

$$x_1(t) = 0.95\sqrt{2}x_1(t-1) - 0.9025x_1(t-2) + w_1(t)$$

$$x_2(t) = 0.5x_1(t-2) + w_2(t)$$

$$x_3(t) = -0.4x_1(t-3) + w_3(t)$$

$$x_4(t) = -0.5x_1(t-2) + 0.25\sqrt{2}x_4(t-1) + 0.25\sqrt{2}x_5(t-1) + w_4(t)$$

$$x_5(t) = -0.25\sqrt{2}x_4(t-1) + 0.25\sqrt{2}x_5(t-1) + w_5(t)$$