Abstracts

Analysis of a Cylindrical-Rectangular Microstrip Structure with an Airgap

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The resonance problem of the cylindrical-rectangular microstrip structure with an airgap between the substrate layer and the ground conducting cylinder is studied by using a rigorous full-wave approach and a moment method calculation. The resonance condition is satisfied by complex resonant frequencies, which provide the information of resonant frequency and half-power bandwidth of the structure. Numerical results indicate that with the increasing of the airgap thickness, the half-power bandwidth of the structure at the efficient radiating mode of HE/sub 01/ is considerably increased, which improves the narrow bandwidth characteristics of microstrip structures. Details of the numerical results, including the results for the planar rectangular microstrip structure with an airgap, are presented and analyzed.

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