NPTEL Video Course - Electronics and Communication Engineering - NOC:Circuit Analysis for Analog Designers

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Co-ordinating Institute - IIT - Madras

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

Lecture 30 - Visualization and mitigation of the effect of Q-enhancement
Lecture 31 - Transconductance-Capacitance integrators
Lecture 32 - Introduction to noise in electrical networks
Lecture 33 - Noise processed by a linear time-invariant system
Lecture 34 - kT/C noise in a sample-and-hold circuit
Lecture 35 - Noise in RLC networks
Lecture 36 - Total integrated noise in RLC Networks
Lecture 37 - Bode's Noise Theorem - Frequency domain
Lecture 38 - Input referred noise in electrical networks - Part 1
Lecture 39 - Input referred noise in electrical networks - Part 2
Lecture 40 - Input referred noise and the noise factor
Lecture 41 - Noise Factor Examples
Lecture 42 - Introduction to distributed networks, the ideal transmission line
Lecture 43 - Solving the wave equation in an ideal transmission line
Lecture 44 - Transmisson line circuit analysis : The short circuited and open circuited line
Lecture 45 - Transmission line circuit analysis, the reflection coefficient, open and short-circuited lines
Lecture 46 - Transmission line driven by a source, power in a transmission line
Lecture 47 - The Smith chart
Lecture 48 - The need for scattering parameters
Lecture 49 - Scattering Parameters: Introduction
Lecture 50 - Example scattering matrix calculations
Lecture 51 - Scattering matrices properties
Lecture 52 - Measuring the S-parameters of a one-port
Lecture 53 - The one-port vector network analyzer
Lecture 54 - The two-port vector network analyzer
Lecture 55 - Weak nonlinearity in electronic circuits, second-order harmonic distortion, HD2 and IM2
Lecture 56 - Weak nonlinearity in electronic circuits, second-order intermodulation distortion
Lecture 57 - Gain compression and third-order harmonic distortion
Lecture 58 - Third-order intermodulation distortion
Lecture 59 - Weak nonlinearities in circuits: Intuition behind the method of current injection
Lecture 60 - Weak nonlinearities in circuits: Calculating nonlinear components
Lecture 61 - Current-injection analysis of distortion in a negative feedback system
Lecture 62 - Current-injection analysis of distortion in a negative feedback system (Continued...)
Lecture 63 - Course summary and recap