

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

NPTEL Video Course - Electronics and Communication Engineering - NOC:Foundations of Wavelets and Multirate Di

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 - Origin of wavelets
- Lecture 3 - Haar wavelet
- Lecture 4 - Dyadic wavelet
- Lecture 5 - Dilates and translates of Haar wavelet
- Lecture 6 - L2 norm of a function
- Lecture 7 - Piecewise constant representation of a function
- Lecture 8 - Ladder of subspaces
- Lecture 9 - Scaling function of Haar wavelet
- Lecture 10 - Demonstration
- Lecture 11 - Vector representation of sequences
- Lecture 12 - Properties of norm
- Lecture 13 - Parsevals theorem
- Lecture 14 - Equivalence of functions and sequences
- Lecture 15 - Angle between Functions and their Decomposition
- Lecture 16 - Additional Information on Direct-Sum
- Lecture 17 - Introduction to filter banks
- Lecture 18 - Haar Analysis filter bank in Z-domain
- Lecture 19 - Haar Synthesis filter bank in Z-domain
- Lecture 20 - Moving from Z-domain to frequency domain
- Lecture 21 - Frequency Response of Haar Analysis Low pass Filter bank
- Lecture 22 - Frequency Response of Haar Analysis High pass Filter bank
- Lecture 23 - Ideal Two-band Filter bank
- Lecture 24 - Disqualification of Ideal Filter bank
- Lecture 25 - Realizable Two-band Filter bank
- Lecture 26 - Demonstration
- Lecture 27 - Relating Fourier transform of scaling function to filter bank
- Lecture 28 - Fourier transform of scaling function
- Lecture 29 - Construction of scaling and wavelet functions from filter bank

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Lecture 30 - Demonstration

Lecture 31 - Conclusive Remarks and Future Prospects