Preface

During the past few years radio scientists have come to recognize the importance of nonlinear processes that may occur during the propagation of electromagnetic waves through the ionosphere. The growing interest in these processes suggested that a conference dealing with such problems would be timely. We further hoped that the proceedings of the conference would stimulate research in these important phenomena.

The papers in this issue are some of those presented at the Conference on Nonlinear Processes in the Ionosphere held in Boulder, Colorado, December 16 and 17, 1963. Some sixty scientists from around the world attended this conference. It was jointly sponsored by the Voice of America and the National Bureau of Standards. Because of space limitations we have not been able to include all of the contributions to the conference. A more complete set of papers from the conference has appeared in National Bureau of Standards Technical Note No. 211, Volumes 1–6, available from the U.S. Government Printing Office, Washington, D.C., 20402.

Donald H. Menzel,  
*Guest Editor*

Ernest K. Smith, Jr.,  
*Guest Editor*
Other Papers Presented at the Conference on Nonlinear Processes in the Ionosphere

On some resonance phenomena near the gyrofrequency obtained during the propagation of a radiowave in plasma (ionosphere). M. Cutolo, NBS Technical Note No. 211, vol. 2.

Ionospheric cross-modulation at the geomagnetic equator. W. K. Klemperer, NBS Technical Note 211, vol. 3.


Artificially stimulated VLF emissions. R. A. Helliwell, Stanford University, Palo Alto, Calif.

Natural VLF emissions. Roger M. Gallet, CRPL-NBS.

Plasma resonances observed by Alouette satellite. Wynne Calvert, CRPL-NBS.

Plasma instability in the whistler-mode caused by a gyrating electron steam. T. F. Bell and O. Buneman, Stanford Electronics Laboratory, Stanford University.


Copies of these particular papers are not available from the Conference Organization; however, in some cases they may be obtained directly from the authors at the addresses indicated. The NBS Technical Note 211, volumes 1 through 6 may be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.