Abstracts

Internal Reflections in Dielectric Prisms

R.G. Fellers and J. Taylor. "Internal Reflections in Dielectric Prisms." 1964 Transactions on Microwave Theory and Techniques 12.6 (Nov. 1964 [T-MTT]): 584-587.

A pair of closely spaced dielectric prisms used as an adjustable bidirectional coupler has been discussed by a number of investigators. In its simplest form this device permits an adjustable arbitrary distribution of power output in two directions at right angles to one another. Reflections from the external air-dielectric interfaces change the power distribution from the theoretically computed values and resuft in power output in a third direction. This paper describes a theoretical calculation of the power transmission in all four directions taking into account reflections at all interfaces. Experimental data recorded at 35 Gc exhibit very good agreement with predicted results.

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