

Adaptive Antennas and Phased Arrays for Radar and Communications - 2007 -

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Adaptive Antennas and Phased Arrays for Radar and Communications (Artech House Radar Library (Hardcover)) Illustrated Edition. by Alan J. Fenn (Author). ISBN-13: 978-1596932739. Track your books. Bring your club to Amazon Book Clubs, start a new book club and invite your friends to join, or find a club that's right for you for free. Explore Amazon Book Clubs. Hardcover. Adaptive Antennas and Phas has been added to your Cart. Add to Cart. Buy Now. Monopole Phased Arrays. Theory for Analysis of Finite Arrays of Monopoles Introduction Matrix Equations for the Array Element Currents Array Input Impedance, Patterns, and Gain. Theory for Analysis of Infinite Arrays of Monopoles Introduction Derivation of the Near-Zone Radiated Electric Field Derivation of the Induced Voltage at the Reference Element Scan Input Impedance The Element-Gain Pattern for an Infinite Array. Results The Effects of Array Size for Ideal One-Quarter Wavelength Monopoles 121-Element Square Grid Monopole Array: Experiment and Theory Hexagonal Lattice Infinite Array Resul... 359 359 361 374 379. xiv Adaptive Antennas and Phased Arrays for Radar and Communications. 16.5 Problem Set References About the Author Index. 383 383. No prior knowledge of adaptive antennas or phased arrays is needed to understand the content of this book, although some background in signal processing, electromagnetic theory, antennas, radar, and communications will be helpful to the reader. Adaptive Antennas and Degrees of Freedom. Introduction. Adaptive Antenna Fundamentals. Consumption of Adaptive Antenna Degrees of Freedom. Derivation of the Applebaum-Howells Steady-State Adapted Weight Equation in Eigenspace. Conditions for Complete Consumption of N - Degrees of Freedom. Alan J. Fenn. Adaptive antennas are integral parts of ground-based, airborne, and spaceborne communication systems, as well as radar systems that must function in the presence of jamming and other sources of interference. Based on the author's extensive research at MIT Lincoln Laboratory, this authoritative resource offers antenna, communications and radar engineers an in-depth description of adaptive antenna and phased array design, emphasizing RF characteristics and field testing methods. For the first time in any book, practitioners find proven techniques and design guidance on special