ObsPy

A Python Framework for Seismology

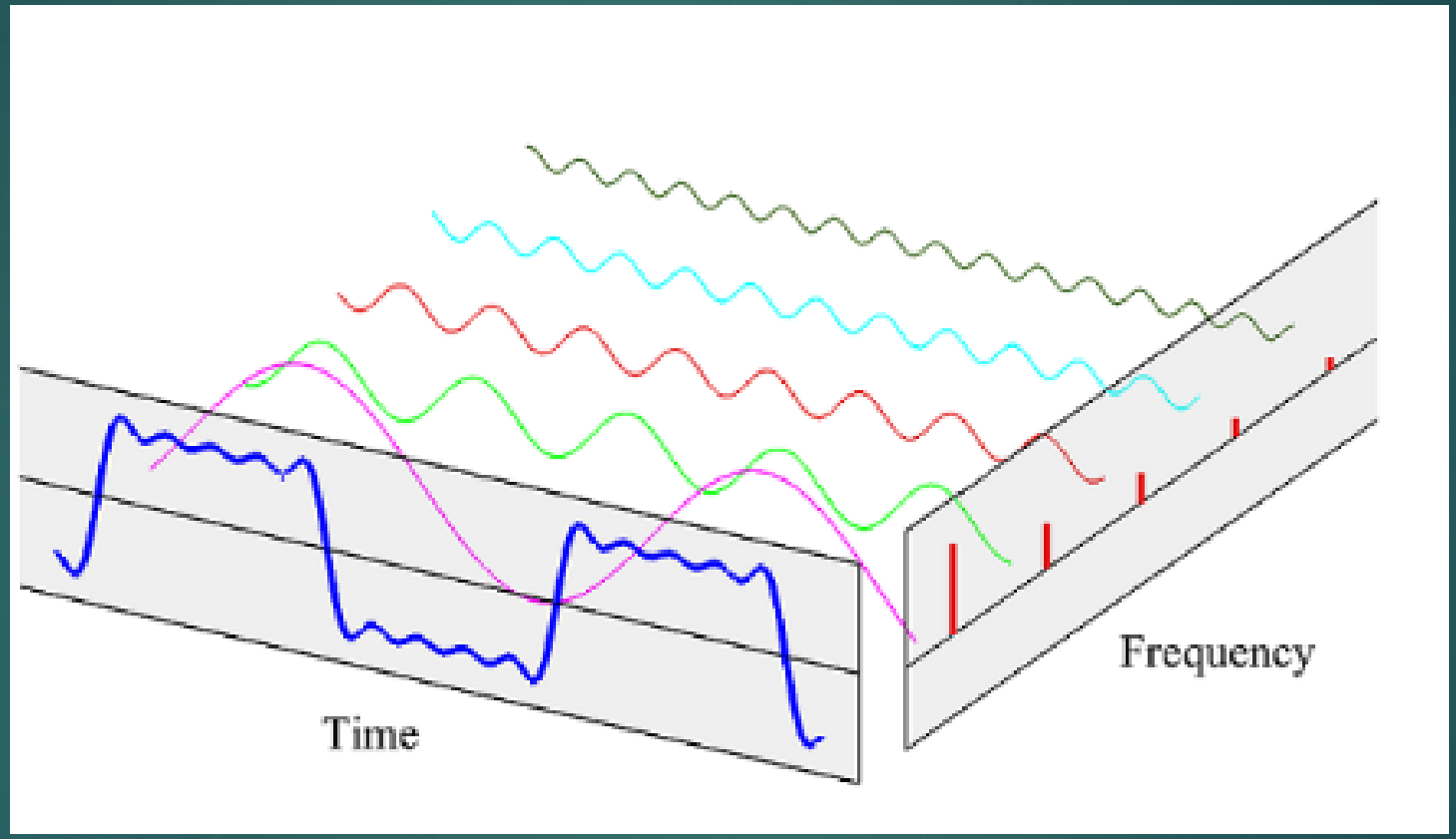
12-Poles and Zeros, Frequency Response.

Iman Kahbasi

PhD student at IIEES

1400/12/16

Time VS Frequency



https://wirelesspi.com/the-concept-of-frequency

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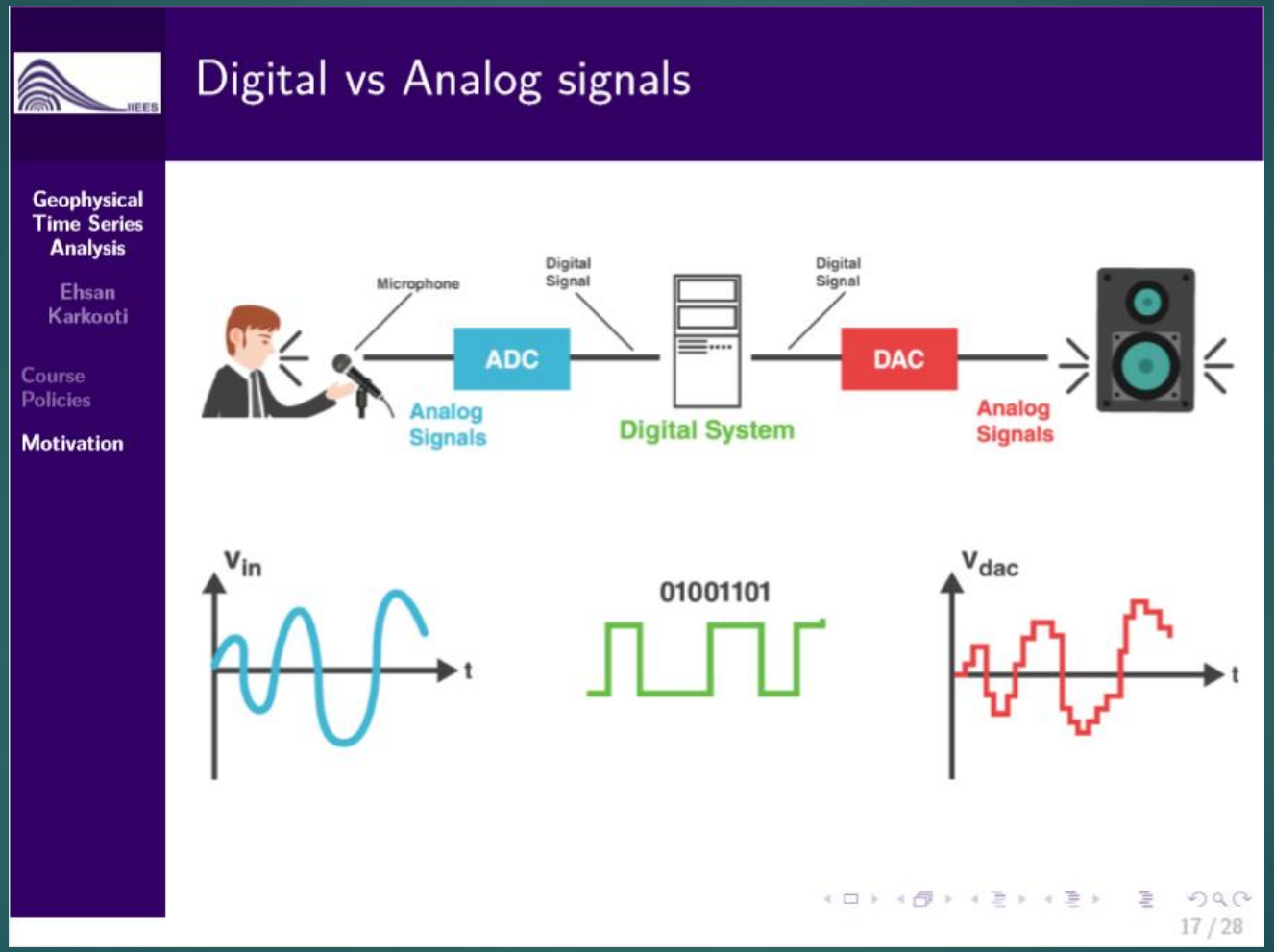

Dr.Karkooti (1396-1397)

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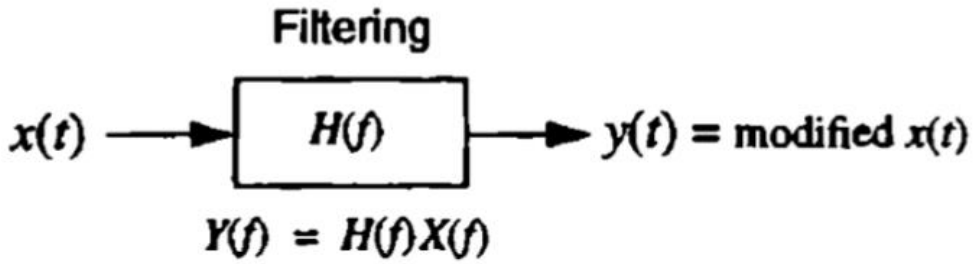
Filtering

Geophysical Time Series Analysis

Ehsan Karkooti

Filters

Filtering is the process of altering the frequency content of a signal. It is probably the most widely used signal processing operation.



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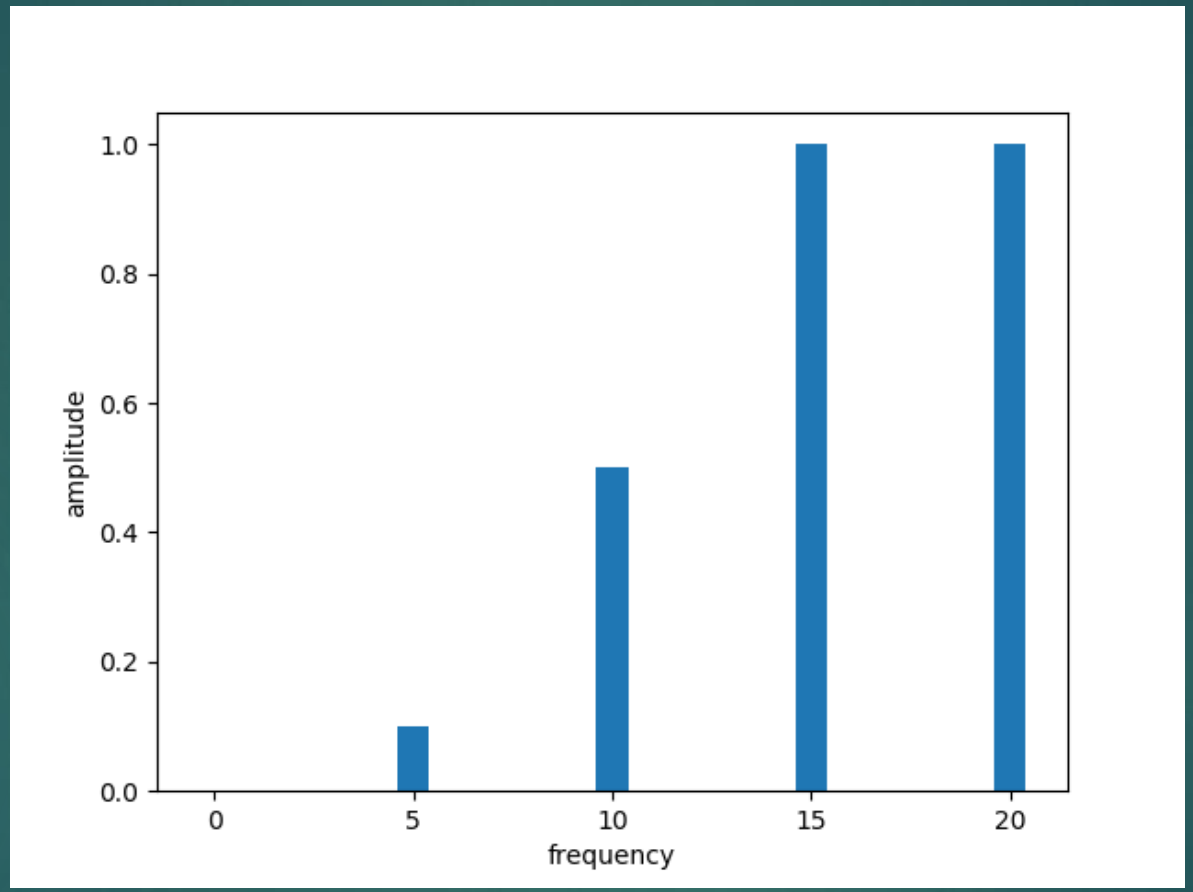

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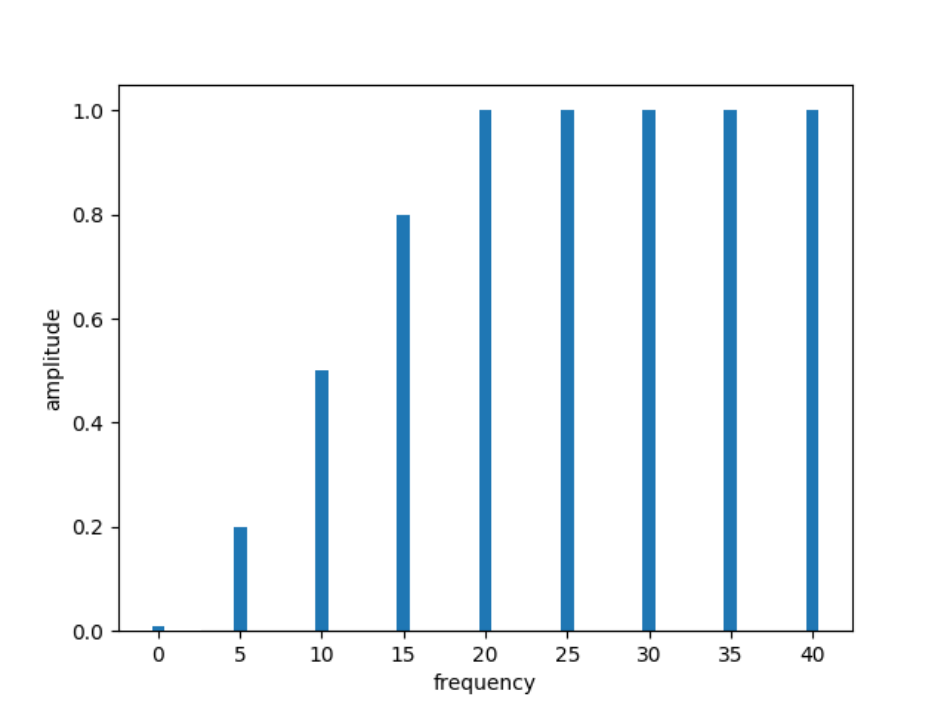
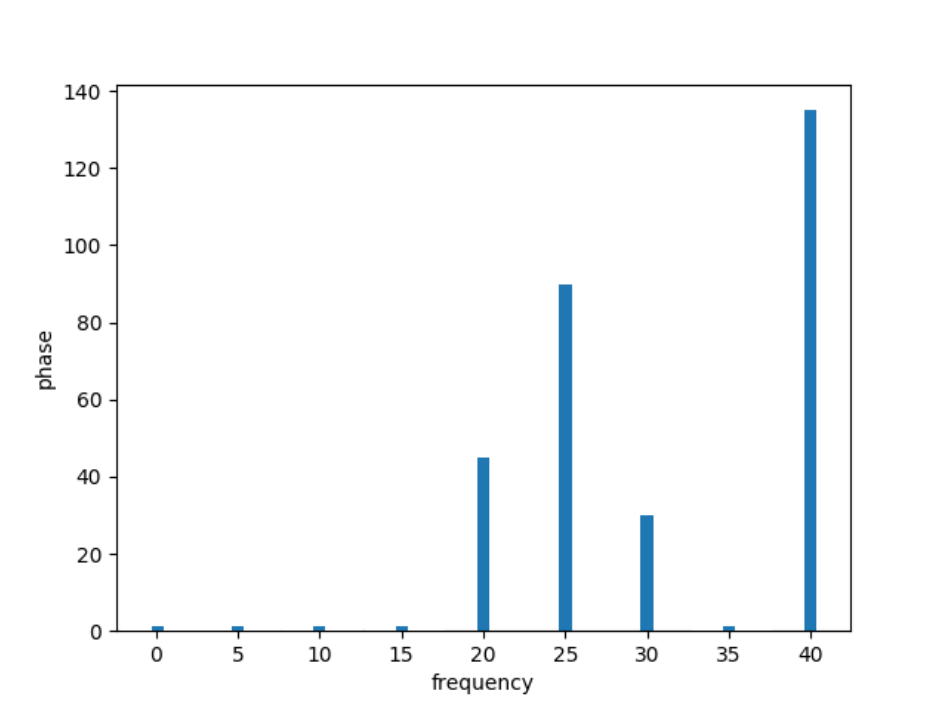
Frequency response
System function
Instrument response





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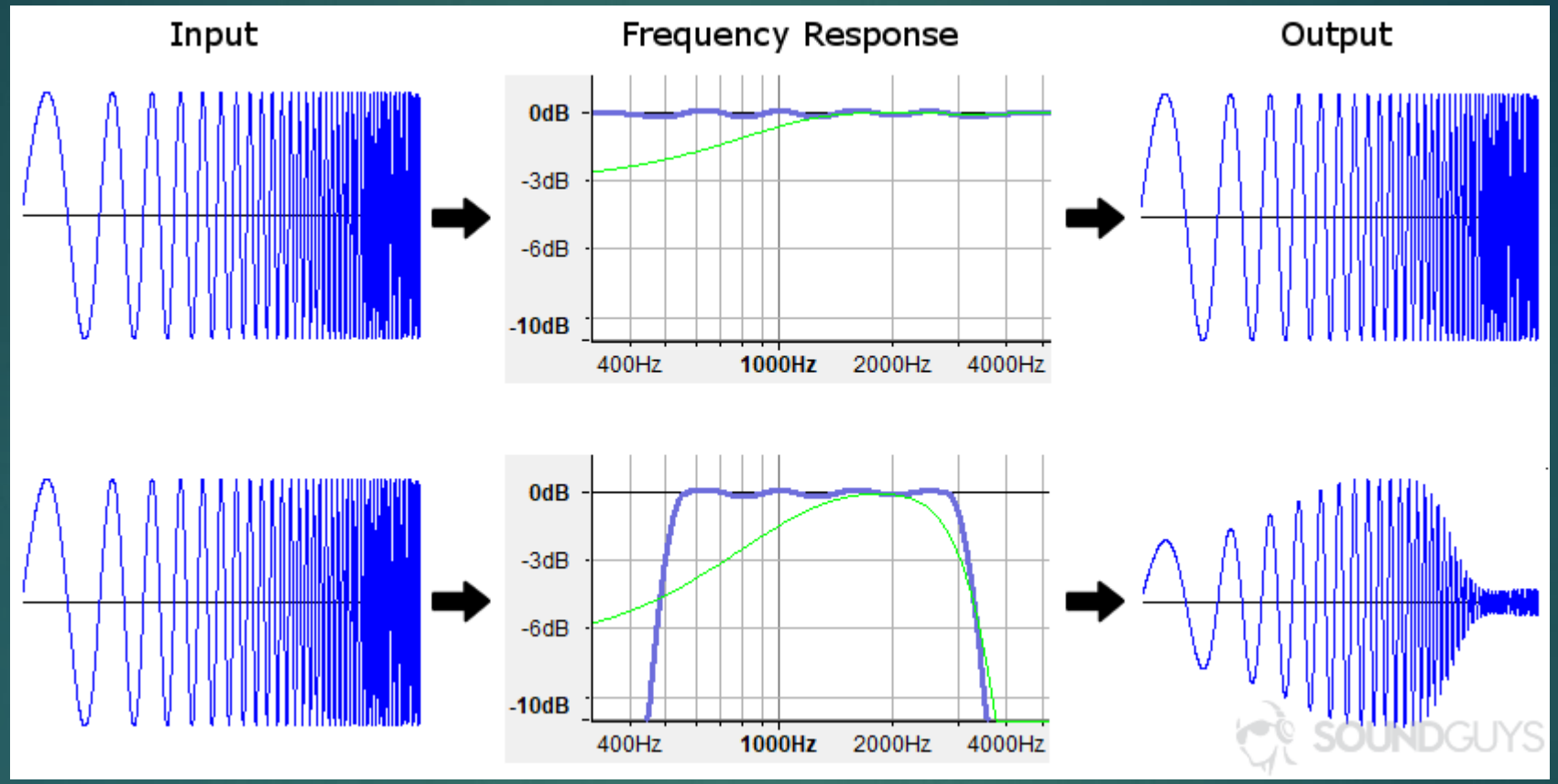

https://www.soundguys.com/frequency-response-explained-16507/

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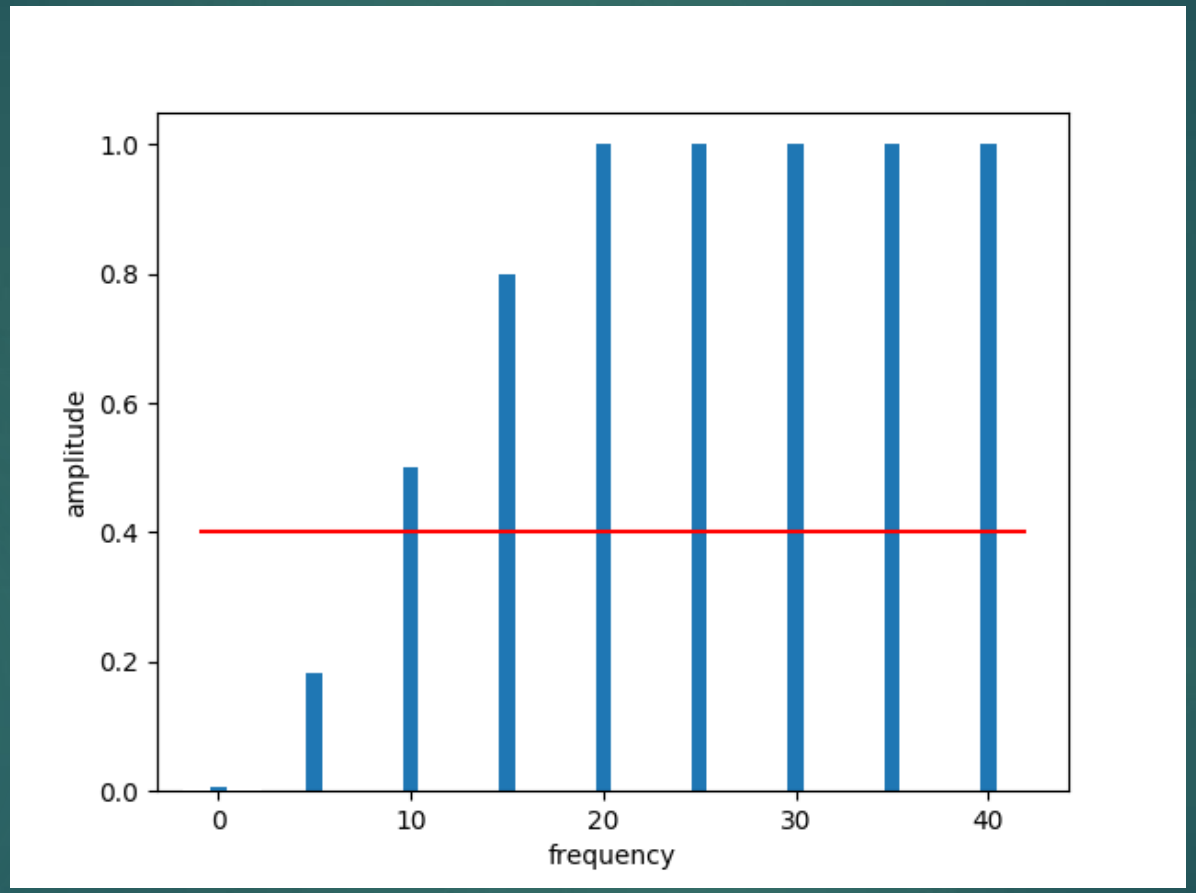

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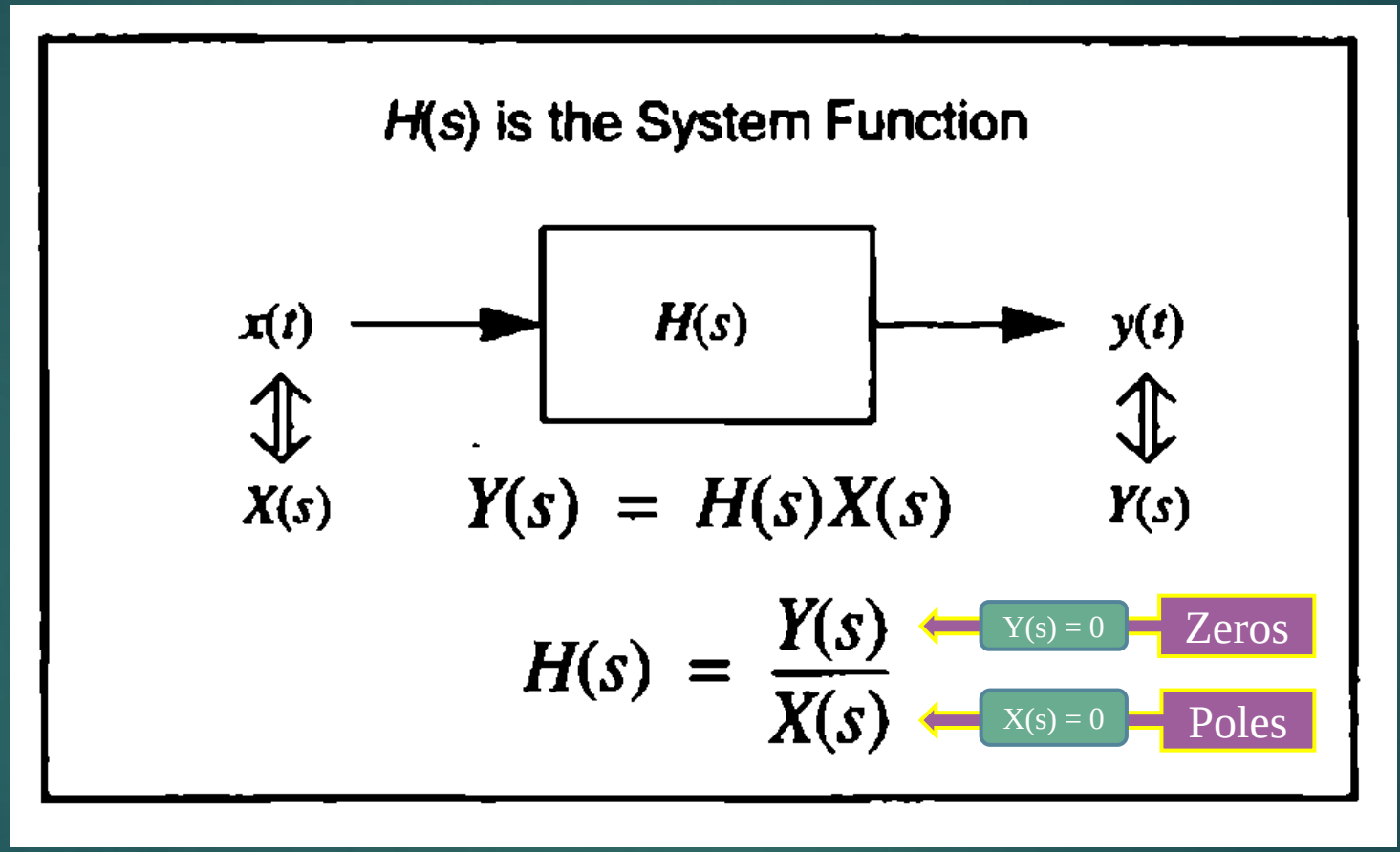
Signals and Systems
Made Ridiculously simple
[Zoher Z.Karu]



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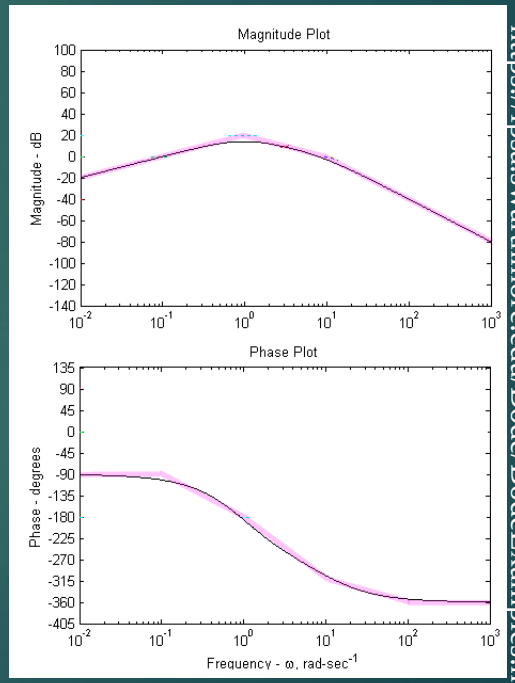
Poles & Zeros → System function → Bode plot

Constant = -10
Poles = -10, -1, -1
Zeros = 0

$$H(s) = -100\frac{s}{(s+1)^2(s+10)} = -10\frac{s}{(s+1)^2\left(\frac{s}{10}+1\right)}$$



https://lpsa.swarthmore.edu/Bode/BodeExamples.html

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Hertz → Convert to → **radian**

Poles	* 2π	Poles
Zeros	* 2π	Zeros
Constant	* 2π ^ (np – nz)	constant

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