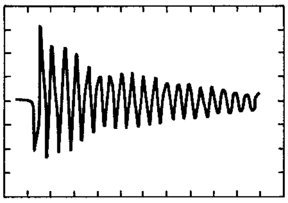
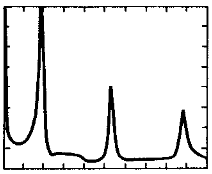


(a)



(b)

Fig. 10. Output voltage of the cavity. (a) Time response, horizontal scale 10 ns/cm, vertical scale 200 mV/cm with 60-dB attenuation in the line; (b) Spectral response, horizontal scale 100 MHz/cm (0–1 GHz coverage), vertical scale linear.

frequency of 2.1 GHz and 27 kW into 50 Ω at a frequency of 1.5 GHz. The rise times were on the order of 200 ps. Using the available data [7] for normalized spark-gap resistance it was concluded that operation of the device at X band is feasible.

IV. Conclusions

For proper operation of this device at frequencies less than 3 GHz the spark resistance must fall to a value less than the characteristic impedance of the line in a time less than T where $f_0 = 1/2T$ is the required frequency. The faster the rise time the more efficient is the operation of this device.

If a partial short is used, for minimal frequency shift due to coupling, the largest possible ratio of Z_0/Z_1 (where Z_0 is the characteristic impedance of the line and Z_1 is the characteristic impedance of the output transmission line) should be used, and the inductance L_1 should be adjusted for the required coupling. At low frequencies when the cross-sectional dimensions are limited it may not be possible to make L_1 large enough to give the required coupling. In this case it will be necessary to decrease Z_0 in order to increase the coupling. The decrease of Z_0/Z_1 will result in a decrease of the resonant frequency. At frequencies higher than 3 GHz the spark-gap capacitance may be used to give a limited bandwidth output even though the normalized spark resistance, R is less than unity.

Acknowledgment

The authors acknowledge the support from Defense Research Establishment Ottawa and National Research Council of Canada.

References

[1] J. M. Proud, Jr., and W. H. McNeill, "High power travatron investigation," RADC-TR-74-33, AD777881.
[2] S. D. Houston, and D. Bailey, "Hertzian generator development," RADC-TR-73-325, AD774567.
[3] G. F. Ross, "A balanced antenna-generator for the distortionless radiation of subnanosecond pulses," in *1971 G-AP Int. Symp. Dig.*, pp. 311–314, Sept. 1971.
[4] L. S. Levine and I. M. Vitkovitsky, "Pulsed power technology for controlled thermonuclear fusion," *IEEE Trans. Nuclear Sci., vol. NS-18*, pp. 255–264, Aug. 1971.
[5] I. A. D. Lewis and F. H. Wells, *Millimicrosecond Pulse Techniques* New York, McGraw-Hill, 1959.
[6] V. M. Ristic and T. P. Sorensen, "Plasma excited microwave cavity," Canadian Patent Office Registration No. 918 343, 1975.
[7] T. P. Sorensen and V. M. Ristic "Rise time and time-dependent spark-gap resistance in nitrogen and helium," *J. Appl. Phys.*, vol. 48, pp. 114–117, Jan. 1977.

Correction to "Behavior of the Magnetostatic Wave in a Periodically Corrugated YIG Slab"

MAKOTO TSUTSUMI, MEMBER, IEEE, YASUNORI SAKAGUCHI, AND NOBUAKI KUMAGAI, SENIOR MEMBER, IEEE

In the above short paper,[1] in (21) the minus sign was inadvertently left out. Equation (21) should read as follows:

$$-B_{z0}\cos\hat{\theta}+B_{x0}\sin\hat{\theta}=-B_z\cos\hat{\theta}+B_x\sin\hat{\theta}.$$

Consequently, the following correction should be noted.

1) In the second and seventh lines of (23) substitute $+(\pi/d)\Delta$ and $+(K_z+(2\pi/d)m)$ for $-(\pi/d)\Delta$ and $-(K_z+(2\pi/d)m)$, respectively;

2) In (24) and (27), the factor $[1-((\pi/d)\Delta)^2]$ and $[\mu_1-((\pi/d)\Delta)^2]$ should have read $[1+((\pi/d)\Delta)^2]$ and $[\mu_1+((\pi/d)\Delta)^2]$, respectively.

Since the numerical computation was based on the assumption that $1\gg((\pi/d)\Delta)^2$ and $\mu_1\gg((\pi/d)\Delta)^2$, the results and conclusions reported in the paper are unaffected by this revision.

Manuscript received March 20, 1978.
The authors are with the Department of Electrical Communication Engineering, Osaka University, Suita, Osaka 565, Japan.
[1] M. Tsutsumi, Y. Sakaguchi, and N. Kumagai, *IEEE Trans. Microwave Theory Tech.*, vol. MTT-25, pp. 224–228, Mar. 1977.