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Sommario/riassunto

"This book presents the theory of phased array antennas that use arrays of electronic oscillators coupled to each other so as to mutually injection lock and thus oscillate as an ensemble. This arrangement provides a remarkably simple beam steering control system replacing the complicated array of computer controlled phase shifters traditionally used for this purpose. The book also describes a large number of laboratory demonstrations that have been reported over the past three decades that experimentally verify the various aspects of the theory. The theory is initially presented using a linear approximation

permitting derivation of much of the array behavior analytically. Then, at a deeper level, a nonlinear formulation is used to obtain, computationally, more detailed aspects of the array behavior. The primary purpose of the book is to gather the salient results of the past ten to fifteen years of research in this area into one convenient volume providing both a tutorial explanation of this approach to phased array control and a guide to the literature on the subject"--