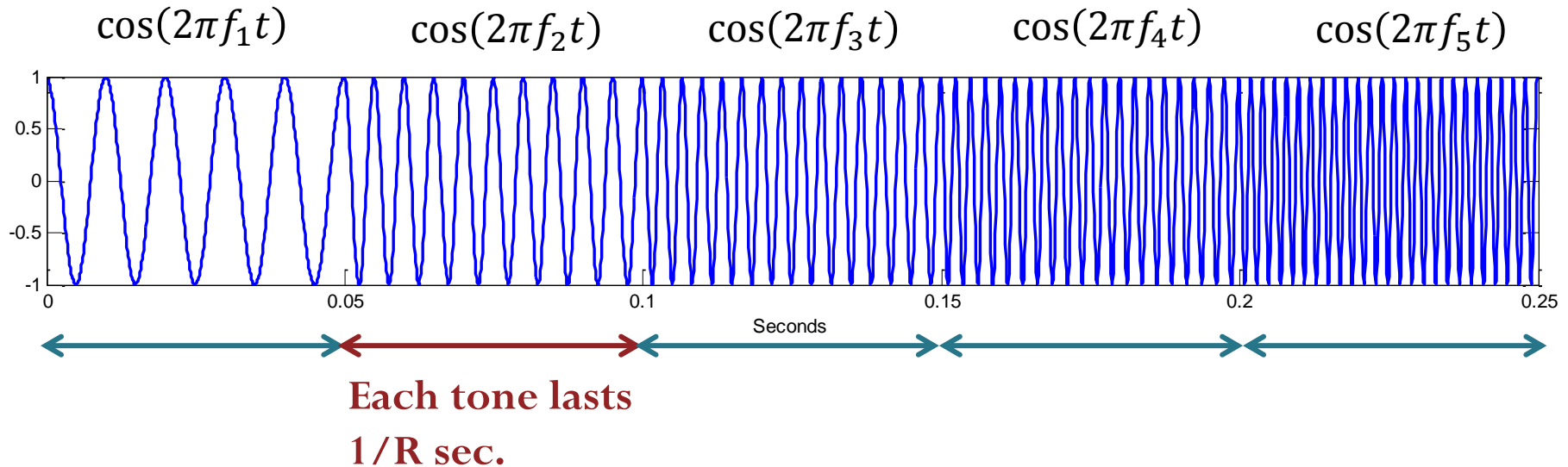


Five frequencies

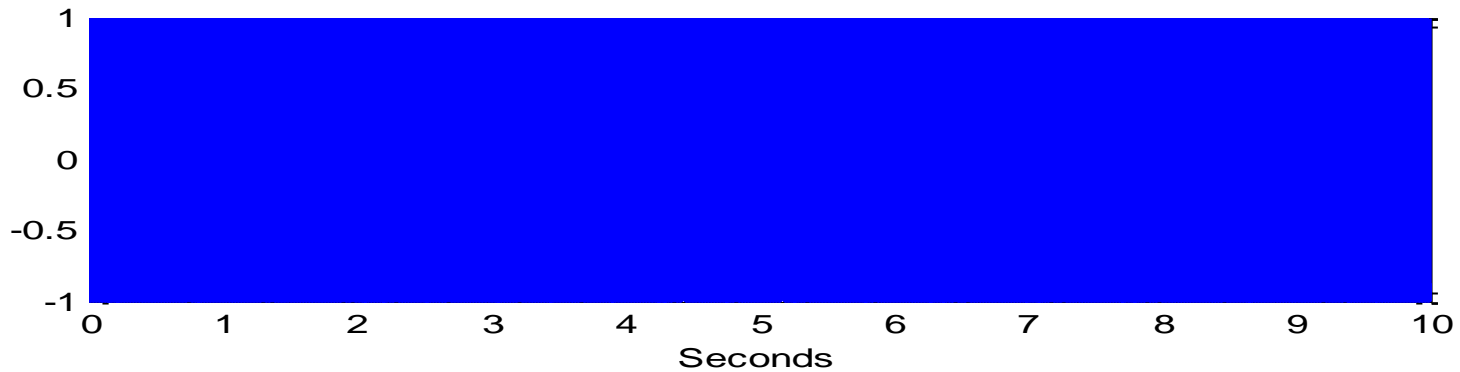


Rate = R frequency-change per second

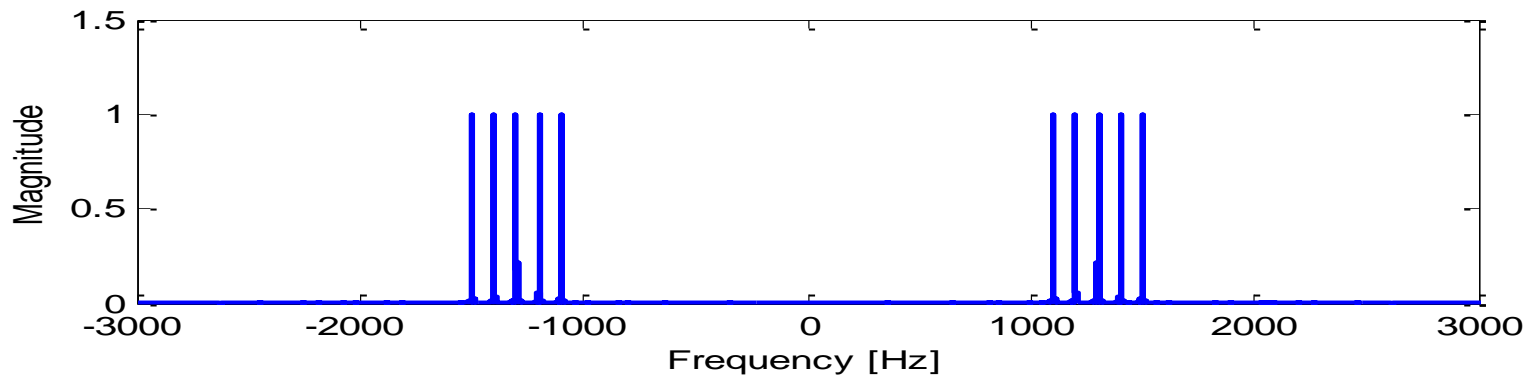


Five frequencies

1100 Hz 1200 Hz 1300 Hz 1400 Hz 1500 Hz
 $\cos(2\pi f_1 t)$ $\cos(2\pi f_2 t)$ $\cos(2\pi f_3 t)$ $\cos(2\pi f_4 t)$ $\cos(2\pi f_5 t)$

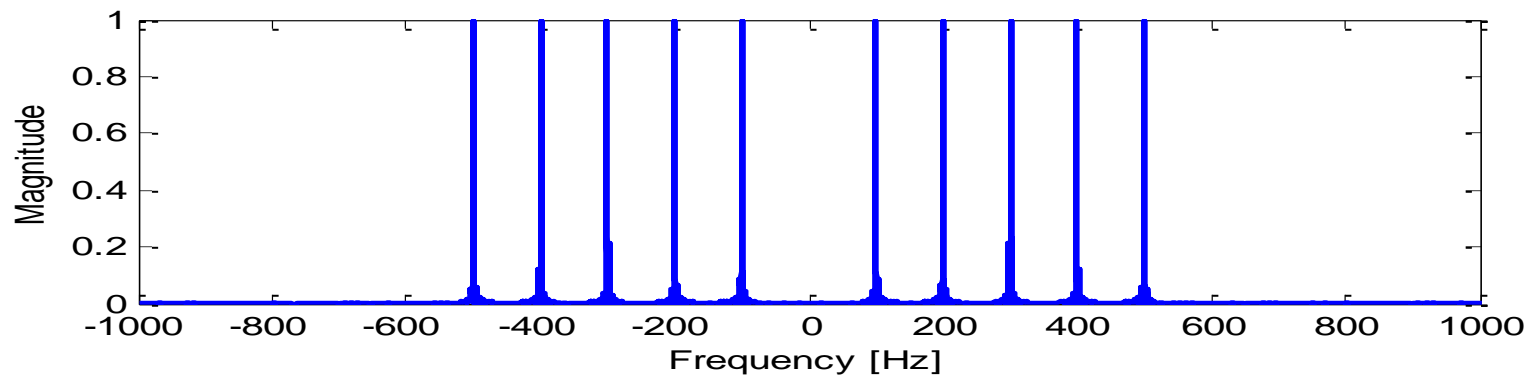
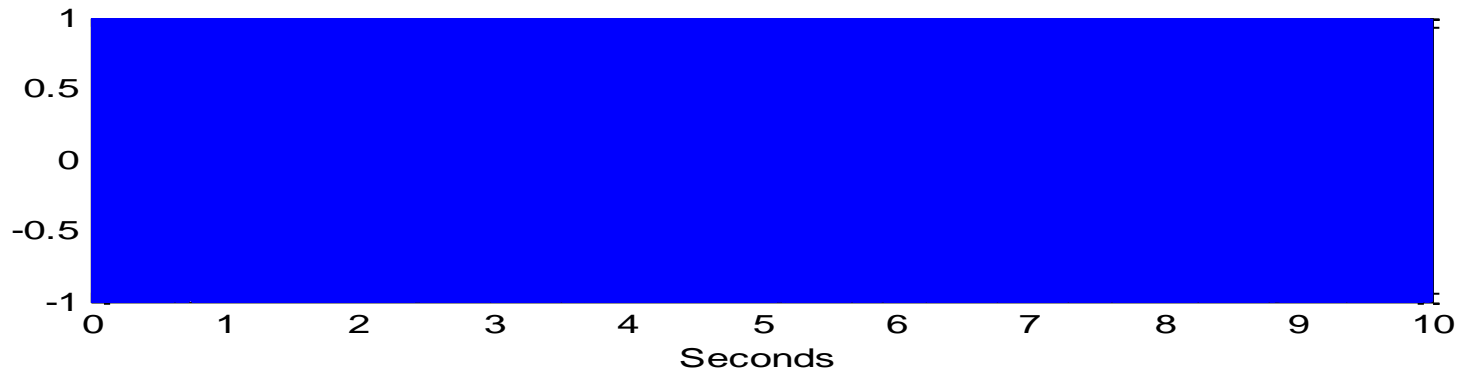


R = 0.5



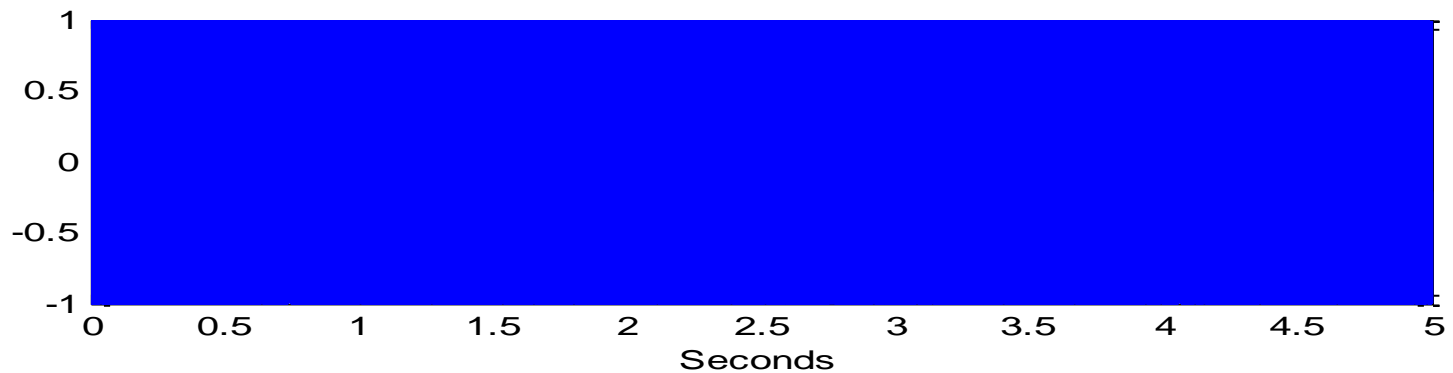
Five frequencies

100 Hz 200 Hz 300 Hz 400 Hz 500 Hz
 $\cos(2\pi f_1 t)$ $\cos(2\pi f_2 t)$ $\cos(2\pi f_3 t)$ $\cos(2\pi f_4 t)$ $\cos(2\pi f_5 t)$

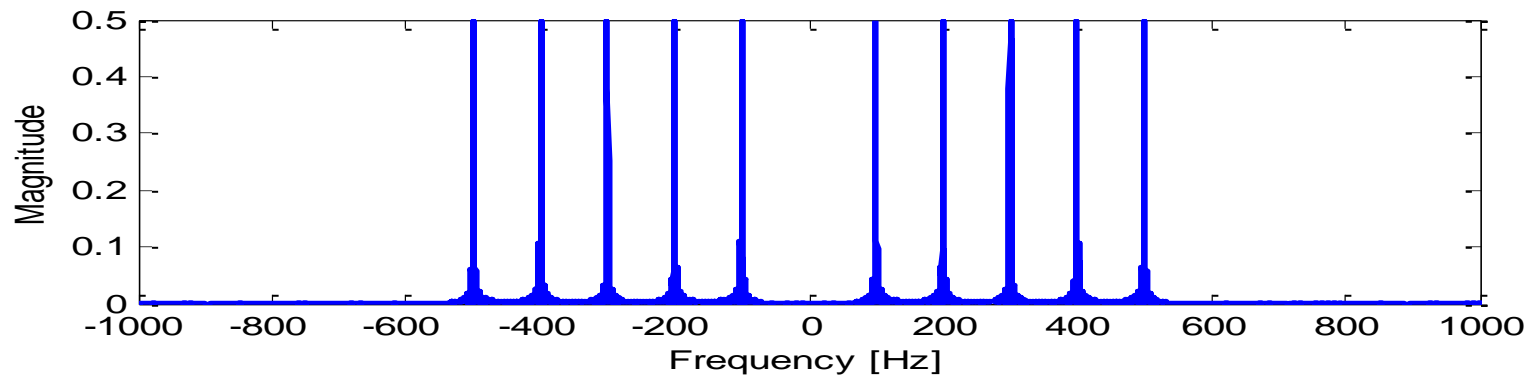


Five frequencies

100 Hz 200 Hz 300 Hz 400 Hz 500 Hz
 $\cos(2\pi f_1 t)$ $\cos(2\pi f_2 t)$ $\cos(2\pi f_3 t)$ $\cos(2\pi f_4 t)$ $\cos(2\pi f_5 t)$

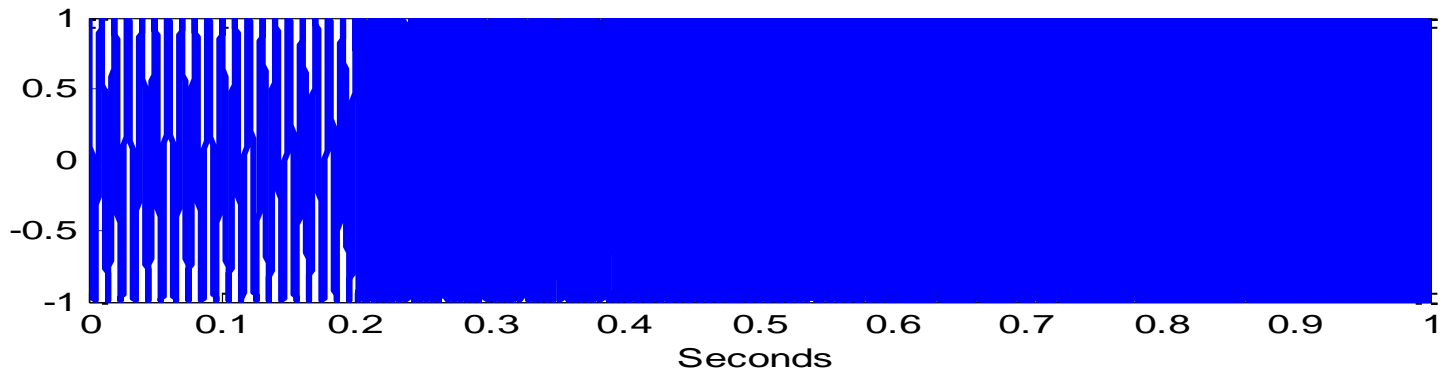


R = 1

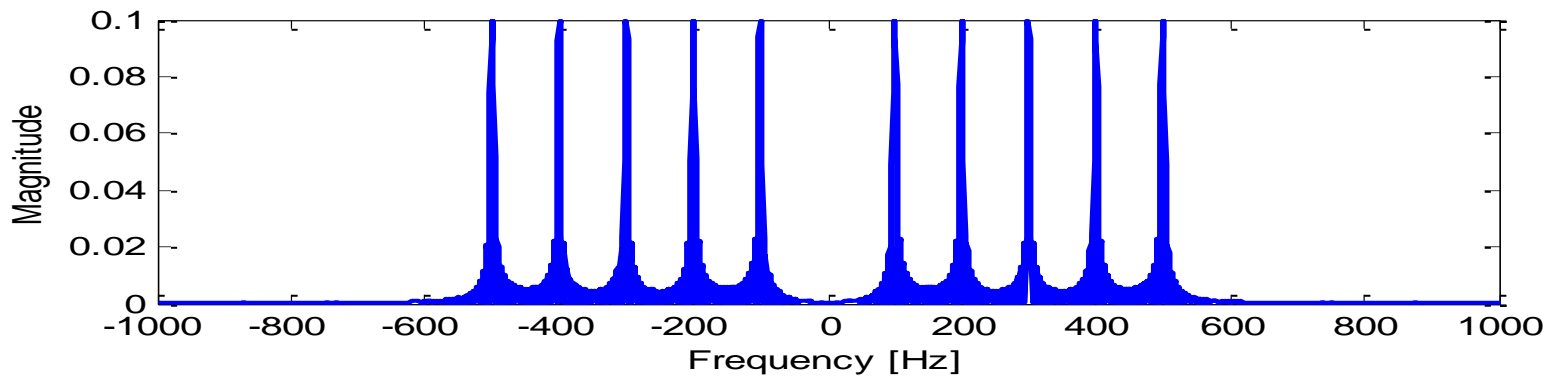


Five frequencies

100 Hz 200 Hz 300 Hz 400 Hz 500 Hz
 $\cos(2\pi f_1 t)$ $\cos(2\pi f_2 t)$ $\cos(2\pi f_3 t)$ $\cos(2\pi f_4 t)$ $\cos(2\pi f_5 t)$

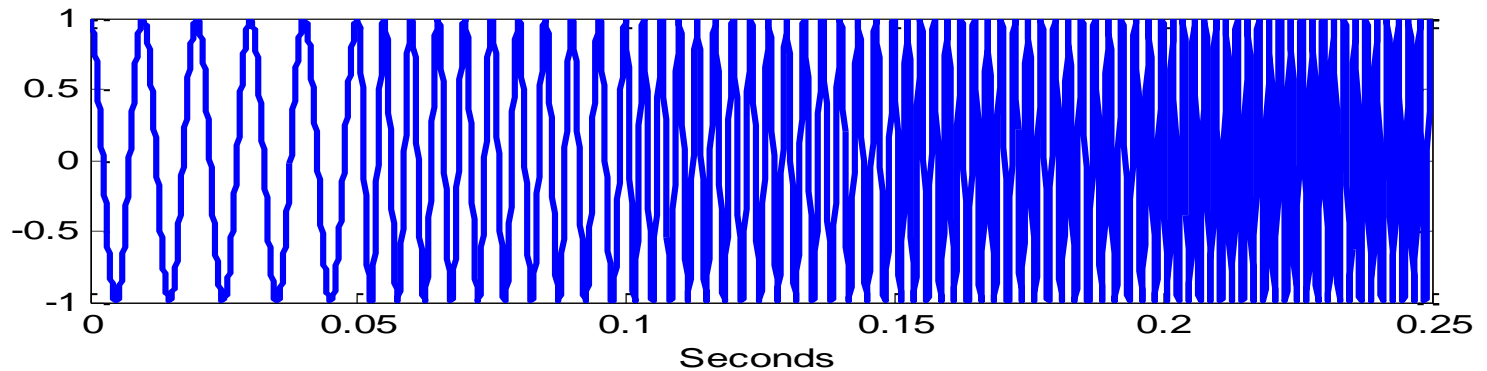


R = 5

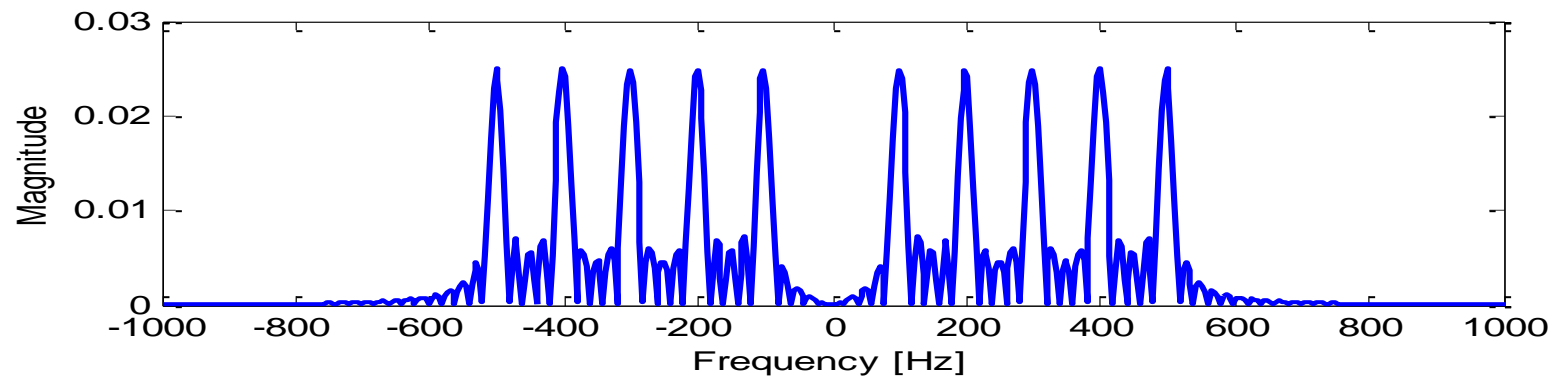


Five frequencies

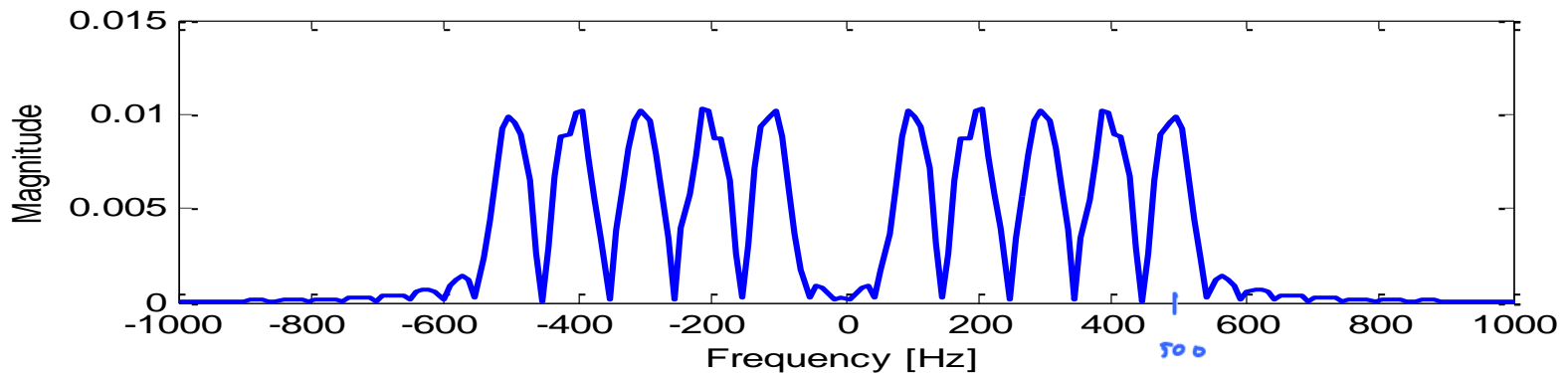
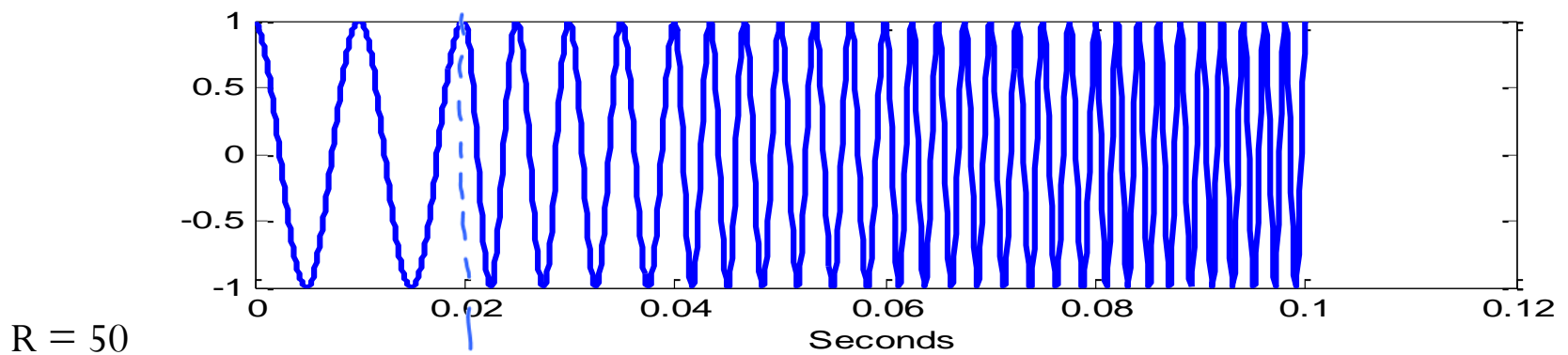
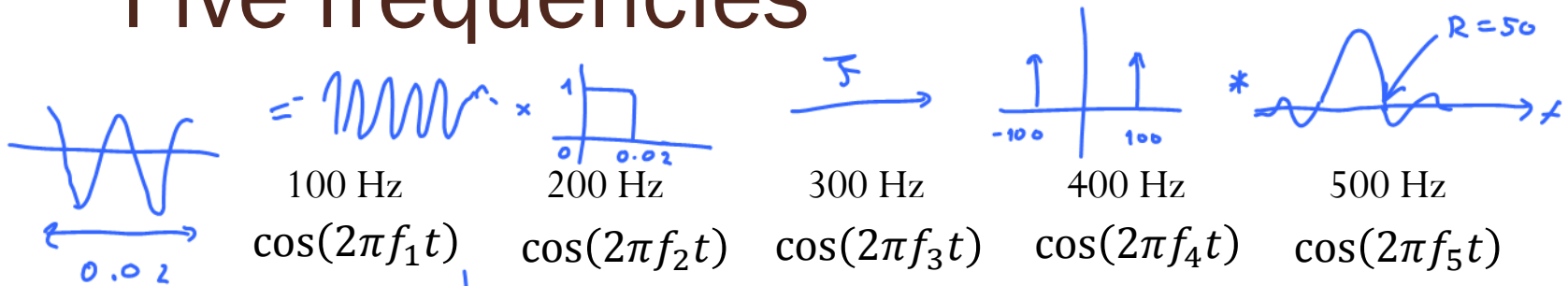
100 Hz	200 Hz	300 Hz	400 Hz	500 Hz
$\cos(2\pi f_1 t)$	$\cos(2\pi f_2 t)$	$\cos(2\pi f_3 t)$	$\cos(2\pi f_4 t)$	$\cos(2\pi f_5 t)$



R = 20

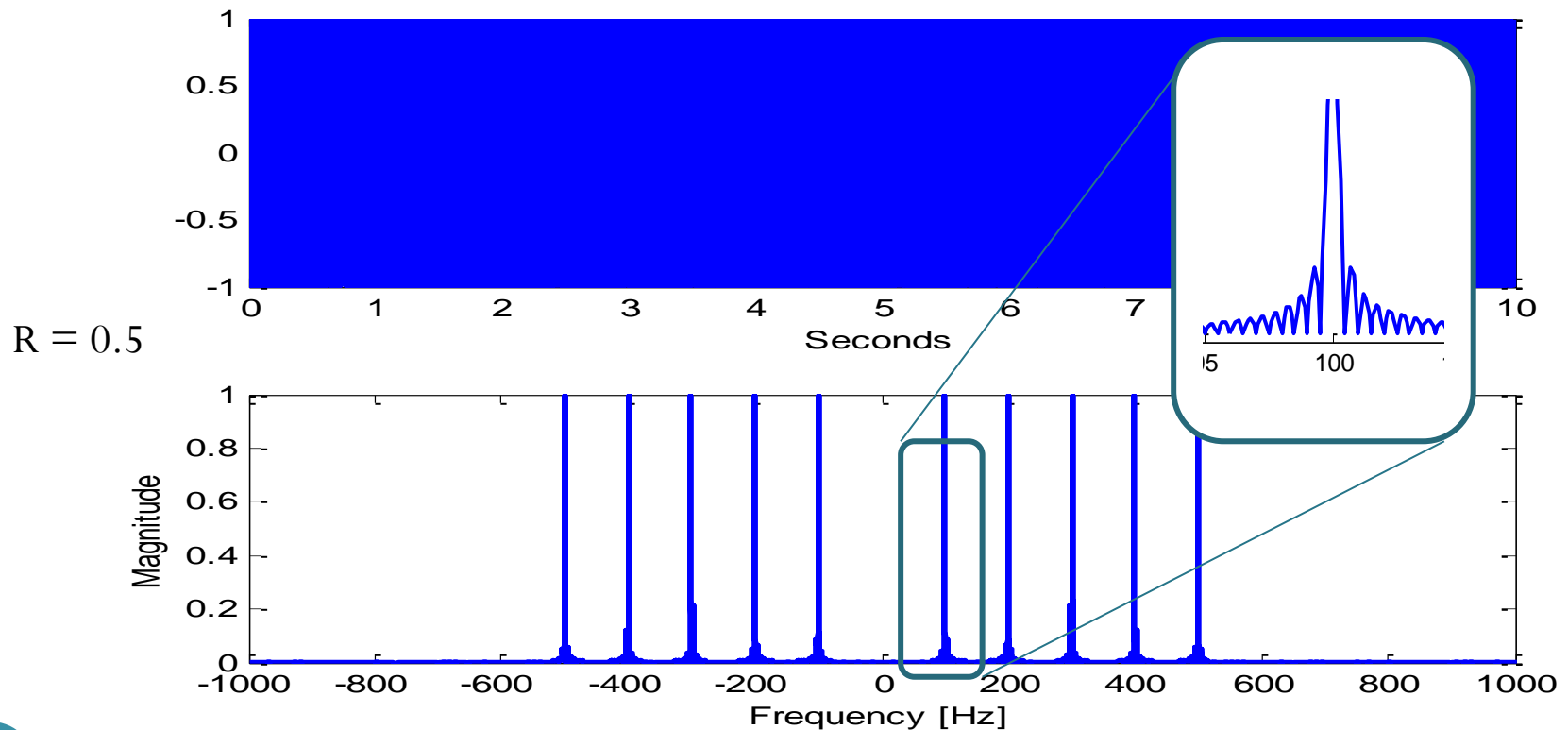


Five frequencies



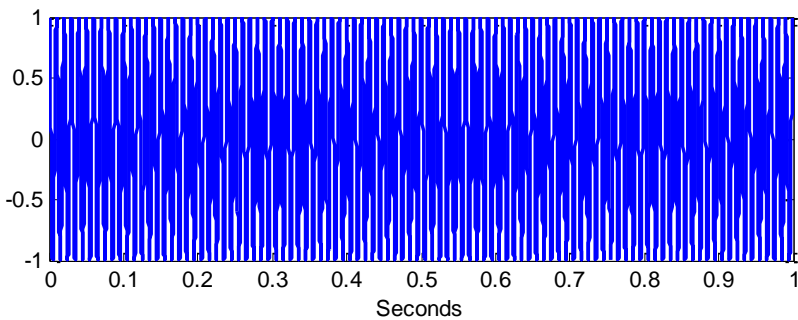
Five frequencies

100 Hz	200 Hz	300 Hz	400 Hz	500 Hz
$\cos(2\pi f_1 t)$	$\cos(2\pi f_2 t)$	$\cos(2\pi f_3 t)$	$\cos(2\pi f_4 t)$	$\cos(2\pi f_5 t)$



Cos and Cos Pulse Comparison

$$x(t) = \cos(2\pi(100)t)$$



$$x(t) = \begin{cases} \cos(2\pi(100)t), & 0.4 \leq t \leq 0.6, \\ 0, & \text{otherwise.} \end{cases}$$

