

A Cylindrical Multiconductor Stripline-Like Microstrip Transmission Line

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An analytical expression for the Maxwell capacitance matrix of a class of cylindrical inhomogeneous, multiconductor transmission lines is provided. This class includes cylindrical structures symmetrical with respect to the circuit circle and having a symmetry axis. The effective dielectric constant of the line is found to be the arithmetical mean of the dielectric constants of the two media. Hence, this structure enjoys the main advantages of the planar stripline-like microstrip systems. It is also pointed out how to obtain elliptical stripline-like microstrip transmission lines.

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