Abstracts

Simulation of an Elevated Coplanar Waveguide Using 2-D FDTD

S. Hofschen and I. Wolff. "Simulation of an Elevated Coplanar Waveguide Using 2-D FDTD." 1996 Microwave and Guided Wave Letters 6.1 (Jan. 1996 [MGWL]): 28-30.

Nonlinear transmission lines (NLTL's) are commonly used together with sampling circuits for millimeter-wave instruments. Recently, the use of an elevated coplanar waveguide (CPW) has been proposed to increase the bandwidth of sampling circuits. A full-wave analysis between 10 and 500 GHz of such an elevated CPW using 2-D FDTD will be preseuted here. The influence of the elevation heights on the capacitance and the loss behavior of the transmission line will be discussed. The analysis shows that the distributed capacitance of the elevated CPW is four times lower and the losses are at least divided by two in comparison to a normal CPW at 300 GHz.

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