

论文

谐振腔法测量复介电常数样品的精确变分分析

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收稿日期 1991-8-12 修回日期 1992-1-13 网络版发布日期 2009-8-25 接受日期

摘要

本文应用广义变分原理导出了Lindell公式, 结合低损耗情况的Rayleigh-Ritz法对测量复介电常数样品作出了精确的变分分析。从一般情况引入了复频率 ω 概念, 讨论了解的稳定性, 并与现有微扰解做了详细的比较。结果表明, 当前常用的微扰法算法误差值得重视。

关键词 [广义变分原理](#) [Lindell公式](#) [复介电常数](#) [微扰法](#)

分类号

AN ACCURATE VARIATIONAL ANALYSIS FOR MEASUREMENT OF THE COMPLEX DIELECTRIC CONSTANT OF A SAMPLE ROD INSERTED IN A RESONANT CAVITY

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Abstract

The Lindell formulation based on the generalized variational principle is derived, and an accurate variational analytical result of the measurement of the complex dielectric constant by the Rayleigh-Ritz method is obtained when the loss is small. The concept of the complex frequency ω is introduced in a com non case, and also touched on the stationarity of the solution, then compared the results with he pertubational result. It is demonstrated with these results that it is necessary to pay attention to the Theortical error of pertubational method.

Key words [The generalized variationsl principle](#) [Lindell formulation](#) [Complex dielectric constant](#) [Pertubational method](#)

DOI:

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