

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

NPTEL Video Course - Electrical Engineering - NOC:Electromagnetic Compatibility, EMC

Subject Co-ordinator - Prof. Daniel Mansson, Prof. Rajeev Thottappillil

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Introduction to EMC - Definitions
- Lecture 2 - Introduction to EMC - Sources, units etc
- Lecture 3 - Electromagnetic principles - Faraday's and Ampere's equations
- Lecture 4 - Electromagnetic principles - Gauss's equation, boundary conditions
- Lecture 5 - Electromagnetic principles - Uniform plane wave
- Lecture 6 - Electromagnetic principles - Transmission lines
- Lecture 7 - Electromagnetic principles - Dipoles
- Lecture 8 - High-frequency behaviour of components - Conductors
- Lecture 9 - High-frequency behaviour of components - Capacitors, inductors, resistors
- Lecture 10 - High-frequency behaviour of components - Mechanical switches and transformers
- Lecture 11 - Crosstalk or near-field coupling - Capacitive coupling, inductive coupling, common-impedance coupling
- Lecture 12 - Crosstalk or near-field coupling - Crosstalk combinations
- Lecture 13 - Crosstalk or near-field coupling - Coupling to shielded cables
- Lecture 14 - Electromagnetic coupling in the far-field
- Lecture 15 - Field Coupling - Exercises
- Lecture 16 - Solutions to EMC problems - Lay out and control of interfaces
- Lecture 17 - Solutions to EMC problems - Grounding or earthing
- Lecture 18 - Solutions to EMC problems - Electromagnetic Shielding
- Lecture 19 - Solutions to EMC problems - Electromagnetic Shielding (Continued...)
- Lecture 20 - Solutions to EMC problems - Shielded cables
- Lecture 21 - Solutions to EMC problems - Filters and Surge protectors
- Lecture 22 - Lightning Protection - Introduction
- Lecture 23 - Lightning protection - Currents, charges and fields
- Lecture 24 - Lightning Protection - Buildings
- Lecture 25 - Lightning Protection - Towers, Lightning safety
- Lecture 26 - EMC Requirements and Standard, Testing and Difficulties - 1
- Lecture 27 - EMC Requirements and Standard, Testing and Difficulties - 2
- Lecture 28 - Intentional Electromagnetic Interference or IEMI - 1
- Lecture 29 - Intentional Electromagnetic Interference or IEMI - 2

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