

Problems

5.1 A phase modulated waveform is described by

$$\lambda(t) = 50\cos(2\pi \times 10^6 t) + 0.001\cos 2\pi \times 500t$$

- (a) What is $f_i(t)$, the instantaneous frequency of $\lambda(t)$?
- (b) What is the approximate bandwidth of $\lambda(t)$?
- (c) Is $\lambda(t)$ a narrowband or wideband angle-modulated signal?
- (d) What is $s(t)$, the information signal?