Abstracts

Guided Beam Waves Between Parallel Concave Reflectors

T. Nakahara and N. Kurauchi. "Guided Beam Waves Between Parallel Concave Reflectors." 1967 Transactions on Microwave Theory and Techniques 15.2 (Feb. 1967 [T-MTT]): 66-71.

A new guided beam wave transmission system is proposed here, which is composed of two parallel concave reflectors. The principle is a combination of waveguide and beam wave transmission. The shape of the reflector cross section and the corresponding mode functions were obtained. Attenuation due to wall current and limited aperture of the reflectors were calculated. Experiments were made to confirm the modes and the attenuation. One of the remarkable features of this transmission system is its field distribution, which is concentrated into a belt-shaped space between reflectors. Considering this feature, this system seems to be effectively applied to the railways as a medium for obstacle detection and communication.

❑ Return to main document.