Abstracts

Second-Harmonic Effects in Tuned Reflectometers (Correspondence)

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The theory of operation of the tuned microwave reflectometer has been well docu-mented in the literature and its operating characteristics have been described in great detail. According to reflectometer theory, as a short slides in the output waveguide of a tuned reflectometer a pattern of detector response vs short displacement similar to that shown in Fig. 1 will be observed. The over-all slope of the pattern is due to attenuation in the output waveguide, while the regular variations are due to the less than ideal tuning of the reflectometer. In the practical operation of a reflectometer the pattern shown in Fig. 2 can be observed. Such a pattern obviously will result in errors in the determination of the magnitude and positions of maxima and minima. It is the purpose of this note to explain this pattern and the errors it can produce and to suggest a simple remedy.

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