# Abstracts

## Phase Characteristics of a Circularly Symmetric Dual-Mode Transducer (Correspondence)

*K.K. Agarwal and E.R. Nagelberg. "Phase Characteristics of a Circularly Symmetric Dual-Mode Transducer (Correspondence)." 1970 Transactions on Microwave Theory and Techniques 18.1 (Jan. 1970 [T-MTT]): 69-71.*

This correspondence deals with the analysis and measurement of TE/sub 11/° --> TM/sub 11/° mode conversion by circularly symmetric transducers in a circular waveguide. Two types are considered, the simple step change in radius and a discontinuity covered by a dielectric ring. For the first type, experimental results for both amplitude and phase are compared with predictions made on the basis of a computer program, with excellent agreement. The dielectric loaded transducer is of great interest since measurements have shown that such a device can be designed to launch the two modes with a relative amplitude and phase which is essentially independent of frequency over a very wide range. This configuration is therefore an excellent candidate for use in low-noise microwave antenna systems.

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