

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

NPTEL Video Course - Electronics and Communication Engineering - Adv. Digital Signal Processing - Multirate a

Subject Co-ordinator - Prof. V.M. Gadre

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction

Lecture 2 - The Haar Wavelet

Lecture 3 - The Haar Multiresolution Analysis

Lecture 4 - Wavelets And Multirate Digital Signal Processing

Lecture 5 - Equivalence - Functions And Sequences

Lecture 6 - The Haar Filter Bank

Lecture 7 - Haar Filter Bank Analysis And Synthesis

Lecture 8 - Relating ψ , ϕ and the Filters

Lecture 9 - Iterating the filter bank from ψ , ϕ

Lecture 10 - Z-Domain Analysis Of Multirate Filter Bank

Lecture 11 - Two Channel Filter Bank

Lecture 12 - Perfect Reconstruction - Conjugate Quadrature

Lecture 13 - Conjugate Quadrature Filters - Daubechies Family of MRA

Lecture 14 - Daubechies' Filter Banks - Conjugate Quadrature Filters

Lecture 15 - Time And Frequency Joint Perspective

Lecture 16 - Ideal Time Frequency Behaviour

Lecture 17 - The Uncertainty Principle

Lecture 18 - Time Bandwidth Product Uncertainty

Lecture 19 - Evaluating and Bounding $\sqrt{t} \cdot \sqrt{\omega}$

Lecture 20 - The Time Frequency Plane & its Tilings

Lecture 21 - Short time Fourier Transform & Wavelet Transform in General

Lecture 22 - Reconstruction & Admissibility

Lecture 23 - Admissibility in Detail Discretization of Scale

Lecture 24 - Logarithmic Scale Discretization, Dyadic Discretization

Lecture 25 - The Theorem of (DYADIC) Multiresolution Analysis

Lecture 26 - Proof of the Theorem of (DYADIC) Multiresolution Analysis

Lecture 27 - Introducing Variants of The Multiresolution Analysis Concept

Lecture 28 - JPEG 2000 5/3 FilterBank & Spline MRA

Lecture 29 - Orthogonal Multiresolution Analysis with Splines

Get Digi-MAT (Digital Media Access Terminal) For High-Speed Video Streaming of NPTEL and Educational Video Courses in LAN

www.digimat.in

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

- Lecture 30 - Building Piecewise Linear Scaling Function, Wavelet
- Lecture 31 - The Wave Packet Transform
- Lecture 32 - Nobel Identities & The Haar Wave Packet Transform
- Lecture 33 - The Lattice Structure for Orthogonal Filter Banks
- Lecture 34 - Constructing the Lattice & its Variants
- Lecture 35 - The Lifting Structure & Polyphase Matrices
- Lecture 36 - The Polyphase Approach - The Modulation Approach
- Lecture 37 - Modulation Analysis and The 3-Band Filter Bank, Applications
- Lecture 38 - The Applications *Data Mining, *Face Recognition
- Lecture 39 - Proof that a non-zero function can not be both time and band-limited
- Lecture 40 - M-Band Filter Banks and Looking Ahead
- Lecture 41 - Tutorial -Session 1
- Lecture 42 - Student's Presentation
- Lecture 43 - Tutorial on Uncertainty Product
- Lecture 44 - Tutorial on Two band Filter Bank
- Lecture 45 - Tutorial -Frequency Domain Analysis of Two band Filter Bank
- Lecture 46 - Zoom in and Zoom out using Wavelet Transform
- Lecture 47 - More Thoughts on Wavelets
- Lecture 48 - Towards selecting Wavelets through vanishing moments
- Lecture 49 - In Search of Scaling Coefficients
- Lecture 50 - Wavelet Applications