

November 11th, 1948
P.O. Box 4868
Cleveland Park Station
Washington, D.C.

Dr. Jesse L. Greenstein
Dept. of Astrophysics
California Institute of Technology
Pasadena, California

Dear Jesse:

Many thanks for your note of the 4th.
With this letter I am enclosing

2 prints on white paper
3 prints on transparent film
1 memorandum describing these
1 copy of my article in Oct. 1948 Proc. I.R.E.

You are welcome to use and keep all of this material. If you desire, I can loan to you slides of the above charts. All contours are drawn in the same units, namely 10^{-22} watts per square cm., circular degree, megacycle band. The scale of the transparencies is correct to fit over the composite maps of the Northern Milkyway published by Blakiston in "The Milkyway" by Bok & Bok.

There are unquestionably a large number of small objects sending out radio waves in the sky. See

"Variable Radiation from Cygnus", G.J. Stanley & J.G. Bolton
Australian Jnl. Sci. Research, March 1948 Vol 1, no 1, p58-69

"Discrete Sources of Galactic Radio Waves", J. G. Bolton
Nature, 24th July 1948, Vol 162, no 4108, pp141-142.

In fact there are so many, that Bolton's equipment does not have primary resolving power large enough to properly separate the various sources and measure their individual size (see July Nature).

Many of these objects send out radiation of an intensity which varies with time. The phenomena is most pronounced at low frequencies. The near zenith measurements at 80mc, show, beyond a shadow of doubt, that the intensity variations are caused at the source

and are not superimposed by the earth's atmosphere. See

"Radiation from Source in Cassiopeia", M. Ryle & F.G. Smith
Nature, 18th Sept. 1948, Vol 162, No 4116, p 462-463.

The data of Sanders & Jansky were both taken by very low resolution equipments. Thus little detail is shown. However it is interesting that both investigators used identical techniques and resolving powers. Thus, even though many years intervene, the two sets of data are closely comparable. They demonstrate that the sky has a more uniform and somewhat higher surface brightness at the lower frequency.

After you have had a chance to look this material over, I will be pleased to hear any comments you have to make. It is my opinion that this science is now ready for a really "blue chip" investigation. Further half way measures are more irritation than satisfaction.

Best regards,

Grote Reber

P.S. The latest claimants for the honor of discovering solar radio waves are now the Germans in 1940 from Skagen. "175mc Solar Radiation", E. Schott. Phys. Blatter, 1947, Vol 3, No 5, p 159-160.