

Abstracts

A Circuit Model of Probes in Dual-Mode Cavities

K.A. Zaki, C. Chen and A.E. Atia. "A Circuit Model of Probes in Dual-Mode Cavities." 1988 Transactions on Microwave Theory and Techniques 36.12 (Dec. 1988 [T-MTT] (1988 Symposium Issue)): 1740-1746.

An accurate model of coaxial probes used as input and output ports in dual-mode cavities (either air-filled or dielectric-loaded) is presented. The model precisely predicts such empirically observed phenomena as limited out-of-band isolation, generation of extra transmission zeros, and asymmetric responses. The model parameters can be determined from simple measured data. It is shown how the model can be used in the analysis and synthesis of canonical dual-mode filters. Experimental verification of the model for several configurations showed excellent agreement with theory.

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