

內含複材之多層柱面介質散射特性解析

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摘要

本文將探討內含複合材料(簡稱複材)之多層柱面介質之傳播特性，在研究中，吾人利用複材理論模型及相關的電腦軟體，來探討此結構的電磁屏蔽及透射特性。首先，將各層的複材，視為具有均勻且各向異性的介質，再結合多層均勻且具有同向性的介質，利用微分變差分法及波向量矩陣法，再併入邊界條件，經由數學的結果，呈現出碳纖維 / 環氧樹脂或硼纖維 / 環氧樹脂強化複材的電磁特性，尤其是影響這些傳播效應之各參數，例如：入射波頻率、纖維導電率、積層厚度、纖維方向、基材絕緣常數、極化方向、觀測位置等，皆有詳盡的探討。

關鍵詞：複合材料，傳播特性，電磁屏蔽，透射特性。

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