

Solved examples on topics presented in Lecture 6

DFT frequency resolution: Schaum (6.35/254)

DFT visualization: See the corresponding Matlab script

Circular convolution: Schaum (6.4.3/231)

- Several examples to compute both linear and circular convolution are contained in the video Youtube (Periodic or Circular Convolution)
<https://www.youtube.com/watch?v=A6b3UkraTgw>
- A slight mistake at the beginning of the video (it does not influence the correctness of the presented approach): the lecturer states at the beginning of the video that input signals of circular convolution must be real-valued, which is not correct. Circular convolution is well defined even for complex sequences.
- Matlab verify your calculations in Matlab using command `y=ifft(fft(x).*fft(h));`
Circular periodic convolution in time-domain corresponds to sample-wise multiplication of DFTs of the input sequences

Fast Fourier Transform: See the corresponding Matlab script

Block-wise processing: See the corresponding Matlab script