

New Radioheliograph

--- Antennas ---

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1. Antenna Characteristics

2. Accuracy of Antennas

Accuracy of Mechanical sizes

Standard Stones

Antenna Arrangement

3. Control System

4. 34GHz System

5. Schedule

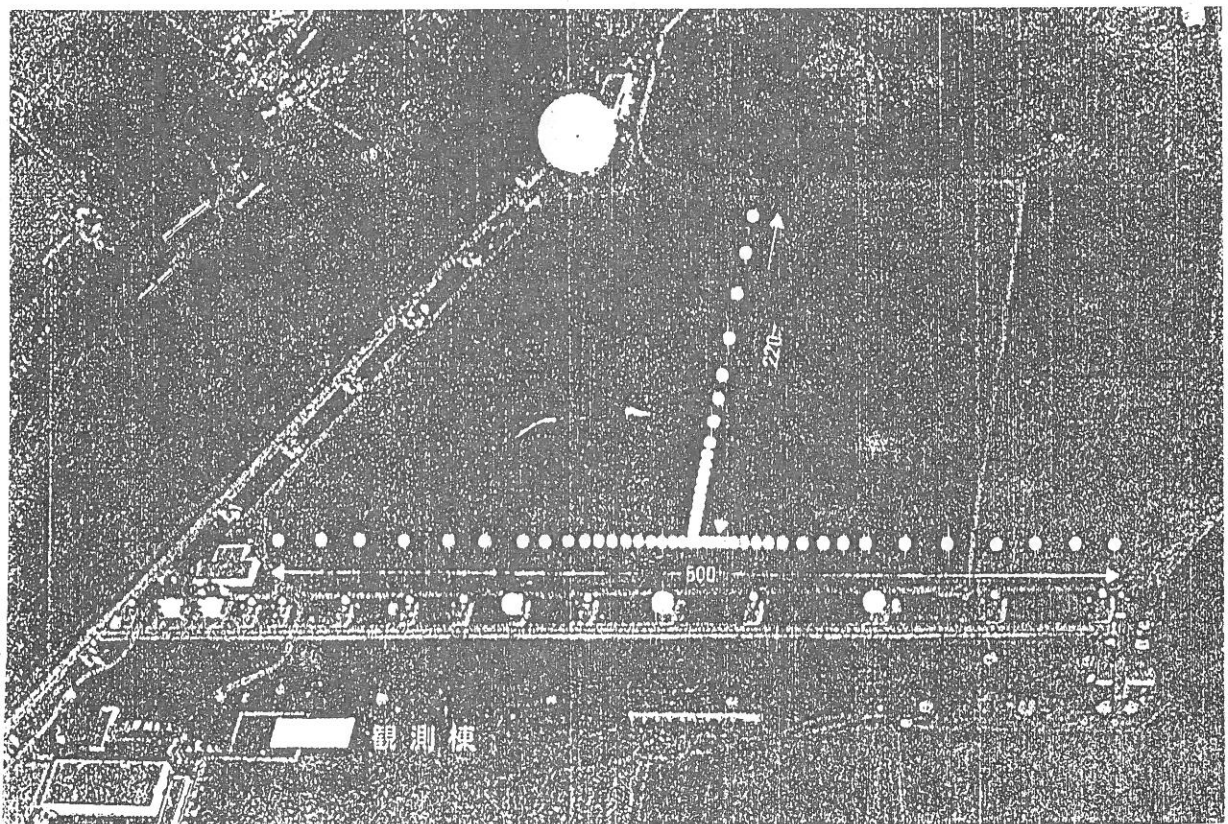
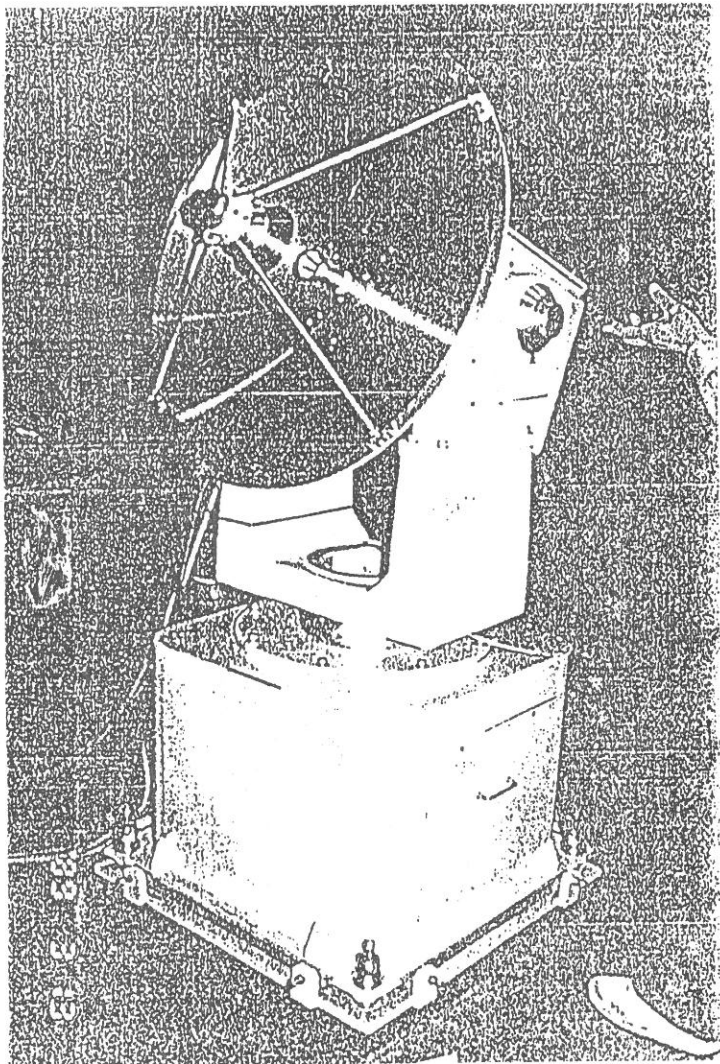


Table 1. Characteristics and performance.

Observing frequency	<u>17 GHz</u> + 34 GHz
Band width	40 MHz
Polarization	RH and LH circular polarization
Antenna diameter	0.8 m
Number of antennas	84
Fundamental antenna spacing	1.528 m
Maximum baseline length	<u>488.96</u> m for east-west array <u>220.03</u> m for north-south array
Field of view	<u>40'</u>
<u>Spatial resolution</u>	<u>10"</u> for two dimensional image 5" at 34 GHz
<u>Temporal resolution</u>	<u>50 ms</u> and 1 s
Dynamic range of image	<u>100:1</u> for snap-shot <u>1000:1</u> for rotational synthesis



$$\lambda \approx 135^\circ \text{E}$$

$$\phi \approx 35^\circ \text{N}$$

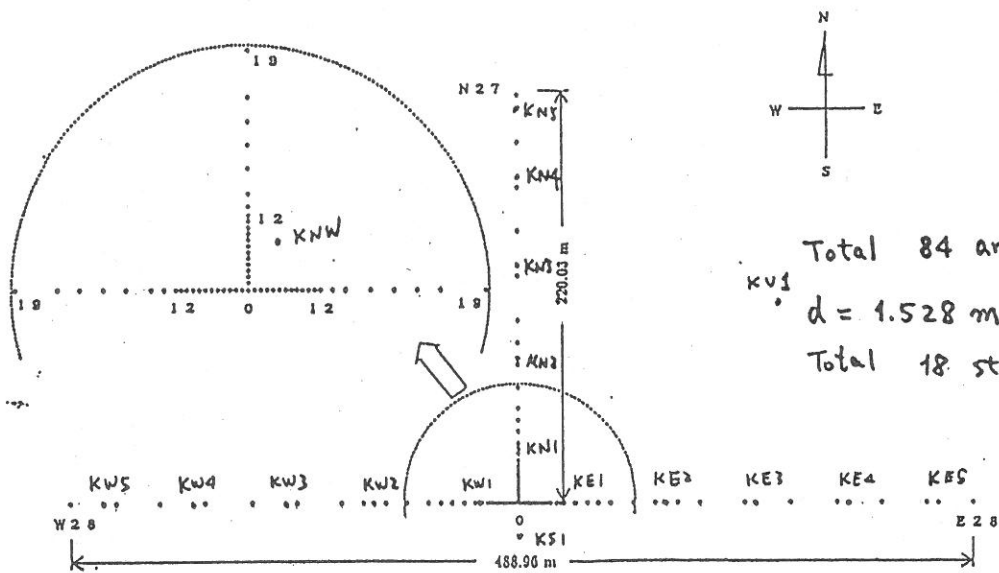
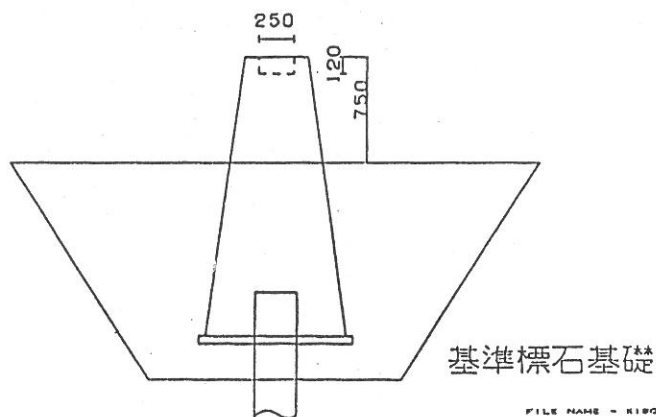
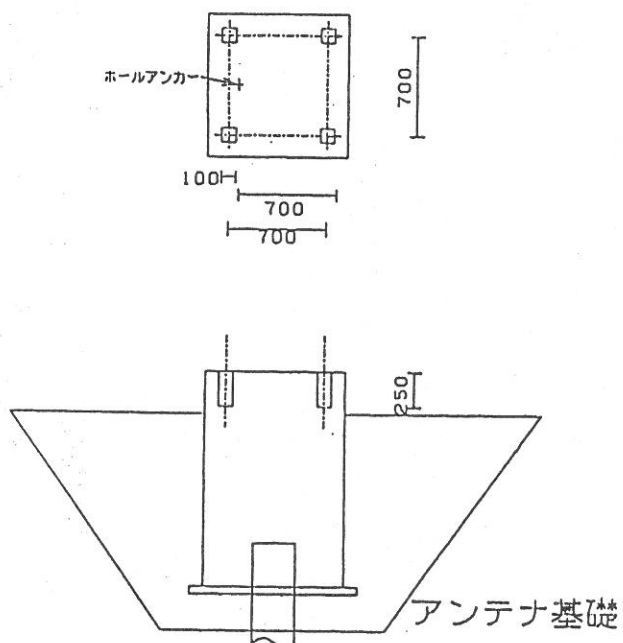


Figure 1. Array configuration.

別紙 1. アンテナ基準標石
基礎 (率)



FILE NAME - K100

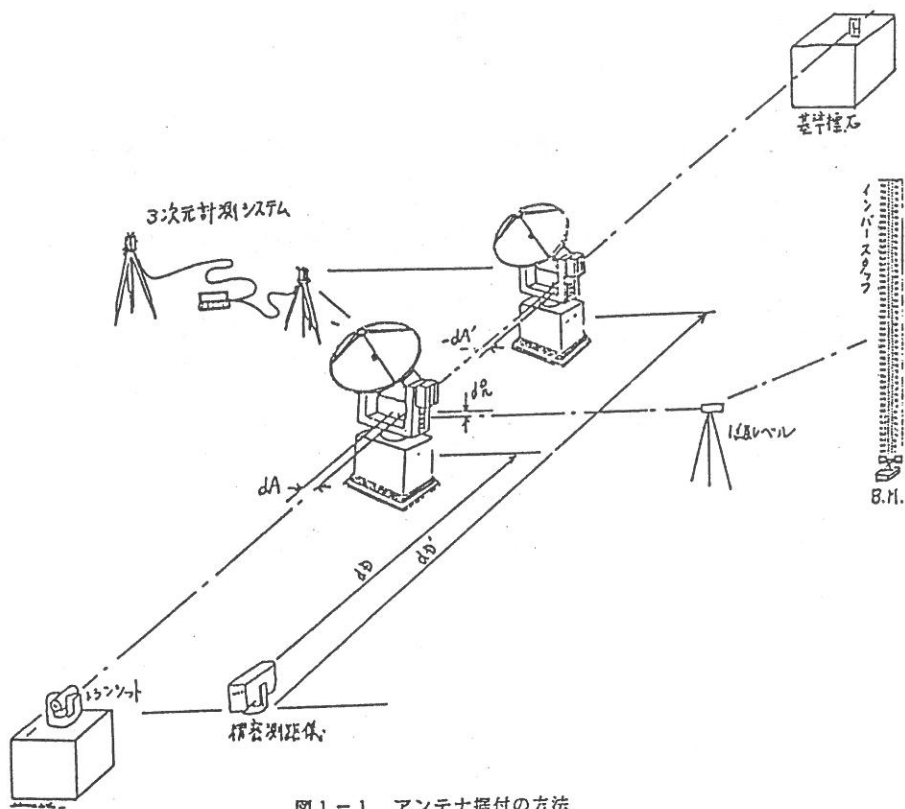
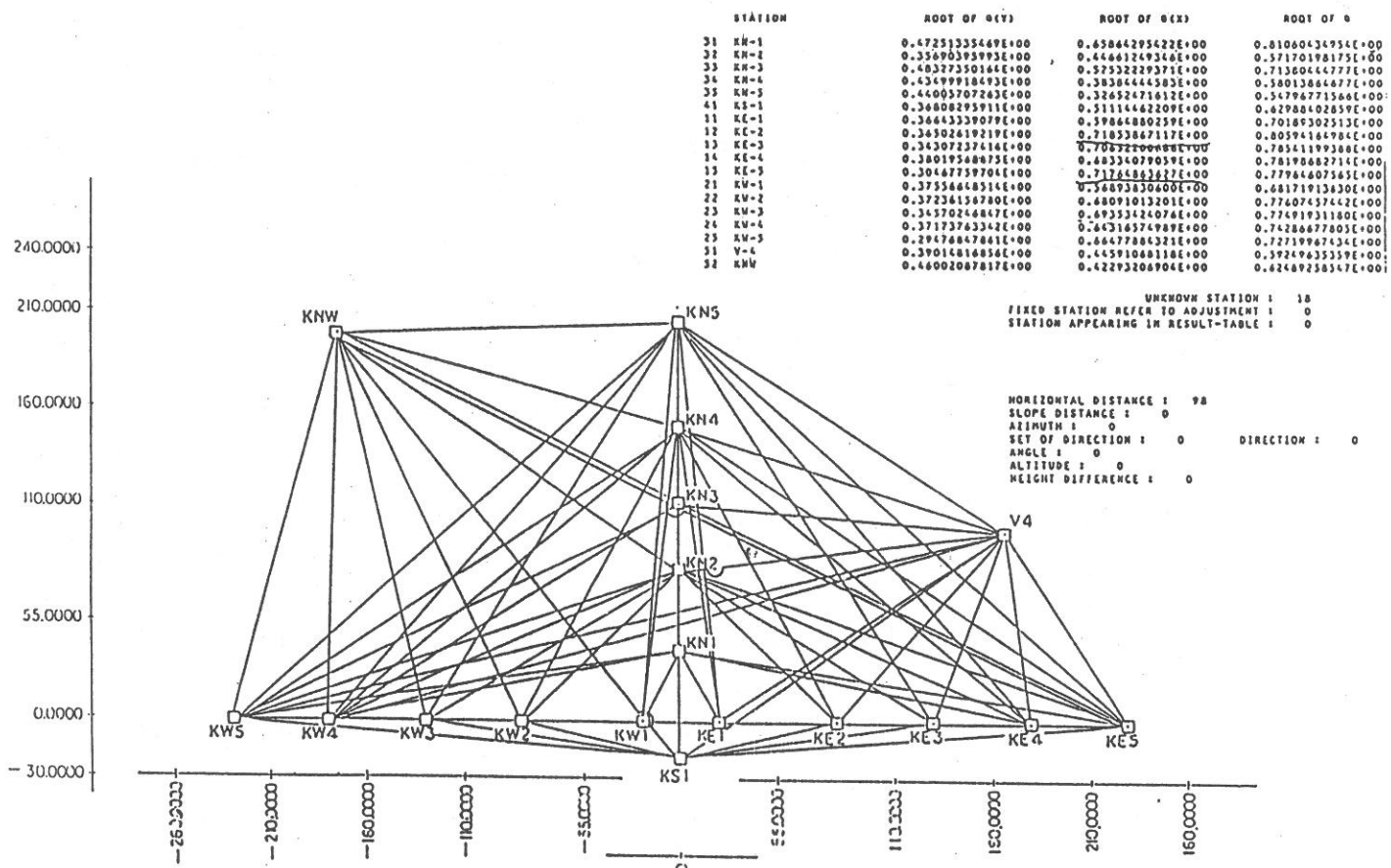


図 1-1 アンテナ据付の方法



CASE-14

2. Accuracy of Antennas

within few % and degrees of correlation errors

Accuracy of Mechanical sizes

• Surface Accuracy of Main Ref.	0.3mm rms
• Discrepancy between Parabola Axis and Az Axis	0.5'
• Orthogonality of Az-El axes	10"
• Pointing Accuracy	36"

Standard Stones

18 Standard Stones---Absolute Positions

Accuracy within the Antenna Plane	0.4mm rms
Accuracy of the Hight	0.6mm rms

Antenna Arrangement

Relative to the Standard Stones

Relative Acc. within the Plane	0.3mm rms
Relative Acc. of the Hight	0.3mm rms
Absolute Acc. within the Plane	0.6mm rms
Absolute Acc. of the Hight	0.9mm rms

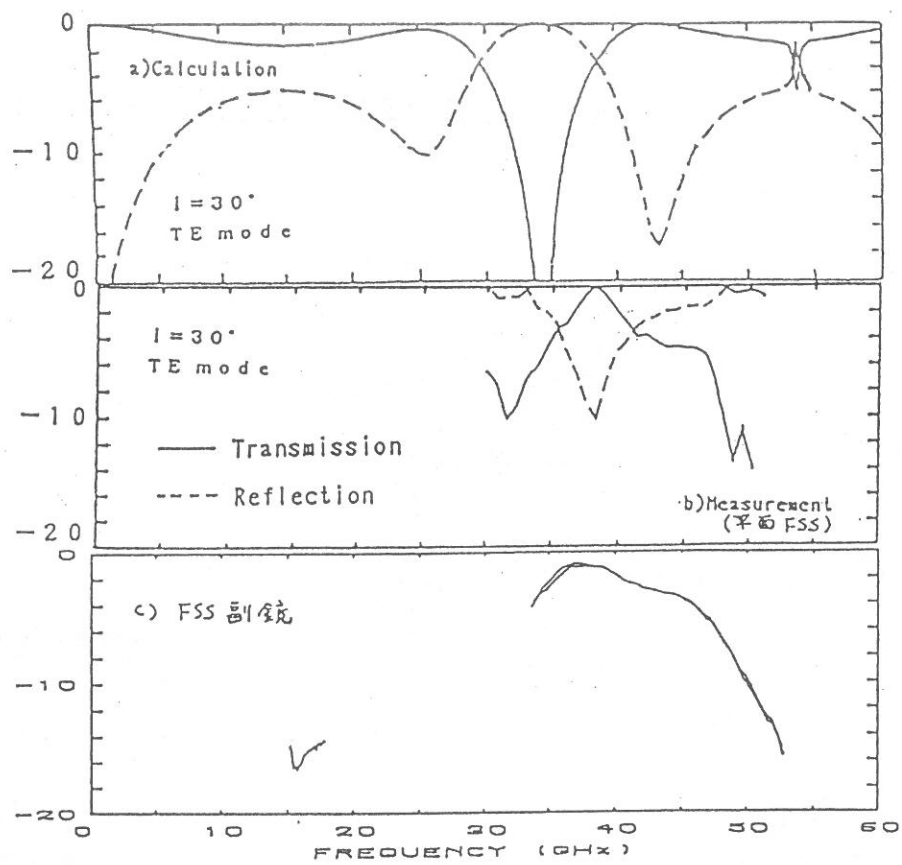


図7. 17/34GHz FSS の設計周波数特性(a), 平面 FSS の測定特性(b), FSS 副鏡の測定特性(c)

