

PERIODICITIES IN SOLAR RADIO NOISE EMISSION*

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In a recent article, Roberts (1958) described solar radio wave emissions in the range 40–80 Mc/s. The investigations were a continuation of work initiated earlier by Wild and McCready (1950) on the dynamic radio-frequency spectrum, and by Wild, Murray, and Rowe (1954) employing a 40–240 Mc/s spectrograph.

Recent work by Gerson and Gossard (1959) extended the observational range to lower frequencies, 2–30 Mc/s. These workers determined the dispersion of the echoes, $\Delta f/\Delta t^2$ (cycles/sec²), and because of the sweep-frequency nature of

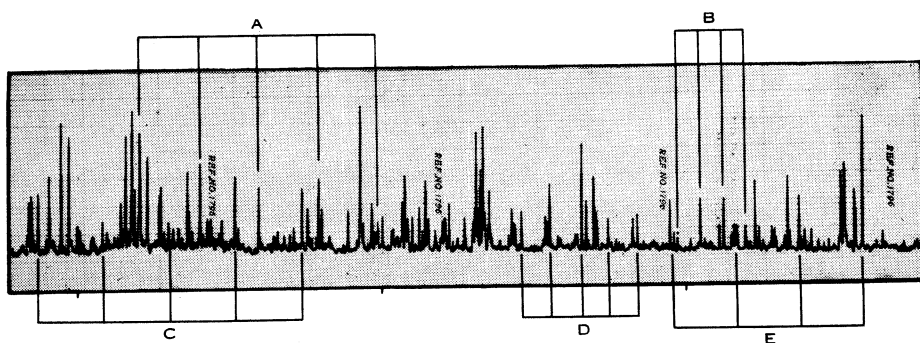


Fig. 1

the bursts termed the phenomena “sweepers”. They also noted that many sweepers occur in trains with recurrence rates ranging (for the limited period of their study) from 1 to 140 sec. Most sweeper trains, however, had periods of 2–20 sec.

It is the purpose of this note to indicate the presence of sweeper trains in the work of Roberts (1958). Figure 1 is a reproduction of his Figure 1 (c) where

TABLE I
SWEEPER TRAINS

Description	Number of Elements	Total Duration (sec)	Period (sec)
A	5	937	234
B	4	268	89
C	5	1042	260
D	5	459	115
E	4	746	249

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the elements of several sweeper trains (A-E) have been indicated. Periods of the trains are given in Table 1.

The sweeper trains are believed to arise from a relaxation effect taking place in the solar chromosphere. The subject is being discussed elsewhere.

References

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