

BELL TELEPHONE LABORATORIES

INCORPORATED

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CHELSEA 3-1000

IN REPLY REFER TO

Box 107, Red Bank, N. J.
February 9, 1945-1630-GCS-MGM

REPLYING TO

MR. GROTE REBER
212 West Seminary Ave.
Wheaton, Illinois

Dear Mr. Reber:

I have for some time been interested in the general subject of microwaves and also in the various solar and terrestrial phenomena associated with radio propagation. In this connection, I began in the early part of 1942 to measure solar radiation in the wave-length region between one and ten centimeters with results that appear to be of considerable general interest.

I am attaching for your information and comment the manuscript of a paper covering my results entitled: "Microwave Radiation From The Sun". Because it deals with a subject rather closely related to cosmic static and because I make direct reference to your numerous papers, I think you should look it over with a critical eye. In particular, make sure that my references to your observations of solar noise and cosmic static are essentially correct.

I have read with great interest your recent article in The Astrophysical Journal. I can well imagine that it has brought considerable favorable comment from the astronomers as also did your earlier papers from radio engineers. I hope to resume observations soon in the centimeter region with apparatus of added sensitivity. At that time I shall make it a point to take another look at the Milky Way and perhaps also the regions of the Pleiades, Orion and Andromeda. A measurement of cosmic static in this very short wave length region considered along with your measurements at 160 mc and Jansky's at 20 mc might throw additional light on the variation of cosmic static with frequency. However, I think that we can be quite certain already that cosmic static at 10,000 mc is on a much lower level than solar noise. Interpreted in light of your results and those of Jansky, this seems to say as you have already suggested, that these two forms of radiation follow quite different laws.

Mr. Grote Reber -2

I regret that I have been unable to describe my apparatus in greater detail. To do so would unquestionably have led to difficulties with regard to Army and Navy releases.

Very truly yours,



Wave Guide Research Engineer

Att.

Manuscript entitled: "Microwave Radiation
From The Sun".