

Agenda CENG 3315 April 4&6, 2022 DFT FFT DSPF Chapter 8

Quiz 2 Due

1_Introduction to DFT 1_DFT_FFT_Presentation1.pdf

DFT Presentation1 (On Course Website)

2_3315 DFT_FFT_Videos April_2022.pdf

DFT FFT Videos

Van Veen Sunspots, Spectrogram 5:05

Free Engineering: Music, Tides (6:00), MP3 (10:30), MRI (16:00)

Free Engineering: Change of Basis 16:42 Oscillations, Ears, frequency

DFT in Practice: 20:27 Examples

DFT Step by Step: 10:34 723,342 views! Aug 3, 2015 10:34 Simon Xu

Image processing | Digital Signal Processing

9,477 views Aug 23, 2014 17:03

2D Convolution

The Fast Fourier Transform:

NTS/FFT Basics: 7:26 282,803 Views

Applications of the FFT: FFT as "the most important numerical algorithm of our lifetime"

Learn about Fourier transforms, convolutions, neural networks, image processing, GPS, MRI scans, hearing, etc, etc - Fourier does it all. (Michel 12:31)

FFT Tutorial TI

598,640 views • May 17, 2012 6:29

Tony and Ian from Tektronix present a FFT Tutorial (Fast Fourier Transform) covering what is FFT, an explanation of the FFT function as well as different FFT applications. They explain how the FFT works with a FFT example and show an oscilloscope demo to demonstrate how helpful the FFT can be.



3_ExamplesProblemSession1_Ch8

[DFT Problem Session1](#)

4_TLH_Chapter 11 To Page 513

[DFT FFT TLH Chapter11](#)

DFT_Problem_Session2_Ch8.pdf

[DFT Problem Session 2](#)

FourierPresentation2_FS_FT_DFT_TLH.pdf

[FourierPresentation2](#)

The Fourier Transform .com

$$\mathcal{F}\{g(t)\} = G(f) = \int_{-\infty}^{\infty} g(t)e^{-i2\pi ft} dt$$
$$\mathcal{F}^{-1}\{G(f)\} = g(t) = \int_{-\infty}^{\infty} G(f)e^{i2\pi ft} df$$
