

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

NPTEL Video Course - Electronics and Communication Engineering - NOC:Fundamentals of MIMO Wireless Communication

Subject Co-ordinator - Prof. Suvra Sekhar Das

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Evolution of Wireless Communication Systems 1G - 5G
- Lecture 2 - Elements of Wireless Communication System
- Lecture 3 - Overview of MIMO Communication Systems
- Lecture 4 - Layered View of Transmitter and Receiver
- Lecture 5 - Wireless Channel Models - I
- Lecture 6 - Large Scale Propagation Models Path Loss
- Lecture 7 - Large Scale Propagation Models Path Loss and Shadowing
- Lecture 8 - Small Scale Propagation Multipath Model
- Lecture 9 - Small Scale Propagation Frequency Flat Fading
- Lecture 10 - Small Scale Propagation Envelope Distribution
- Lecture 11 - Small Scale Propagation Received Signal Correlation
- Lecture 12 - Small Scale Propagation Received Signal Correlation (Continued...)
- Lecture 13 - Coherence Time
- Lecture 14 - Doppler Spectrum
- Lecture 15 - Frequency Selective Fading
- Lecture 16 - Frequency Selective Fading - II
- Lecture 17 - FSF-Coherence Bandwidth, Delay Doppler Characteristics
- Lecture 18 - Spatial Channel Characteristics - I
- Lecture 19 - Expression of MIMO Channel
- Lecture 20 - MIMO Channel Characteristics
- Lecture 21 - Statistical Properties of H
- Lecture 22 - Important Results from Linear Algebra
- Lecture 23 - Spatial Diversity
- Lecture 24 - Selection Combining
- Lecture 25 - Maximal Ratio Combining
- Lecture 26 - Problem of Error in MRC
- Lecture 27 - Diversity Gain and Transmit MRC
- Lecture 28 - Transmit Diversity without Channel known at Tx
- Lecture 29 - MIMO Transmit Diversity - 1

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

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- Lecture 30 - MIMO Diversity - 2
- Lecture 31 - Fundamentals of Information Theory - I
- Lecture 32 - Fundamentals of Information Theory - II
- Lecture 33 - Fundamentals of Information Theory - III
- Lecture 34 - Fundamentals of Information Theory - IV
- Lecture 35 - Capacity of Deterministic MIMO Channels
- Lecture 36 - Capacity of Channel Unknown at Transmitter
- Lecture 37 - Capacity of Channel Known of Transmitter
- Lecture 38 - More on MIMO Channel Capacity
- Lecture 39 - Capacity of Random Channel
- Lecture 40 - MIMO in Practice