

# Abstracts

## Errors in a Magic-Tee Phase Changer

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*R.M. Vaillancourt. "Errors in a Magic-Tee Phase Changer." 1957 Transactions on Microwave Theory and Techniques 5.3 (Jul. 1957 [T-MTT]): 204-207.*

This paper recalls the basic properties of a magic-tee and how it can be used as a linear phase changer. An analysis of the symmetrical magic-tee phase changer is made, which shows that nonlinearities of the phase shift and amplitude modulation are second and higher order effects caused by small mismatches of the structure. Also, some qualitative comments are made on the errors of an asymmetrical phase changer. Measurements on a phase changer assembled from ordinary laboratory equipment show that the phase shift is linear to better than  $1^\circ$ .

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