Digital Signal Processing

ICS 180

Representation in Both Domains

Time Domain

Amplitude

Frequency

Phase

Frequency

Time (or sample number)

Analog frequency ≈ 0.19 of sampling rate

Frequency Domain

Amplitude
Representation in Both Domains

Time Domain

Frequency Domain

Extending it to 2D

Amplitude

Phase
Amplitude

- **Amplitude**
  - **How** much details?
  - Sharper details signify higher frequencies
  - Will deal with this mostly

Phase

- **Where** are the details?
- Though we do not use it much, it is important, especially for perception
Reading

- Chapter 1
- Chapter 2
- Chapter 3
- Programming Assignment 1
  - Due April 12
  - Up on the web
  - Upload results and code
  - Send me email