Record Nr. UNINA9910876658703321 Titolo Robust adaptive beamforming / / edited by Jian Li and Petre Stoica Hoboken, NJ,: John Wiley, 2006 Pubbl/distr/stampa **ISBN** 1-280-27762-9 9786610277629 0-470-36185-9 0-471-73348-2 0-471-73346-6 Descrizione fisica 1 online resource (436 p.) Collana Wiley Series in Telecommunications and Signal Processing;; v.88 Altri autori (Persone) LiJian StoicaPetre Disciplina 621.382/4 Soggetti Beamforming Adaptive antennas Antenna radiation patterns Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Robust Adaptive Beamforming; CONTENTS; Contributors; Preface; 1 Robust Minimum Variance Beamforming; 1.1 Introduction; 1.2 A Practical Example; 1.3 Robust Weight Selection; 1.4 A Numerical Example; 1.5 Ellipsoidal Modeling; 1.6 Uncertainty Ellipsoid Calculus; 1.7 Beamforming Example with Multiplicative Uncertainties; 1.8 Summary; Appendix: Notation and Glossary; References; 2 Robust Adaptive Beamforming Based on Worst-Case Performance Optimization; 2.1 Introduction; 2.2 Background and Traditional Approaches; 2.3 Robust Minimum Variance Beamforming Based on Worst-Case Performance Optimization 2.4 Numerical Examples 2.5 Conclusions; Appendix 2.A: Proof of Lemma 1; Appendix 2.B: Proof of Lemma 2; Appendix 2.C: Proof of Lemma 3; Appendix 2.D: Proof of Lemma 4; Appendix 2.E: Proof of Lemma 5; References; 3 Robust Capon Beamforming; 3.1 Introduction; 3.2 Problem Formulation; 3.3 Standard Capon Beamforming; 3.4 Robust Capon Beamforming with Single Constraint; 3.5 Capon Beamforming with Norm Constraint; 3.6 Robust Capon Beamforming

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7.1 Introduction

Sommario/riassunto

The latest research and developments in robust adaptive beamformingRecent work has made great strides toward devising robust adaptive beamformers that vastly improve signal strength against background noise and directional interference. This dynamic technology has diverse applications, including radar, sonar, acoustics, astronomy, seismology, communications, and medical imaging. There are also exciting emerging applications such as smart antennas for wireless communications, handheld ultrasound imaging systems, and directional hearing aids. Robust Adaptive Beamforming compiles t