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mary psk.sci (C:\Users\geeta\Documents\mary psk.sci) - SciNotes
File Edit Format Options Window Execute ?
mary psk.sci (C:\Users\geeta\Documents\mary psk.sci) - SciNotes
mary psk.sci x
1 clear;
2 close;
3 clc;
4
5 M = 4;
6 a = 1;
7 T = 1;
8 S = [(-3/2)*a*sqrt(T), (-1/2)*a*sqrt(T), (3/2)*a*sqrt(T), (1/2)*a*sqrt(T)];
9
10 //Define the axis and grid
11 x_grid = linspace(-2, 2, 9);
12 y_grid = linspace(-0.5, 0.5, 5);
13 for x = x_grid
14     plot2d([x x], [-0.5 0.5], style = 3); // Vertical grid lines
15 end
16 for y = y_grid
17     plot2d([-2 2], [y y], style = 3); // Horizontal grid lines
18 end
19
20 //Plot the constellation points on top of the grid
21 plot2d(S, [0,0,0,0], -10, "000");
22 xlabel("phi1(t)");
23 title("M-ary QAM Signal Constellation");
24
25 disp("M-ary QAM Representation of Transmitted Symbols");
26 disp("Location of message points: " + S);
27 disp("Transmitted symbol: 00 01 11 10");
28 disp("Received symbol: 00 01 11 10");
29 disp("Decision intervals for received symbols");
30 disp("Interval on phi1(t): -x < -a*sqrt(T) < -a*sqrt(T) < -x < -0 < -0 < -x < -a*sqrt(T) < -x < a*sqrt(T) < x");
31

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