr 1989



Quadrant Detector Readings  
7-10 Apr 1989

