

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

NPTEL Video Course - Electronics and Communication Engineering - NOC:Principles of Modern CDMA-MIMO-OFDM Wire

Subject Co-ordinator - Prof. Aditya K. Jagannatham

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Evolution of Wireless Communication Technologies
- Lecture 2 - Modeling Wireless Channel
- Lecture 3 - Wireless Fading Channel Model
- Lecture 4 - Fading Channel Distribution
- Lecture 5 - Rayleigh Fading Channel
- Lecture 6 - Bit Error Rate (BER) Performance
- Lecture 7 - Bit Error Rate (BER) of AWGN Channels
- Lecture 8 - Bit Error Rate of Rayleigh Fading Wireless Channel
- Lecture 9 - Exact BER Expression for Rayleigh Fading Wireless Channel
- Lecture 10 - Deep Fade Analysis of Wireless Communication
- Lecture 11 - Principle of Diversity
- Lecture 12 - Multiple Antenna Diversity
- Lecture 13 - Maximal-Ratio Combining
- Lecture 14 - BER of Multiple Antenna Wireless Systems
- Lecture 15 - Approximate BER for Multiple Antenna Wireless System
- Lecture 16 - Examples for BER of Wireless Communication
- Lecture 17 - Deep Fade in Multi Antenna Systems
- Lecture 18 - Intuition for Deep Fade in Multi-Antenna System
- Lecture 19 - Definition of Diversity Order
- Lecture 20 - Max Delay Spread
- Lecture 21 - RMS Delay Spread
- Lecture 22 - Delay Spread and Inter Symbol Interference
- Lecture 23 - Coherence Bandwidth of Wireless Channel
- Lecture 24 - Mobility and Doppler Effect in Wireless Channels
- Lecture 25 - Impact of Doppler Effect on Wireless Channel
- Lecture 26 - Introduction to Code Division Multiple Access (CDMA)
- Lecture 27 - Chip Time and Bandwidth Expansion in CDMA
- Lecture 28 - Code Generation for CDMA
- Lecture 29 - CDMA Codes

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- Lecture 30 - BER of CDMA Systems
- Lecture 31 - Analysis of Multi-user CDMA
- Lecture 32 - Multipath Diversity in CDMA Systems
- Lecture 33 - Near-Far Problem in CDMA
- Lecture 34 - Multiple Input Multiple Output (MIMO) Systems
- Lecture 35 - Examples of MIMO Systems
- Lecture 36 - MIMO Receivers
- Lecture 37 - BER Performance of ZF Receiver
- Lecture 38 - Transmit Beamforming in MISO Systems
- Lecture 39 - Alamouti Code and Space-Time Block Codes
- Lecture 40 - BER of Alamouti Coded System
- Lecture 41 - Singular Value Decomposition (SVD)
- Lecture 42 - SVD in MIMO
- Lecture 43 - Capacity of MIMO Wireless Systems
- Lecture 44 - SVD based MIMO Transmission
- Lecture 45 - Orthogonal Frequency Division Multiplexing (OFDM)
- Lecture 46 - Transmission in Multicarrier Systems
- Lecture 47 - FFT/IFFT Processing in OFDM
- Lecture 48 - Cyclic Prefix in OFDM Systems
- Lecture 49 - Schematic Representation of OFDM Transmitter and Receiver
- Lecture 50 - BER Performance of OFDM Systems