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Nota di contenuto	ORTHOGONAL METHODS FOR ARRAY SYNTHESIS; Contents; Preface; 1 Antennas and Antenna Arrays; 1.1 Introduction; 1.2 Antenna Array Factor; 1.3 Elements and Array Types; 1.4 Antenna Parameters and Indices; 1.4.1 Radiated Power; 1.4.2 Radiation Intensity; 1.4.3 Directivity; 1.4.4 Antenna Efficiency; 1.4.5 Gain; 1.4.6 Antenna Patterns; 1.4.7 Antenna Effective Aperture; 1.4.8 Beam Efficiency; 1.4.9 Signal-to-Noise Ratio; 1.4.10 Quality Factor; 1.4.11 Sensitivity Factor; 1.5 Antenna Input Impedance; 1.6 Antenna Arrays Classification; 1.7 Array Factor Classification; References 2 Arrays: Linear, Planar, 3D and Conformal 2.1 Introduction; 2.2 Linear Arrays; 2.3 Uniform Linear Arrays; 2.4 Chebyshev Linear Arrays; 2.4.1 Chebyshev Polynomials; 2.4.2 Dolph-Chebyshev Arrays; 2.4.3 Riblet Arrays; 2.4.4 Other Chebyshev Arrays; 2.5 Linear Arrays from Sampling or Root Matching of Line Sources; 2.5.1 Simple Linear Distributions; 2.5.2 Taylor Distribution (Chebyshev Error); 2.5.3 Taylor One-parameter Distribution; 2.5.4 Bayliss Distribution; 2.5.5 Modified

Patterns by Iteration; 2.6 Planar Arrays; 2.6.1 Planar Chebyshev Arrays; 2.6.2 Circular Arrays; 2.6.3 Ring Arrays  
2.7 3-D Arrays 2.8 Conformal Arrays; References; 3 Pattern Synthesis for Arrays; 3.1 Introduction; 3.2 Uniform Linear Array Synthesis; 3.3 Chebyshev Array Synthesis; 3.4 Synthesis by Sampling or by Root Matching; 3.5 Synthesis by Fourier Transform; 3.6 The Woodward - Lawson (WL) Method; 3.7 Array Synthesis as an Optimization Problem; 3.7.1 Optimization of an Array Index; 3.7.2 Optimization by Simplex and Gradient Methods; 3.7.3 Optimization by Simulated Annealing Method; 3.7.4 Optimization by Genetic Algorithms (GAs); 3.7.5 Space and Time Optimization/Smart Antennas  
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4.9 Synthesis of Arrays of Wire Antennas: The MoM Orthogonal Method

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## Sommario/riassunto

The first time that such a complete systematic analysis of the mathematical and numerical techniques related to the orthogonal methods has been given. With the explosion of the wireless world, greater emphasis than ever before is being placed on the effective design of antennas. Orthogonal Methods for Array Synthesis outlines several procedures of orthogonal methods suitable for antenna array synthesis. The book presents a simple approach to the design of antenna arrays to enable the reader to use the classical Orthogonal Method for synthesis of linear arrays. This theory-bas

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