

## MAGNETIC STORMS AND SUNSPOTS DIMINISH RANGE OF SIGNALS

### Observers Verify Theory That Long Distance Radio Does Not Thrive When Solar Storms Create Dark Spots on Face of the Sun

**I**NTENSITY of radio signals may be influenced by disturbances 93,000,000 miles distant from the earth, and radio transmission may be affected by sun spots, which are known to be connected with magnetic disturbances on the earth, according to the Department of Commerce's Bureau of Standards.

The laboratory for special radio transmission research of the Bureau of Standards has just issued its report on the measurement of long-wave long-distance signals in 1925. The measurements, with their present degree of accuracy, were begun in 1922, and are being taken partly to determine the laws of long-wave transmission and partly with the hope of establishing connections between the changes in signal intensity and other natural phenomena in meteorology, terrestrial magnetism, solar activity and the like. Ten stations were measured twice daily during 1925. Seven of these stations were in Europe, one was in California, one in Porto Rico and one in Argentina.

#### Heat Causes Poor Reception.

It has already been established, according to the bureau, that there is considerable connection between radio signal intensity and temperature, especially for transmission over moderate distances when weather conditions are fairly uniform over the signal path. It is also certain that the more severe magnetic storms affect the signals, sometimes strengthening them and sometimes making them weaker.

As radio signal strength is known to be difficult to measure with accuracy and as apparent discrepancies have been noted in previous measurements and observations, a comparison was made during 1925 of the signal-measuring apparatus of a leading radio corporation, an important radio laboratory and the Bureau of Standards. That comparison showed that the three were in satisfactory agreement, and it is believed to be evidence of their absolute, as well as their relative, accuracy.

Daily observations of the sun spots are being made by the Harvard Astronomical Observatory. Some of the disturbed areas have been 100,000 miles in extent.

"Although no direct connection has been established between sun spots and the weather," said Professor Harlan T. Stetson of the Harvard astronomical division, "it has been known for a long time that they have marked electrical and magnetic effects upon the earth, and we may safely predict that good long-distance radio reception and sun spots do not thrive in the same market.

"Sun spots recur in regular cycles of about eleven years. The last maximum occurred in 1917 and the max-

imum we are now approaching should occur about 1928. For the next two or three years the solar storms should increase in number and size, and even larger spots than the one recently photographed may be expected."

#### MAY HAVE TO ANNOUNCE WHO PAYS FOR BROADCASTS

**T**HIS is likely to be the last campaign in which speeches which are made in time paid for by political parties will be able to get by on the air anonymously. For instance, if Secretary of Labor Davis or Senator Pat Harrison are heard in the forthcoming campaign, the listeners will not know whether radio stations are receiving money for their time on the air or not.

If, however, the pending radio legislation becomes a law next December, thereafter the announcer on such an occasion would be obliged to confide to the listeners that they would not hear such and such noted speaker, and that this had been paid for or furnished by the Republican or Democratic National Committee or whoever sponsored the event.

Likewise, the pending legislation is very explicit in that if any station

owner shall permit a broadcasting station to be used by a candidate for public office, he shall afford equal opportunities to all candidates for the same office. And the station owner under those circumstances would have no power to censor the political material broadcast, but, on the other hand, he would not be liable to criminal or legal action by any uncensored utterances broadcast by a candidate.

#### EXPECT NEW CONFEREE ON RADIO CONTROL

A current report has it that Senator Frank R. Gooding of Idaho will succeed the late Senator Cummins of Iowa as a conferee on the radio control bills to be considered by Congress in December. The appointment, regardless of who the Senator is, is not considered especially significant, inasmuch as the big fight will be on whether or not radio hereafter will be controlled by Secretary Hoover or a separate commission.

It is known that two of these conferees selected by the Senate—Mr. Watson of Indiana and Mr. Dill of Washington—favor commission control; therefore, on that particular phase of the question the vote of Senator Cummins's successor would not be decisive either way.

#### JENNY LIND MUSICAL.

The second program of The Vikings will be broadcast Tuesday night at 8 o'clock, Eastern Standard Time, and will be known as a "Jenny Lind Program." The program will radiate from WEAF, WEEL, WFI, WCAE, WWJ, WGR, WTAM, WSAI, WJAR, WTAG, WOC, WCCO, WCSH and KSD.