

Illustrate forward and backward wave propagation

Define some constants

$$u := 3 \cdot 10^8 \quad (\text{m/s}) \quad V_{\text{plus}} := 1 \quad (\text{V}) \quad V_{\text{minus}} := 1 \quad (\text{V})$$

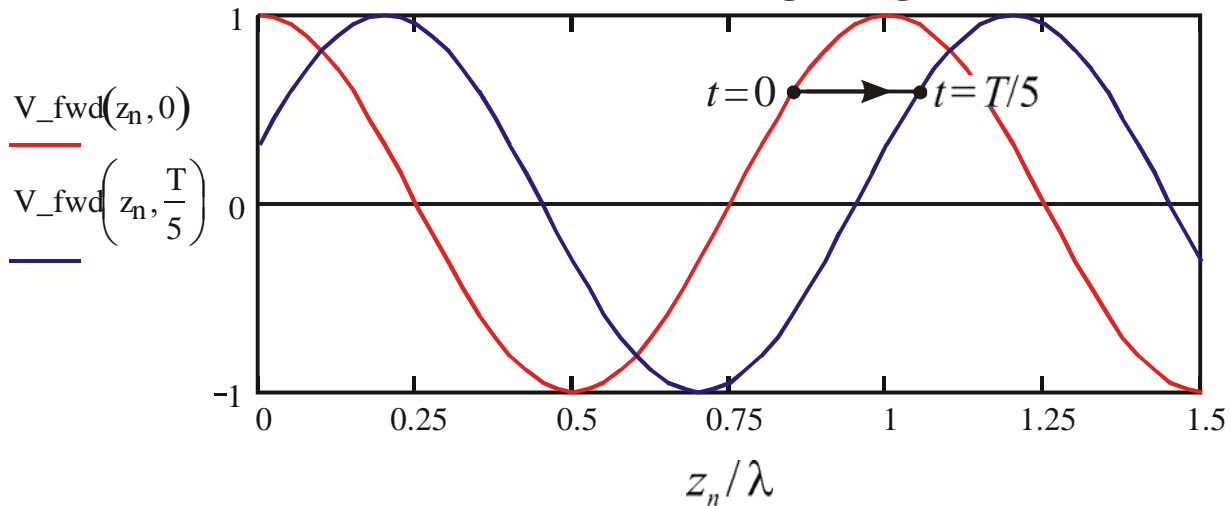
$$\omega := 2 \cdot \pi \cdot 60 \quad (\text{rad/s}) \quad \lambda := 2 \cdot \pi \cdot \frac{u}{\omega} \quad (\text{m}) \quad \beta := \frac{\omega}{u} \quad (\text{1/m}) \quad T := \frac{2\pi}{\omega} \quad (\text{s})$$

Define functions for forward and backward components of the voltage wave

$$V_{\text{fwd}}(z, t) := V_{\text{plus}} \cdot \cos(\omega \cdot t - \beta \cdot z) \quad V_{\text{bwd}}(z, t) := V_{\text{minus}} \cdot \cos(\omega \cdot t + \beta \cdot z)$$

$$n := 0..60 \quad z_n := \frac{1.5 \cdot \lambda \cdot n}{60}$$

Forward Traveling Voltage wave



Backward Traveling Voltage wave

