

CENG290 Data Communications

Labwork 5

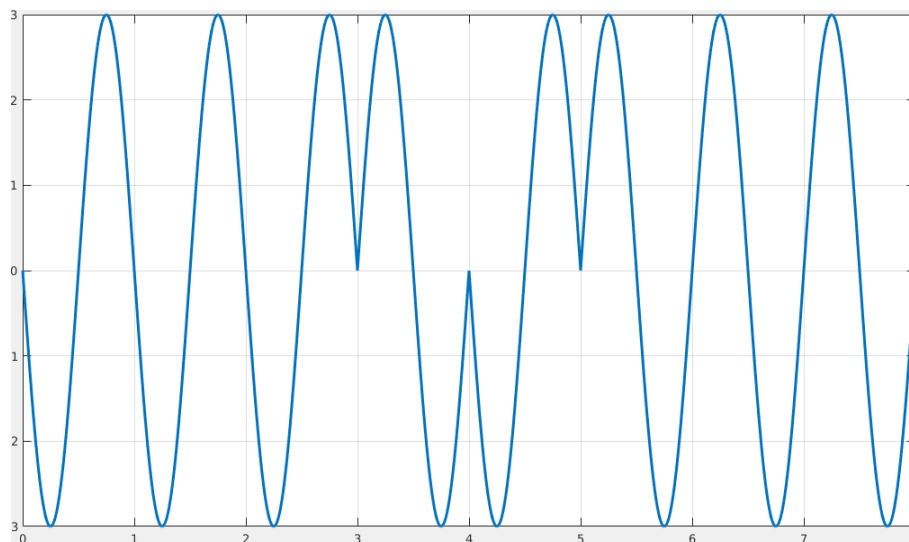
Modulation II - Phase Shift Keying

PSK With 2 Phases

Assume that you are asked to modify phase property of a carrier to add data to signal. As a simple example, consider two phases:

- No change in phase: 0
- 180° change in phase: 1

For example, the bit sequence “10011100” can be represented as:

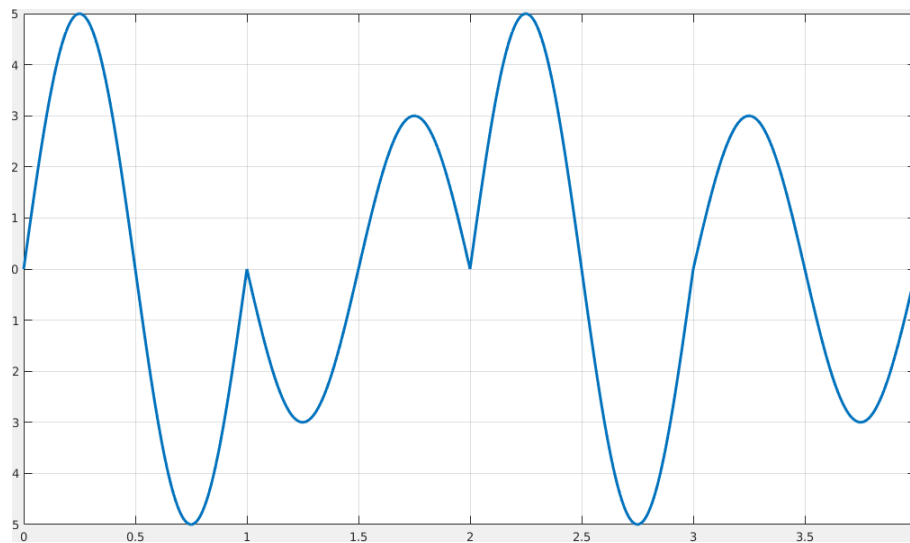


PSK With 2 Phases and 2 Amplitudes

Different modulation methods can be combined together to represent multiple bits in one wave. In this example, we will be combining amplitude and phase properties to represent 2 bits per wave:

- Low amplitude, no phase change: 00
- Low amplitude, 180° phase change: 01
- High amplitude, no phase change: 10
- High amplitude, 180° phase change: 11

Now, the bit sequence “10011100” can be represented as:



Modify the code in previous labwork to demonstrate PSK for both examples.