Abstracts

A New Type of Circular Polarizer Using Crossed Dipoles

M.F. Bolster. "A New Type of Circular Polarizer Using Crossed Dipoles." 1961 Transactions on Microwave Theory and Techniques 9.5 (Sep. 1961 [T-MTT]): 385-388.

A method of obtaining a circularly-polaIized wave by use of two orthogonal dipoles driven in parallel by a common transmission line is shown. The lengths of the dipoles are so chosen that the real part of their input admittances are equal and the angle of the inpnt admittances differ by 90°. When these two conditions are met the resulting radiated wave in a normal direction will be circularly polarized. The method is applicable both to a circularly-polarized radiating antenna and to the problem of producing a circularly-polarized wave of the TE/sub 1/ mode in a round waveguide. For the first case, an analysis and a method of design are shown, and for the second case an experimentally developed example is given. The second case employs monopoles rather than dipoles for convenience in energizing from a coaxial line.

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