

## NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Electrical Engineering - NOC:Statistical Signal Processing

Subject Co-ordinator - Prof. Prabin Kumar Bora

Co-ordinating Institute - IIT - Guwahati

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Overview of Statistical Signal Processing  
Lecture 2 - Probability and Random Variables  
Lecture 3 - Linear Algebra of Random Variables  
Lecture 4 - Random Processes  
Lecture 5 - Linear Shift Invariant Systems with Random Inputs  
Lecture 6 - White Noise and Spectral Factorization Theorem  
Lecture 7 - Linear Models of Random Signals  
Lecture 8 - Estimation Theory - 1  
Lecture 9 - Estimation Theory - 2  
Lecture 10 - Cramer Rao Lower Bound 2  
Lecture 11 - MVUE through Sufficient Statistic - 1  
Lecture 12 - MVUE through Sufficient Statistic - 2  
Lecture 13 - Method of Moments and Maximum Likelihood Estimators  
Lecture 14 - Properties of Maximum Likelihood Estimator (MLE)  
Lecture 15 - Bayesian Estimators - 1  
Lecture 16 - Bayesian Estimators - 2  
Lecture 17 - Optimal linear filters  
Lecture 18 - FIR Wiener filter  
Lecture 19 - Non-Causal IIR Wiener Filter  
Lecture 20 - Causal IIR Wiener Filter  
Lecture 21 - Linear Prediction of Signals - 1  
Lecture 22 - Linear Prediction of Signals - 2  
Lecture 23 - Linear Prediction of Signals - 3  
Lecture 24 - Review Assignment - 1  
Lecture 25 - Adaptive Filters - 1  
Lecture 26 - Adaptive Filters - 2  
Lecture 27 - Adaptive Filters - 3  
Lecture 28 - Review Assignment - 2  
Lecture 29 - Adaptive Filters - 4

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Lecture 30 - Adaptive Filters - 4 (Continued...)  
Lecture 31 - Review Assignment - 3  
Lecture 32 - Recursive Least Squares (RLS) Adaptive Filter - 1  
Lecture 33 - Recursive Least Squares (RLS) Adaptive Filter - 2  
Lecture 34 - Review Assignment - 4  
Lecture 35 - Kalman Filter - 1  
Lecture 36 - Vector Kalman Filter  
Lecture 37 - Linear Models of Random Signals  
Lecture 38 - Review - 1  
Lecture 39 - Review - 2