Abstracts

Analysis and Applications of "Microstrip-Loaded Inset Dielectric Waveguide" (Mig)

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We investigate analytically and experimentally the properties of mig (microstrip inset guide), highlighting its features with respect to microstrip and its applications to antenna circuitry. The method used in the analysis is the transverse resonance diffraction (TRD) method in the space domain. We discuss dispersion of the first three modes, field distribution, characteristic impedance and losses of the fundamental mode. Finally, we report the experimental antenna characteristics of an array of longitudinal strips, designed as a cascade of mig sections alternate to idg (inset dielectric guide) sections, showing good gain input match and pure polarization.

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