Abstracts

Multiple Microstrip Lines on a Multilayered Cylindrical Dielectric Substrate on Perfectly Conducting Wedge

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The quasi-TEM characteristics of a class of cylindrical microstrip lines are rigorously determined. The class of microstrip lines considered consists of multiple infinitesimally thin strips on a multilayered dielectric substrate on a perfectly conducting wedge. Expressions for the potential distribution inside and outside the dielectric substrate, charge distribution on the strips, and capacitance matrix of the microstrip lines are derived. The problems of a microstrip line on a cylindrically capped wedge and on a cylindrical dielectric substrate on perfectly conducting core are also considered as special cases. Sample numerical results based on the derived expressions are given and discussed.

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