

## Modal Analysis of Radial-Resonator Waveguide Diode Mounts

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A method of calculating the driving-point and transfer admittances of waveguide diode mounts with radial resonators is presented. The method is applicable to a variety of mount configurations, including the widely used resonant-cap mount. The analysis uses multimodal admittance matrices to represent the radial regions and their coupling and includes the influence of the waveguide boundary conditions. The coupling is determined by matching tangential fields at the boundary of the radial regions. The accuracy of the analysis is confirmed by comparison with experimental results.

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