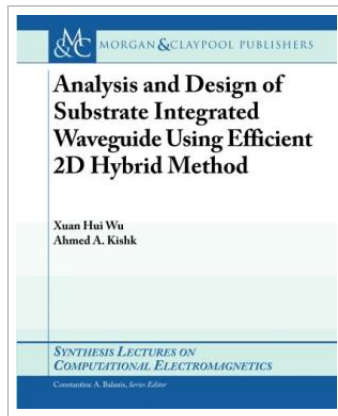



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Analysis and Design of Substrate Integrated Waveguide Using Efficient 2D Hybrid Method (Paperback)

By Xuan Hui Wu, Ahmed Kishk

Morgan Claypool Publishers, United States, 2010. Paperback. Condition: New. Language: English . Brand New Book. Substrate integrated waveguide (SIW) is a new type of transmission line. It implements a waveguide on a piece of printed circuit board by emulating the side walls of the waveguide using two rows of metal posts. It inherits the merits both from the microstrip for compact size and easy integration, and from the waveguide for low radiation loss, and thus opens another door to design efficient microwave circuits and antennas at a low cost. This book presents a two-dimensional fullwave analysis method to investigate an SIW circuit composed of metal and dielectric posts. It combines the cylindrical eigenfunction expansion and the method of moments to avoid geometrical discretization of the posts. The method is presented step-by-step, with all the necessary formulations provided for a practitioner who wants to implement this method by himself. This book covers the SIW circuit printed on either homogeneous or inhomogeneous substrate, the microstrip-to-SIW transition and the speed-up technique for the simulation of symmetrical SIW circuits. Different types of SIW circuits are shown and simulated using the proposed method. In addition, several slot antennas and horn antennas fabricated using the SIW...


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