

Resonance Frequencies of Cylindrical-Rectangular and Wraparound Microstrip Patches in a Multilayered Cylindrical Medium

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ABSTRACT

In this thesis, we investigated the resonance frequencies and lengths of Cylindrical-Rectangular and Wraparound microstrip patches in a multilayered cylindrical medium. An electric field integral equation(EFIE) in the spectral domain is constructed by adopting a rigorous full-wave analysis, and is solved numerically by employing the moment method. The dyadic Green's functions, the route of integration involved in numerical integration, and the Fourier transforms of current basis functions are all studied. Computed parameters include complex resonance frequencies, quality factors, and resonance lengths at some fixed frequencies, which, whenever possible, are compared with data available in the literature. The results obtained in this thesis can be used in designing pertinent microstrip devices.

Keywords : microstrip

Table of Contents

第一章 序論	1	第二章 理論推導	4
2.1 問題描述	4	2.2 積分方程式與矩陣方程式	5
2.3 表面電流密度函數之基底函數	7	2.3.1 矩形微帶片上表面電流密度函數	8
2.3.2 環狀微帶片上表面電流密度函數	10	2.4 複數共振頻率、品質因素與半功率頻寬	11
2.5 積分路徑	12	第三章 多層柱面介質中矩形微帶片共振頻率之理論分析與特性探討	18
3.1 多層柱面介質中加入substrate介電質層的影響	19	3.2 數值結果與討論(存在substrate介電質層)	20
3.3 多層柱面介質中加入superstrate介電質層的影響	23	3.4 數值結果與討論(存在superstrate介電質層)	24
第四章 多層柱面介質中環狀微帶片共振頻率之理論分析與特性探討	61	4.1 多層柱面介質中加入substrate介電質層的影響	61
4.2 數值結果與討論(存在substrate介電質層)	62	4.3 多層柱面介質中加入superstrate介電質層的影響	64
4.4 數值結果與討論(存在superstrate介電質層)	65	第五章 結論	93
參考文獻	99	附錄 附錄A 空腔模態內之自然共振頻率與微帶片上的模擬電流	100
附錄B 譜域併矢格林函數	104	附錄C 積分路徑	107
附錄D 微帶片上電流產生之遠場	120		

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