

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

NPTEL Video Course - Electrical Engineering - NOC:EMI-EMC and Signal Integrity: Principles, Techniques and Ap

Subject Co-ordinator - Prof. Amitabha Bhattacharya

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction to Electromagnetic Environment
- Lecture 2 - Introduction to Electromagnetic Compatibility
- Lecture 3 - EMC Standards
- Lecture 4 - EMC Units and Signal Spectrum
- Lecture 5 - Single Sided Spectrum
- Lecture 6 - Response of Linear Systems to Periodic Input Signals
- Lecture 7 - Important Computational Techniques
- Lecture 8 - Fourier Coefficient for Piecewise Linear Periodic Waveforms
- Lecture 9 - Fourier Coefficient for Piecewise Linear Periodic Waveforms (Continued...)
- Lecture 10 - Trapezoidal Clock
- Lecture 11 - Spectral Bounds for Trapezoidal Clock
- Lecture 12 - Spectral estimation of trapezoidal clock
- Lecture 13 - Effect of Rise/Fall Time on Spectral Bound of a Clock
- Lecture 14 - Effect of Ringing on Spectral Bounds
- Lecture 15 - Spectral Bounds for Linear System Output
- Lecture 16 - Resolution Bandwidth of a Spectrum Analyser
- Lecture 17 - Detector of Spectrum Analyser
- Lecture 18 - Radiated Emission Model Subproblem - I
- Lecture 19 - Farfield Characteristics of Current Element: Some Discussion
- Lecture 20 - Farfield of Dipole Antena
- Lecture 21 - Farfield models of wire antenna and current models
- Lecture 22 - Differential mode current emission model
- Lecture 23 - Differential mode current emission model (Continued...)
- Lecture 24 - Common Mode Current Emission Model
- Lecture 25 - Current Measurement
- Lecture 26 - Radiated Susceptibility Models
- Lecture 27 - Determination of Per Unit Length Inductance (Continued...)
- Lecture 28 - Per Unit Length Parameters of Various Two Wire Lines
- Lecture 29 - Radiated Susceptibility Model

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- Lecture 30 - Radiated Susceptibility Model (Continued...)
- Lecture 31 - Radiated Susceptibility Model (Continued...)
- Lecture 32 - Crosstalk
- Lecture 33 - Development of Multi Conductor Transmission Line Equation
- Lecture 34 - Per Unit Length Parameter of a Three Conductor System
- Lecture 35 - Parameters of Three Conductor Systems (Continued...)
- Lecture 36 - Parameters of Three Conductor Systems (Continued...)
- Lecture 37 - Development of crosstalk model infrequency domain
- Lecture 38 - Determination of Terminal Currents of a three conductor system
- Lecture 39 - Derivation of Chain Parameter Matrix
- Lecture 40 - Determination of Crosstalk in a Lossless Line Immersed in Homogeneous Medium
- Lecture 41 - Determination of Crosstalk (Continued...)
- Lecture 42 - Determination of Crosstalk (Continued...)
- Lecture 43 - Determination of Crosstalk (Continued...)
- Lecture 44 - Inductive and Capacitive coupling
- Lecture 45 - Time Domain Crosstalk
- Lecture 46 - Time Domain Crosstalk (Continued...)
- Lecture 47 - Inclusion of Losses in Transient Crosstalk
- Lecture 48 - Conducted emission and susceptibility
- Lecture 49 - Shielding
- Lecture 50 - Shielding Effectiveness for Farfield Source
- Lecture 51 - Shielding Effectiveness Due to Farfield Source (Continued...)
- Lecture 52 - SE Due to Farfield Sources (Continued...) and Free Space Impedance Ar Nearfield
- Lecture 53 - Shielding for Nearfield Source
- Lecture 54 - EMC System Aspect for Shielding
- Lecture 55 - Grounding
- Lecture 56 - Grounding (Continued...)
- Lecture 57 - Bonds and Joints
- Lecture 58 - EMC Case Studies
- Lecture 59 - Electrostatic Discharge (ESD)