Abstracts

A Microstrip Parallel Delay-Line Circuit for an Autocorrelation Radiometer

W.A. Teso, P.W. Gaiser, C.T. Swift and R.E. McIntosh. "A Microstrip Parallel Delay-Line Circuit for an Autocorrelation Radiometer." 1992 Microwave and Guided Wave Letters 2.2 (Feb. 1992 [MGWL]): 67-69.

A microstrip circuit used to measure the autocorrelation function is presented. The circuit will be part of an autocorrelation radiometer (CORRAD) that directly measures the autocorrelation of downwelling atmospheric thermal emission. A discussion of the CORRAD hardware is included. The microstrip network receives two C-band signals as inputs. The circuit generates eight parallel time-delays and combines the two signals which are then multiplied and averaged to yield the autocorrelation function. The introduction of this circuit to CORRAD will reduce the data acquisition time by a factor of sixteen, while degrading the frequency resolution by a factor of two.

❑ Return to main document.