

Abstracts

A Turnstile Polarizer for Rain Cancellation

P.A. Crandell. "A Turnstile Polarizer for Rain Cancellation." 1955 Transactions on Microwave Theory and Techniques 3.1 (Jan. 1955 [T-MTT]): 10-15.

This paper describes a rain canceller using a turnstile junction to provide the necessary polarization of the fields. It discusses the system from the point of view of adapting an existing radar feed system to one that will permit the reduction of rain return. The turnstile junction is described, and it is shown to have properties that meet the requirements for obtaining circular or elliptical polarizations. Along with this description, the theory behind the effect of elliptical and circular polarization on rain return is discussed in detail as well as the practical limits such a theory can be put to. Other considerations such as aspect ratio of antennas and screening for the antenna surfaces are touched upon.

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