## alendar of events

August 30-International Congress of Mathematicians, Cambridge, Massachusetts September 6 September 3-8 American Chemical Society, Chicago, Illinois Symposium on Plasticity (held under the auspices of the Graduate Division of Applied Mathematics of Brown University), Providence, Rhode Island September 8-9 September 10-13 American Institute of Chemical Engineers (Re-gional Meeting), Minneapolis, Minn. September 12 Society for Applied Spectroscopy, New York City Institute of Radio Engineers (West Coast Convention), Long Beach, California September 13-15 Electron Microscope Society of America (Annual Meeting), Detroit, Michigan September 14-16 Congrès International de Microscopie Electronique (Sponsored by Société Française de Microscopie Theorique et Appliquée), Paris, France September 14-22 September 17-23 Congrès de Chimie Industrielle, Milan, Italy American Society of Mechanical Engineers, Industrial Instruments and Regulators Division (5th National Conference), Buffalo, New York September 18-22 September 18-22 Instrument Conference and Exhibit (National), Instrument Conference and Exhibit (Manual Phasis) Buffalo, New York
International Conference on Spectroscopy at Radiofrequencies (Sponsored by Netherlands Physical Society), Amsterdam, Netherlands September 18-23 Polymer Chemistry as Applied to Plastics Symposium (Sponsored by Society of Chemical Industry), The University, London, England September 21-23 September 25-27 National Electronics Conference, Chicago, Illinois September 28-Associazione Italiana di Metallurgia (4th National Congress), Florence, Italy October 1 American Physical Society, New York State Section, Potsdam, New York September 29-30 Technical Association of Pulp and Paper Industry Engineering Conference, Cincinnati, Ohio October 2-5 Society for Applied Spectroscopy, New York City American Institute of Electrical Engineers, Mid-dle Eastern District, Baltimore, Maryland National Academy of Sciences, Schenectady, N. Y. October 3 October 3-5 October 10-12 American Society of Civil Engineers, Chicago, Illinois October 11-14 American Physical Society, Metropolitan Section, New York City Society of Motion Picture and Television Engi-neers, Lake Placid, New York October 14 October 16-20 Conference on Industrial Hydraulics (Sponsored by Armour Research Foundation), Chicago, Illinois October 18-19 Conference on Gaseous Electronics (Sponsored by Electron Physics Division, American Physical Society), New York City October 19-21 National Noise Abatement Symposium (Sponsored by NNA Council and Armour Research Founda-tion), Chicago, Illinois Pennsylvania Conference of College Physics Teach-ers, Haverford College and Franklin Institute, October 20 October 20-21 Philadelphia, Pennsylvania Conference on Applications of X-Ray Spectroscopy to Solid State Problems (Sponsored by Office of Naval Research and Wisconsin Alumni Research Foundation), Madison, Wisconsin October 23-25

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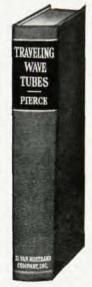
A definitive new work on the theory and relative merits of the traveling-wave tube, and its importance to present-day communications and the entire field of microwave electronics.

## TRAVELING WAVE TUBES

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BEGINNING with a clear and simple description of the traveling-wave tube and a simple exposition of its theory, this book treats in a unified manner problems such as those of circuit impedance, loss, gain, power, and noise in traveling-wave tubes.

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The first chapter is introductory, showing the nature of traveling-wave tubes, their advantages and disadvantages, and in general their place in present-day communications and the trend of their development. Then follows the description of the tube itself, and a concise, specialized analysis of its operation. Following chapters discuss slow-wave circuits and give a qualitative and quantitative idea of their nature and limitations. Then, simplified equations for the overall behavior of the tube are introduced and solved, and matters such as overall gain, insertion of loss, a-c space-charge effects, noise figure. field analysis of operation and transverse field operation are considered. Power output is discussed, and in the final chapters brief treatments are given of two closely related types of tube-the traveling-wave magnetron amplifier and the double-stream amplifier. Appendices treat various detailed points and contain, in easily usable form, material necessary for calculating gain of travelingwave tubes. In sum, this book provides the broad coverage of principles and the necessary treatment of details for those planning to work with traveling-wave tubes.

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