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Transmission Lines; Chapter 1. Electromagnetic of TEM Transmission Lines; 1.1. General waves; 1.2. Transverse electromagnetic (TEM) waves; 1.3. Solutions of the transverse electromagnetic waves; 1.4. Characteristic parameters of the TEM lines; 1.4.1. Capacitance per unit of length; 1.4.2. Characteristic impedance; 1.4.3. Conductance per unit of length; 1.5. The power; 1.5.1. Density; 1.5.2. Flux; 1.6. Problems; 1.6.1. The band-line; 1.6.2. The coaxial cable; 1.7. Bibliography; Chapter 2. Losses In TEM Transmission Lines
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3.2.4. Position of Deltau versus Deltav3.2.5. Recapitulation; 3.2.6. Example of computation; 3.3. Finite differences method; 3.3.1. Example of the finite differences method; 3.4. Problems; 3.4.1. Conform transformations; 3.4.2. Eccentric coaxial line using conform transformations; 3.5. Bibliography; Part 2. Guides; Chapter 4. Electromagnetic In Linear, Homogeneous, Isotropic And Lossless Guides; 4.1. Introduction; 4.2. Equations for a lossless medium; 4.3. Limiting conditions; 4.4. Progressive and evanescent waves; 4.5. Propagating waves; 4.6. Group speed; 4.7. Average power flux
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Chapter 7. Circular TM And TE Guides

Sommario/riassunto

Microwave and RF elements play an important role in communication systems and due to the proliferation of radars, satellites, and mobile systems there is a need for the study of Electromagnetism. This book provides basic knowledge for the microwave and RF range. The book is intended for microwave engineers and for advanced graduate students (fourth and fifth year of university and engineers). Each of the ten chapters provides a complete analysis and modeling of the microwave structure used for emission or reception technology. We hope that this will provide to the students with a set