

TEM properties of shielded homogeneous multiconductor transmission lines with PEC and PMC walls

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This paper describes a very fast computational technique for the solution of two-dimensional static boundary value problems within a homogeneous rectangular enclosure with any combination of perfect magnetic and electric conducting walls. A fast convergent series representation of the pertinent Green's function combined with a least-square MoM and point-matching technique leads to a fast and reliable numerical solution. Characteristic impedances of single and coupled shielded metallic rods are computed as an example application of the present method. The results are compared with those of the finite-element method with excellent agreement and much less CPU time.

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