

DETECTION AND ESTIMATION THEORY

Hypothesis testing: bayes, minimax and Neyman-Pearson criteria. Types of estimates and error bounds.

Parameter Estimation: Least square, generalized and recursive least square, estimator properties including error bounds and convergence, MES, ML and MAP estimators. general Gaussian problem.

Detection and estimation in coloured noise. Elements of sequential and non-parametric detection. Applications to communication, radar and sonar systems.

Reference Books:

J. Das, S.K Mullick, P.K Chatterjee, Principles of Digital Communication: New age International (P) Ltd publisher, New Delhi

B.P Lathi, Modern Digital and Analog Communication Systems, Oxford publishers.

Hayes, Statistical Digital Signal Processing and Modeling, Wiley Academic

Calson, Communication Systems , Wiley and sons