Abstracts

A Quasi-Static Modification of TLM at Knife Edge and 90° Wedge Singularities (1996 Vol. II [MWSYM])

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A common drawback of numerical techniques such as TLM and FDTD resides in the difficulty to accurately describe the electromagnetic field in structures with singularities. In this paper a local modification of the 2D-TLM algorithm for the nodes surrounding a knife edge and a 90° wedge is proposed. A quasi-static approximation of the field is used to derive an equivalent circuit of the edge. The proposed corner correction is compared with the uncorrected TLM results and with data available in the literature, revealing a marked enhancement in the accuracy and convergence of the results.

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