

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

NPTEL Video Course - Electrical Engineering - NOC:Transmission Lines and Electromagnetic Waves

Subject Co-ordinator - Dr. Ananth Krishnan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Transmission lines
Lecture 2 - Lossless Transmission lines
Lecture 3 - Introduction to finite difference method
Lecture 4 - Octave simulation of wave equation
Lecture 5 - Octave simulation of Telegrapher's equation
Lecture 6 - Reflections and reflection coefficient
Lecture 7 - AC signals in loss-less transmission lines
Lecture 8 - Transmission lines with losses
Lecture 9 - Octave simulation of Transmission lines with losses
Lecture 10 - Voltage reflection coefficient and standing wave ratio
Lecture 11 - Graphical representation of reflection coefficient
Lecture 12 - Impedance matching using Smith chart
Lecture 13 - Demonstration of Impedance matching using VNA
Lecture 14 - Transmission Line Limitations and Maxwell's Equation
Lecture 15 - Maxwell's Curl Equation
Lecture 16 - Octave simulation of an Electromagnetic Wave Equation
Lecture 17 - Polarisation of an Electromagnetic Wave
Lecture 18 - Octave Simulation of different types of Polarisation
Lecture 19 - Electromagnetic Waves in a conductive Medium
Lecture 20 - Plane Waves
Lecture 21 - Plane Waves at normal incidence
Lecture 22 - Plane waves at Oblique Incidence - I
Lecture 23 - Plane waves at Oblique Incidence - II
Lecture 24 - Plane waves at Oblique Incidence - III
Lecture 25 - Octave simulation of perpendicular polarisation
Lecture 26 - Octave simulation of perpendicular polarisation (Continued...)
Lecture 27 - Dielectric-ideal conductor interface
Lecture 28 - Parallel plate waveguide
Lecture 29 - Rectangular Waveguide

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- Lecture 30 - Octave simulation of modes of a Rectangular Waveguide
- Lecture 31 - Phase Velocity and Group velocity
- Lecture 32 - Octave simulation of Field pattern of a parallel plate waveguide
- Lecture 33 - Cavity resonator and Real life applications of waveguides and cavity