

# Abstracts

## Analysis of dielectric E-plane waveguides and design of filters

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*H. Kubo, H. Yamashita and I. Awai. "Analysis of dielectric E-plane waveguides and design of filters." 1998 Transactions on Microwave Theory and Techniques 46.8 (Aug. 1998 [T-MTT]): 1085-1090.*

A small-size waveguide made of high-permittivity ceramic is analyzed. The propagation constants are calculated approximately by an approach where the electromagnetic fields outside the waveguide are fully taken into consideration. The analysis values agree well with the experimental values. The constants of equivalent circuit for the metallic strip section are obtained by using a separate model for the analysis of the structure. Based on these results, bandpass filters (BPF's) are designed and fabricated. The fabricated BPF's have better transmission and reflection characteristics than those designed on the basis of a trough-guide model.

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