

Abstracts

Resonant disk turnstile

*R.K. Zimmerman. "Resonant disk turnstile." 1997 *Transactions on Microwave Theory and Techniques* 45.9 (Sep. 1997 [T-MTT]): 1600-1610.*

In this paper, the resonant disk turnstile is introduced and analyzed. The disk turnstile differs from Dicke's full-waveguide turnstile in that four of the six ports are coaxial cable ports, yielding a much more compact turnstile, which is easier to construct. The disk turnstile operation is explained as a superposition of the disk TM₀₁ mode (nonradiating) and the disk TM₁₁ mode which couples directly to the circular waveguide (dominant) TE₁₁ mode. A useful operating fractional bandwidth of 3% is possible as compared to a Dicke turnstile bandwidth of about 6%.

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