although the same theory is also applicable to plasma diagnostics in the laboratory.

Ronald W. Williams, Systems and Data Processing Manager for Brookhaven National Laboratory, has been involved in commercial and administrative data processing 1961. He programed for the first UNIVAC installation at the Bureau of Census and worked as Computer Applications Officer on one of the early commercial installations at the Chesapeake and Ohio Railway Company. After conducting the feasibility study for the General Tire and Rubber Company, he managed the design, programing, installation, and operation of an RCA 501 system there. He joined the Brookhaven staff in February of this year to establish the new Systems and Data Processing Division. His BA and MA degrees (both in economics) are from the University of Akron ('48) and the University of Chicago ('51), respectively.

LOW FREQUENCY SIGNALS

Title Whistlers and Related Ionospheric Phenomena
Author Robert A. Helliwell
Publisher Stanford University Press, 1965
Pages viii + 349
Price $12.50
Reviewer Erwin R. Schmerling

A number of other types of very low-frequency emission, with entirely different dispersive characteristics, is also discussed, and the evidence is summarized for the triggering of periodic emissions by whistlers. This section is particularly well illustrated by numerous sonograms.

The viewpoint is mostly that of ground-based observations. It is unfortunate that it was not possible to include the phenomena recently discovered in satellites which appear to depend on the ionic composition of the medium, and it is hoped that a later edition will include a full discussion of proton whistlers, hybrid resonance effects, and subprotonosphere whistlers.

The style is readable and clear, and the historical introduction is excellent. This book can certainly be recommended to any reader who wishes to obtain a good start in this area.

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