

May 14th, 1947
312 W. Seminary Ave.
Wheaton, Illinois

Dr. Harry Wells
Department of Terrestrial Magnetism
Carnegie Institution of Washington
Washington 15, D.C.

Dear Dr. Wells:

I have been thinking about our conversation last week relative to a program on astronomical radio.

The Bureau of Standards is setting up to monitor the sun continuously on 180mc and 480mc. Development of apparatus for use at 1400mc is underway.

Covington at the National Research Council of Canada has been quite successful in solar measurements on 3000mc and plans to maintain a continuous watch of the sun.

Burrows and Seeger at Cornell University and Salisbury at Collins Radio are undertaking some programs at 10,000mc and 24,000mc. Likewise the Navy at NRL is conducting some type of experiments at 10,000mc.

Judging from notes in Nature (London) several English experimenters are working near 60mc. Correspondence with Steinberg of the University of Paris indicates they are setting up to make solar measurements between 75 and 200mc.

The above resume is the present general situation on this work as far as I have been able to learn. For some reason the frequencies from 10mc to 30mc where Jansky made his discovery is completely ignored by present workers. I am wondering if your organization would be interested in setting up a program in the region 20mc to 30mc. These frequencies should easily penetrate the ionosphere near vertical incidence even at the present height of solar activity. In a few years when the solar activity approaches a minimum, it is likely some good work could be done at 10mc. Reliable estimates of cosmic static are very much to be desired in the low frequency range because it is here that practically all theories of its source fail. No expensive mirrors need be had for collector as an array of wires will suffice. Directivity steering may be had by electrical phase adjustment.

Cosmic static from the milkyway should be abundant. The situation on solar noise is uncertain but it appears that even on 15mc it can be detected at times.

This note is merely to bring forward to your attention the way the general situation appears to me now. I will be pleased to have you consider the above and shall be glad to discuss any phase of the subject whenever you can arrange a trip to Wheaton.

Very truly yours,

Grote Reber

Sent requests of Nature & Observing on 5-21-47