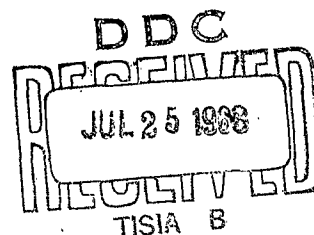


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CORNELL UNIVERSITY

Center for Radiophysics and Space Research

ITHACA, N. Y.



STAFF

The following personnel have been associated with this program:

T. Gold	Director, Center for Radiophysics and Space Research
M. H. Cohen	Associate Professor
P. Weaver	Assistant Professor
S. M. Colbert	Research Associate
G. Peter	Project Associate
*D. M. Teeter	Technician
*W. Zandi	Graduate Student
C. Cotner	Graduate Student
D. Cunnold	Graduate Student

STATUS

A. 430-Mc/s Radiometer

Stability tests on the radiometer were satisfactory. When the system was run with a Diche switch, the output fluctuations were within a factor of two of the theoretical value. The radiometer is now being used to test a 21-cm receiver which is being built for the Arecibo Ionospheric Observatory. The 21-cm front end (switch, mixer, local oscillator, preamplifier) connects to the main i-f amplifier of the radiometer.

*Supported by Contract No. Nonr-401(27)

B. 430-Mc/s Polarimeter

The crossed-dipole feed has been assembled in the 17-foot dish with a rotary drive. There still appears to be asymmetry of the structure of a few tenths of a decibel, and this antenna is now being studied extensively. A strip-line hybrid junction has been built. This device is to convert the two linear polarizations into the two circular polarizations. It appears to work well; the isolation is over 40 db between opposite ports.

The electronics for the polarimeter are largely complete, except for the correlation and phase-measuring devices. The correlator from the old 200-Mc/s polarimeter has been checked and appears to work substantially as before, therefore the entire system can be run as formerly. The multiplying circuit, however, has several drawbacks, and we are now investigating improved multipliers.