Abstracts

Guidance or Resonance Conditions for Strips or Disks Embedded in Homogeneous and Layered Media

L. Gurel and W.C. Chew. "Guidance or Resonance Conditions for Strips or Disks Embedded in Homogeneous and Layered Media." 1988 Transactions on Microwave Theory and Techniques 36.11 (Nov. 1988 [T-MTT]): 1498-1506.

We illustrate how the guidance or resonance conditions of strips or disks embedded in layered media can be formulated easily rising a new notation we developed. We show that once we know the reflection operator of a reflecting medium, we can find the guidance or resonance conditions of this structure quite easily. We can also find the guidance or resonance conditions when the reflecting medium is interacting with another strip or disk. We illustrate this with the calculations of the guidance of a microstrip line with an infinite ground plane and with a finite ground plane. Our results for the infinite ground plane case agree very well with previous calculations on these problems, while the results for the finite ground plane case are new.

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