

COLLEGE OF ENGINEERING
CORNELL UNIVERSITY
ITHACA, NEW YORK

SCHOOL OF ELECTRICAL ENGINEERING
CHAS. R. BURROWS, DIRECTOR

October 23, 1946

Mr. Grote Reber
212 West Seminary Avenue
Wheaton, Illinois

Dear Mr. Reber:

Thank you for your letter of October 7. I hope you will pardon the delay in answering it. Professor Charles L. Seeger, who is heading up the work on micro-wave astronomy, was delayed in returning to Cornell this fall.

We are acquainted with the published accounts of your work on extra terrestrial static. We will be very glad to cooperate with you in what we believe is an important long range research program. We think it will be worthwhile if we could get together for a day of mutual discussion of the problems involved.

Briefly our intended program is as follows:

During the first year a survey of extra terrestrial noise will be made over the frequency range 100 to 10,000 megacycles. We intend to use a parabola, 17 feet in diameter, with appropriate receiving equipment. This small size will not give us a very sharply defined angle of vision at the lower frequency end of the range contemplated but it seemed worthwhile to postpone a more elaborate telescopic reflector until a rough survey has been made and many of the receiver engineering problems solved. We hope to repeat and extend some of Dr. R. H. Dicke's measurements on the sun and the moon. With reference to the sun, we hope to develop a telescope which will allow us to scan some of the largest sun spots. Since the atmosphere has a variety of absorption bands and critical frequencies over the range of which we are interested, we hope to keep the equipment in a semi-portable state so that we may transport it to a high altitude station. It also may appear desirable to search some of the heavens not visible from our location in Ithaca.

Mr. Reber

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It may also appear desirable to set up, at least on certain frequencies, a radar transmitter for use with the micro-wave telescope for further investigation of critical refraction and the presence of such objects as meteors.

Because this program appears to hold so much promise for the physicist and the astronomer as well as the electrical engineer, we hope to make this project a thoroughly cooperative one in which all three fields take an active part.

We are particularly desirous of taking advantage of your experience in this work and would welcome an invitation to visit your observatory.

Yours very truly,

Chas. R. Burrows

CRB:rmf

cc: C. L. Seeger
Provost's Office
E. R. Piore
Capt. W. W. Strohbehn