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Mrs. Miller is a member of Eta Kappa Nu and Sigma Xi.

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From 1956 to 1958 he was employed by the Chinese Government Radio Administration, Taiwan. As a graduate student he held a Teaching Assistantship at Notre Dame, and a Research Fellowship at the Polytechnic Institute of Brooklyn where he did research in wave propagation and scattering on periodic structures. In November, 1964, after completing the requirements for the Ph.D. degree, he continued his research work at Polytechnic Institute of Brooklyn as a Research Associate. In 1965, he joined the Bell Telephone Laboratories, Inc., North Andover, Mass., where he has been engaged in development of microwave transmission components for microwave radio relay systems.

Microwave Abstracts

Based on technical merit and timeliness, microwave papers in journals published outside the United States have been selected and compiled below, many with annotations. Reprints of the papers may be obtainable by writing directly to the author or to the source quoted. The papers are in English unless noted otherwise.

—F. G. R. Warren, *Associate Editor for Abstracts*
RCA Victor Company, Ltd., Montreal, Canada

Papers from Journals Published in the Scandinavian Countries

Compiled by M. M. Brady, Radar Division, NERA, Oslo, Norway. (Twenty-two journals from Denmark, Finland, Norway, and Sweden were scanned.)

22
Van Atta Reflector, by J. Appel-Hansen (Laboratory for Electromagnetic Field Theory, Technical University of Denmark, Copenhagen, Denmark); *Ingeniören*, vol. 75, no. 8, p. 224, November 15, 1966.

Describes the extension of Van Atta reflectors to multidipole cases and discusses the experimental results on a 4-dipole Van Atta reflector for 3.2 GHz. (In Danish)

23
Piezo-Optical Interband Absorption in Silicon and Germanium, by I. Balsley (Technical University of Denmark, Copenhagen, Denmark); *Ingeniören-Forskning*, vol. 75, no. 4, p. 111, June 15, 1966.

Reports on investigations of optical absorption in the near infrared region of elastically-deformed germanium and silicon crystals. Essentially the condensed results of a larger English-language engineer's degree thesis. (In Danish)

24
Rapid and Simple Method for Measuring Minority-Carrier Lifetime in Monocrystalline Silicon, by K. E. Borbye (reprints from: Teknisk Forlag, Skelbaekgade 4, Copenhagen K, Denmark); *Ingeniören*, vol. 75, no. 3, pp. 163–165, February 1966.

Describes a light-pulse electrical technique with a counter being fed by gated RF whose envelope is the decay time of the crystals when pulsed. (In Danish)

25
The Radio Refractive Index in Finland and Remarks on *K*-Type Fading, by T. Haikonen (Finnish Post-Telegraph Laboratories, Helsinki, Finland); *Sähkö*, vol. 39, no. 2, pp. 68–72, February 1966.

The effects of average gradient distribution on probability density of field strength for microwave paths containing obstacles are examined. A proposal for predicting link performance in the presence of strong reflections is advanced.

26
Analysis of Step Recovery Diode Multiplier, by K. Kalliomäki (Finnish Institute of Technology, Helsinki, Finland); *Sähkö*, vol. 39, no. 5–6, pp. 173–176, May–June 1966.

The dependence of the harmonic amplitudes on diode fall time is given along with input–output power relationships. An impedance expression for inputs of diode-resonator combinations is derived and the influence of matching filters is examined.

27
The Accuracy of Practical Approximations of Double Knife-Edge Diffraction Loss, by T. Haikonen (Finnish Post-Telegraph Laboratories, Helsinki, Finland); *Sähkö*, vol. 39, no. 7–8, pp. 209–212, July–August 1966.

The Epstein-Peterson method is derived from the two-dimensional diffraction integral in two approximation steps.

28
A 60-MHz Electroacoustic Amplifier, by H. J. Fossum (Norwegian Defence Research Establishment, Kjeller, Norway); *Elektroteknisk Tidsskrift*, vol. 79, no. 5, pp. 71–74, February 15, 1966.

An electroacoustic amplifier operating at 60 MHz with 20 dB gain and noise 40 dB below saturation is described. Operation is with 6 μs pulses. A survey of problems in practical applications is given. (In Norwegian)

29
Dielectric Resonator: Theory and Technical Applications, by T. Hansen and T. D. Iveland (Institute for Theoretical Electronics, Norwegian Institute of Technology, Trondheim, Norway); *Elektroteknisk Tidsskrift*, vol. 79, no. 12, pp. 189–193, May 5, 1966.

Discusses an approximate method of calculating the resonant frequency and field configuration of a parallelipiped-shaped dielectric resonator along with coupling relations to fields in a rectangular waveguide. Several applications, including bandpass filters, are discussed. (In Norwegian)

30
Microwave Heating Techniques and Applications, by H. Levkowetz (Norwegian Defence Research Establishment, Kjeller, Norway); *Elektroteknisk Tidsskrift*, vol. 78, no. 32, pp. 593–602, December 15, 1965.

A complete description of microwave heating is given along with an evaluation of specialized industrial applications such as textile and paper drying. Both European and American systems are presented and compared. (In Norwegian)

31
Microwave Technology, by P. T. Hiis (Norwegian Defence Research Establishment, Kjeller, Norway); *Elektroteknisk Tidsskrift*, vol. 78, no. 25, p. 533, November 25, 1965.

A survey of current Norwegian research and development in microwave theory and techniques. (In Norwegian)

32
An Investigation of Acoustic Waves in Piezoelectric Semiconductors, by A. Rannestad (Norwegian Defence Research Establishment, Kjeller, Norway); *Elektroteknisk Tidsskrift*, vol. 79, no. 5, pp. 65–71, February 15, 1966.

Interactions between acoustic waves and conduction electrons in CdS are considered, with a short theoretical discussion of acoustic amplification, current saturation, and temperature dependence of electron drift mobility. The current saturation method was employed to measure the drift mobility in the range from 184° to 438°K. Double current saturation and oscillations dependent on crystal size were observed. (In Norwegian)

33
Microwave Power Generation by Frequency Multiplication in Varactors, by R. Ekholdt (Norwegian Defence Research Establishment, Kjeller, Norway); *Elektroteknisk Tidsskrift*, vol. 78, no. 30, pp. 554–558, November 25, 1965.

Design considerations and examples of varactor power generation are given along with a description of some anomalies in multiplier response. (In Norwegian)

34
Bandwidth and Filter Problems in Varactor Multipliers, by T. Endresen (Norwegian Defence Research Establishment, Kjeller, Norway); *Elektroteknisk Tidsskrift*, vol. 78, no. 30, pp. 558–562, November 25, 1965.

The factors limiting the bandwidth of simple multipliers such as doublers triplers, and quadruplers are discussed. The feasibility of electronic tuning is discussed and experimental results are presented. Noise and filter problems are discussed. (In Norwegian)

35
Application of Power Transistors and Varactors at VHF and UHF, by D. Halvorsen (NERA-Bergen A/S, Box 2382, Bergen, Norway); *Elektroteknisk Tidsskrift*, vol. 78, no. 30, pp. 563–565, November 25, 1965.

A transistor power amplifier with an output of 15 watts at 62.5 MHz drives a varactor multiplier giving 3 watts at 1 GHz. Complete design parameters and circuit details are given. (In Norwegian)

36
Mechanically Tunable Varactor Frequency Doubler, by N. A. Saethermoen (Norwegian Defence Research Establishment, Kjeller, Norway); *Elektroteknisk Tidsskrift*, vol. 78, no. 30, pp. 565–568, November 25, 1965.

A varactor diode is placed in a dual-resonant cavity to form a 1 to 2 GHz doubler. The resonator tunes with a single mechanical adjustment over a 10 percent frequency range. The efficiency and single-tuned bandwidth of the doubler are calculated and compared with experimental results. (In Norwegian)