

DRAFT: 08/17/83

SETTING THE VLBA ANTENNAS

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August 17, 1983

1. Introduction

We have now got far enough in setting the 12-meter surface to allow me to look towards the VLBA surface setting task. The following points seem fairly clear.

2. Method of Setting and Measuring

(a) Holography. This technique is already well tested, although in detail there are variations in method. However, within a month or two we expect to have used the 12-meter system and to have a direct comparison with our template measures. It seems clear that holography should be the basic system to be used on the VLBA antennas; secondly, it seems also clear that a "single-dish" method such as that used on the 12-meter is the correct one.

The following questions should perhaps be considered:

- (i) Is the LES-8 satellite suitable and will it be there when needed?
- (ii) Could we use a radio source instead?
- (iii) Is it now timely for us to start considering getting a suitable transmitter on some future satellite?

The following actions seem to be called for:

- (i) Ensure that the present 12-meter work is fully documented.  
(Those involved are J. Payne, C. Moore, A. Lazenby and B. Stobie.)
- (ii) Perhaps run the system on the 140-foot as a test for the VLBA.

(b) Mechanical Setting

- (i) The first need is for a good mounting and adjusting system. The 12-meter may be used as an example with both good and bad features. If it is proposed to bring Otto Heine into the group, I should much value his advice on this mounting problem soon, while we are still immersed in the 12-meter problems.
- (ii) A simple mechanical setting system is needed both for a first set (No more tape and transit please!) and then to allow the errors that the hologram shows to be positively sensed and removed.
- (iii) My first proposal would be a two template method. But however we do it, the antenna design must include provision for this system; it should not be treated as an add-on.

3. As the 12-meter cools off, I can offer help in these areas.

JWF/j