Studies on Size Reduction and Axial Ratio Bandwidth Enhancement for Circularly Polarized Slot Antennas

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ABSTRACT

In this thesis, a compact CPW-fed wideband circularly-polarized (CP) slot antenna is proposed. The antenna was designed by using a lighting-shaped strip protruded from a 50-Ω CPW feedline to obtain CP radiation. A grounded L-shaped metallic strip was subsequently embedded in each of the two opposite corners of the square slot so as to enhance the 3-dB axial-ratio (AR) bandwidth. The perturbation owing to the extended feedline can itself excite two space-wise mutually orthogonal resonant modes with an equal amplitude and a phase difference of . The perturbation resulting from the presence of the grounded strips in the radiator can effectively broaden the CP band. Finally, the tuning stub near the end of the adequately designed CPW can be adjusted to give an optimal impedance match in the CP band.

Keywords : Circularly Polarized,Slot Antennas,Axial Ratio

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