Selected Microwave Papers

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.

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PAPERS FROM JOURNALS PUBLISHED IN JAPAN. COMPILED BY PROFESSOR H. IWAKATA, WASEDA UNIVERSITY, TOKYO, AND HIS COMMITTEE[1]

1) Multireflector Fabry-Perot Laser Resonators, Nobuaki Kumagai, Masanori Matsuhara, and Hiroki Mori, University of Osaka, Osaka, Japan, *J. Inst. Electrical Com. Engineers of Japan*, vol 47, pp 1003 (11)–1011 (19); Jul 1964. (Theory of oscillation characteristics.)
2) Unidirectional Frequency Multipliers (Using Nonlinear Capacitive and Resistive Elements), Toyosaku Isobe and Tatsuo Miyakawa, Fujitsu Ltd. Communication and Electronics, Kawasaki City, Kanagawa Prefecture, Japan, *J. Inst. Electrical Com. Engineers of Japan*, vol 47, pp 1012 (20)–1019 (28); Jul 1964.
3) Transmission Modes in the Grooved Guide, Tsuneo Nakahara and Noritaka Kurauchi, Sumitomo Electric Industries, Ltd., Osaka, Japan, *J. Inst. Electrical Com. Engineers of Japan*, vol 47, pp 1029 (37)–1036 (44); Jul 1964. (Discussion of modes and applications of the grooved guide.)
4) Slot Array Antenna for Simultaneous Radiation, Suehiko Hatsuda, Tadaaki Takeshima, and Yasuhiro Isogai, Kobe Kogyo Co., Kobe City, Japan, *J. Inst. Electrical Com. Engineers of Japan*, vol 47, pp 1038 (46)–1039 (48); Jul 1964. (Merit and characteristics of center-fed type slot array antenna.)
5) On the Microwave Measurement of Dielectric Constant by Means of the Perturbation Method, Hideo Yamanaka, Electrotechnical Laboratory, Tanashi, Tokyo, Japan, *J. Inst. Electrical Com. Engineers of Japan*, vol 47, pp 1153 (1)–1160 (8); Aug 1964. (Analysis of electromagnetic field of dielectric sphere in nonuniform electric field and its application to dielectric material measurements using a rectangular resonator.)
6) Reflection and Mode Conversion in Tilted Millimeter Circular Waveguides—A Study by Conformal Mapping Technique, Kanehisa Udagawa and Yasumitsu Miyazaki, Nagoya University, Toyokawa City, Aichi Prefecture, Japan, *J. Inst. Electrical Com. Engineers of Japan*, vol 47, pp 1186 (34)–1195 (43); Aug 1964.
7) The Higher Harmonic Rejection Three Path Transmission Line Filter, Takayoshi Shiraishi and Kei Takiyama, Doshisha University, Kyoto, Japan, *J. Inst. Electrical Com. Engineers of Japan*, vol 47, pp 1161 (9)–1167 (15); Aug 1964. (Characteristic curve obtained by general analysis of three path transmission line filter composed of three lines in parallel or in series.)
8) Path Loss in Fresnel Region, Shinya Takeshita and Noboru Sakurai, Tohoku Electric Power Co., Ltd., Sendai City, Japan, *J. Inst. Electrical Com. Engineers of Japan*, vol 47, pp 1177 (25)–1185 (33); Aug 1964. (The span loss for parabolic antennas coupled in the Fresnel region is analyzed, and is expressed by terms of the Lommel functions of two variables. The illuminations for both apertures are assumed to be exp $(-\sigma r^2)$.)
9) The Space Diversity System for Line of Sight Microwave Links, Hideo Makino, Tadao Morozumi, Kazuo Morita, and Yuji Numano, Electrical Communication Lab., Nippon Telegraph and Telephone Public Corp., Musashino-shi, Tokyo, Japan, *Electrical Com. Lab. Tech. J.*, vol 13, pp 1127–1204; Aug 1964. (Report on multipath fading by duct propagation in line of sight and improvement of fading characteristics by means of a space diversity system.)
10) A Study of Mini-Diode ECL-1219, Yasuhiro Ishii, Norinari Ohashi, Akio Yokoyama, and Shigeo Ogawa, Electrical Communication Lab., Nippon Telegraph and Telephone Public Corp., Musashino-shi, Tokyo, Japan, *Electrical Com. Lab. Tech. J.*, vol 13, pp 1303–1339; Sep 1964. (Diode is designed for microwave parametric amplifier application and it has a series self resonant frequency of 20 Gc/s and a cutoff frequency of 120 Gc/s.)
11) The Repeater for Auxiliary Radio Relay System Operating in the 6 Gc Band, Hideo Makino and Toru Oyatsu, Electrical Communication Lab., Nippon Telegraph and Telephone Public Corp., Musashino-shi, Tokyo, Japan, *Electrical Com. Lab. Tech. J.*, vol 13, pp 1537–1571; Oct 1964. (Report on practical use of a 6 Gc/s repeater for control channel use in accordance with CCIR recommendation.)
12) On the Observation of the Upper Atmosphere Constituents by Laser Beams, M. Hirono, Radio Research Lab., Ministry of Posts and Telecommunications, Koganei-shi, Tokyo, Japan, *J. Radio Research Lab.*, vol 11, pp 251–271; Jul 1964. (Planning and theoretical considerations.)
13) Experiments on Lasers: (I) Ruby Laser, Ichiro Taniguchi and Kazuo Shirakura, Mitsubishi Electric Corp., Amagasaki City, Japan, *Mitsubishi Electric Tech. Repts*, vol 38, pp 67–73; Aug 1964. (General conditions for laser oscillation are reviewed. Relaxation oscillation and field pattern of a ruby laser are also reported.)
14) Analysis of Mode Conversion in an *H*-guide Taper, Tsuneo Nakahara, Sumitomo Electric Industries, Ltd., Osaka, Japan, *Sumitomo Electric Tech. Rev.*, no. 4, pp 63–73; Jul 1964. (A procedure for calculating mode conversion in a tapered transducer from rectangular waveguide to *H*-guide.)
15) The Guided Propagation of Electromagnetic Wave Beams between Two Parallel Plates, Tsuneo Nakahara, Sumitomo Electric Industries, Ltd., Osaka, Japan, *The Sumitomo Electric Tech. Rev.*, no. 85, pp 63–72; Jul 1964. (Theoretical and physical considerations of the beam wave mode between two parallel plates, and some suggestions of practical waveguide structures.)

[1] T. Iijima, Y. Kasai, T. Nakahara, B. Oguchi, S. Okamura, T. Sekiguchi, K. Suetake, and A. Uchiyama.