CAD Applications (2)

Part (2)
Simulink

1. For the given Simulink model in the lecture, replace the square–law detector by the coherent detector. Show the transmitted signal and the detected signal in one plot.

2. Prepare a Simulink model for implementing FM modulator having the following parameters:
   - Ac= 1;   % carrier amplitude
   - fc = 25;   % carrier frequency
   - fm = 1;   % message frequency
   - Kf=10;   % frequency sensitivity of the FM modulator
   - Fs = 1000;   % sample rate

   Where the FM signal is given by:

$$X_{FM} = A_c \cos\left[2\pi\left(f_c + K_f \int_{-\infty}^{t} m(t)\, dt\right)\right]$$

$$m(t) = \sin[2\pi\, f_m t]$$

✓ Show both the time variation and the spectrum of both the modulating and FM-Modulated signals

Best Regards

Dr. Basem ElHalawany