the receiver and subdivides the latter into extraterrestrial (both solar and cosmic) and terrestrial (both atmospheric and industrial) noise and discusses methods of quantifying these types and minimizing their effects. The chapter ends with two synoptic world maps showing levels of atmospheric noise.

The final chapter on propagation in various wavelength ranges methodically treats very long (kilometric), long and medium, intermediate, short (decametric), metric and even shorter waves. Discussion in each of these categories includes (where applicable) calculation of field strength from theory, atmospherics, the effect of obstacles, maximum usable frequency (MUF) lowest usable frequency (LUF) and the roles of the ionosphere, troposphere and ground. The chapter abounds in graphs of predictions and experimental results, synoptic world maps, tables and case studies (for example, broadcasting from France to Algeria), ending with a few pages on space telecommunications.

The publication references have a European flavor, but there are numerous references to publications originating in the US such as the various journals of the Institute of Radio Engineers and the Institute of Electrical and Electronics Engineers and the National Bureau of Standards. The style is lucid and free flowing and the book is not without a few bits of humor.

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Elektronenmikroskopische Methodik

By G. Schimmel
243 pp. Springer-Verlag, New York, 1969. $19.50

G. Schimmel's book is based on 16 years of practical experience in applied electron microscopy. Accordingly, it is directed to the use of the electron microscope as an analytical tool rather than as a research instrument. However, the author does not limit himself to tabulating specimen-preparation techniques and other manipulative features of electron microscopy. He also is concerned with discussing the selection of current problems best suited to electron microscopy, the interpretation of data from micrographs, and the combination of electron microscopy with other analytical techniques. The scope of such activities is called by the author "The Methodology of Electron Microscopy."

The first half of this book is based on the relationship between the real image and the electron diffraction pattern. After brief discussions of electron beams and general microscope theory, the author gives a rather complete treatment of diffraction by a space lattice. He then follows with a description of the results of the kinematical theory of diffraction contrast and briefly outlines the salient features of the dynamical theory of contrast. The second half of the book emphasizes applications, and is primarily a complete treatment of replica techniques. Although the author is a strong advocate of electron microscopy, he does make the point that most problems must be attacked by several different analytical methods rather than by electron microscopy alone. Two other application-oriented chapters deserve mention because they are infrequently treated in books on electron microscopy. In one, the author has nicely summarized techniques for the determination of particle-size distributions. Lastly, replica artifact, electron-beam-induced damage and ways to avoid these problems are discussed.

Two critical comments on the book can be made. First, there is an almost total lack of mention of scanning electron microscopy, which is, as a technique, rapidly supplanting much of replica electron microscopy. Secondly, although the author went to great length in describing diffraction theory, most of his applications involve replication and depend only on the information contained in the direct image. It would have been desirable to include more examples of information obtained directly from electron diffraction. These omissions notwithstanding, the book is sound, and can be recommended as a text for an electron-microscopy laboratory course and as a concise reference for those involved with applied electron microscopy.

Thomas Cass
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Experimental Meson Spectroscopy (Conf. proc. University of Pennsylvania, 1, 2 May 1970). C. Baltay, A. H. Rosenfeld, eds. 664 pp. Columbia U. P., New York, 1970. $15.00

Flow Through Porous Media (Conf. proc. Sixth State of the Art Symposium, Industrial and Engineering Chemistry and the Division of Industrial and Engineering Chemistry of the American Chemical Society, Washington, D. C., 9–11 June 1969). R. J. Nunge, ed. 247 pp. American Chemical Society, Washington, D. C., 1970. $9.00

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