

MoM全波分析微带线馈电的缝隙天线

雷娟, 傅光, 杨林, 傅德民

西安电子科技大学 天线与微波技术国家重点实验室, 陕西 西安 710071

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摘要 给出了一种分析微带线馈电的缝隙天线的有效数值方法. 首先利用等效原理将原问题转化为不同区域的等效问题, 然后采用RWG基函数结合离散复镜像法在空域对等效问题进行全波分析. 闭式格林函数不仅考虑了各种辐射、表面波和互耦效应, 而且避免了费时的数值积分. 三角形剖分也使得文中方法适合分析任意形状的复杂结构.

关键词 [等效原理](#) [离散复镜像](#) [格林函数](#)

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Full-wave analysis of slot antennas fed by the microstrip using MoM

LEI Juan, FU Guang, YANG Lin, FU De-min

State Key Lab. of Antennas and Microwave Technology, Xidian Univ., Xi'an 710071, China

Abstract

An effective numerical method is presented for modeling slot antennas fed by the microstrip. The equivalence principle is applied so that an original problem can be divided into two isolated equivalence problems. With the discrete complex images method (DCIM) and RWG basis functions, we can give a full-wave analysis of equivalence problems in the spatial domain without the Sommerfeld integrals. These closed-form Green's functions account for all radiation, surface-wave, and mutual-coupling effects. Triangular facets are used so that our method is suitable for analyzing a complex structure. Numerical results of two typical examples are given which validate this method.

Key words [equivalence principle](#) [DCIM](#) [Green's functions](#)

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