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Title:THz power divider circuits on planar Goubau Lines (PGLs)
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Abstract:Terahertz spectroscopy is a new tool for real time biological analysis. Unfortunately, investigations on aqueous solutions remain difficult and need to work on nanovolumes. Integrated Terahertz instrumentation remains a challenge. We demonstrate that Planar Goubau Line (PGL) technology could bring a real practical solution to reach this goal. This study provides the design, fabrication and test results of passive PGL components like loads and power divider. These PGL components are designed, simulated, fabricated and measured with a Vectorial network analyser (VNA). Simulation and test data support PGL component designs. PGL components operate over a wide frequency range from 0.06 to 0.325 THz.
Number of references:13
Inspec controlled terms:network analysers - passive networks - power dividers - submillimetre wave circuits - terahertz spectroscopy
Uncontrolled terms:THz power divider circuit - planar Goubau line technology - PGL technology - terahertz spectroscopy - real time biological analysis - aqueous solution investigation - nanovolume - integrated terahertz instrumentation - passive PGL component - vectorial network analyser - VNA - frequency 0.06 THz to 0.325 THz
Inspec classification codes:B1320 Waveguide and stripline components - B1350 Microwave circuits and devices - B1270D Passive filters and other passive networks - B7210N Network and spectrum analysers
Numerical data indexing:frequency 6.0E+10 3.25E+11 Hz
Treatment:Practical (PRA)
Discipline:Electrical/Electronic engineering (B)
DOI:10.2528/PIERC11112409
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