Abstracts

Covariant-Projection Quadrilateral Elements for the Analysis of Waveguides with Sharp Edges

Covariant-projection elements are shown to be a good way of finding the dispersion characteristies of arbitrarily shaped waveguides. They have been demonstrated to produce no spurious modes, and because only tangential continuity is imposed between elements, either the electric field or the magnetic field may be solved for, in the presence of both dielectric and magnetic materials. Further, waveguides with sharp metal edges may be analyzed more efficiently than with earlier methods. Results are presented for a rectangular waveguide half loaded with dielectric, a double-ridged waveguide a shielded microstrip line, and coupled microstrip lines on a cylindrical substrate.

❑ Return to main document.