Abstracts

Approximate Determination of the Characteristic Impedance of the Coaxial System Consisting of an Irregular Outer Conductor and a Circular Inner Conductor (Short Papers)

S.-G. Pan. "Approximate Determination of the Characteristic Impedance of the Coaxial System Consisting of an Irregular Outer Conductor and a Circular Inner Conductor (Short Papers)." 1987 Transactions on Microwave Theory and Techniques 35.1 (Jan. 1987 [T-MTT]): 61-63.

An elementary formula is presented for the determination of the characteristic impedance of a coaxial transmission line consisting of a circular inner conductor and an irregular outer conductor. In this approach, the irregular outer conductor is replaced by an eccentric circular enter conductor which has the same "shield factor" as an irregular one at the extreme of a small wire, and the same formnla is adapted for outer conductors of different shapes by determining values of eccentricity of the equivalent eccentric coaxial lines. The validity of the formula is confirmed by numerical results.

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