

Contents :

1. Fundamental Concepts

- Introduction
- Conceptual representation of adaptive arrays
- The linear array
- The beamformer
- Signal models
- Signal processing network
- Adaptive signal processing

2. Simplified Analysis of Adaptive Arrays

- Signal analysis
- Two-source, two-output system
- Two-source, three-output system
- Two-source, multi-output system
- Three-source, two-output system
- Three-source, three-output system
- Multi-source, two-output system
- Multi-source, multi-output system

3. System Performance and Practical Effects

- Leakage of the desired signal into auxiliary (AUX) port
- Effect of offset voltage on performance
- Effect of space noise on system performance
- Feedback loop analysis
- Examples of practical beamformers
- Phase shifters and hybrids

4. Basic Matrix Expressions

- Introduction
- Signal representation using matrices
- Signal processing network formulation
- Modal representation of matrix expressions
- Physical significance of eigenvalues

5. Reference and Appendices

- Mathematical references
- Supporting theoretical material