Abstracts

A wideband variable waveguide coupler for millimeter applications

K.-F. Schuster, M. Carter, D. Charriere, J. Lamb and F. Mattiocco. "A wideband variable waveguide coupler for millimeter applications." 1997 Microwave and Guided Wave Letters 7.7 (Jul. 1997 [MGWL]): 197-199.

We present a variable waveguide coupler for the short millimeter-wavelength range. The coupler has low ohmic and insertion losses in all paths, flat coupling characteristic, and high directivity over a large bandwidth. The construction of the coupler allows a variable independent adjustment of power transferred into several paths when several couplers are used in series. The coupler is therefore useful for multichannel receivers and especially for superconductor-insulator-superconductor (SIS) mixer arrays where individual local oscillator (LO) power adjustment might be necessary. We present measurements for a coupler working at 230 GHz and compare them with a simple analytical model.

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