On a Direct Use of Edge Condition in Modal Analysis (Short Papers)

The edge condition allows us to know the asymptotic decrease of modal amplitudes in some discontinuity problems in waveguides. One may take a direct account of this information in modal analysis and gain a significant improvement of the calculation when the field singularity at edge is important. The accuracy and the validity of this method are studied in two cases: the diaphragm and the junction between an empty waveguide and a partially dielectric-filled waveguide.

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