

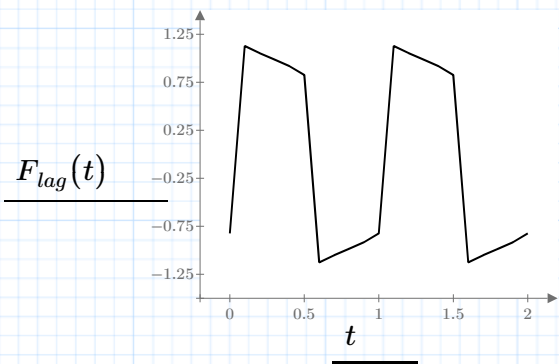
Phase Distortion

$$t := 0, 0.1 \dots 2 \qquad n := 1 \dots 50$$

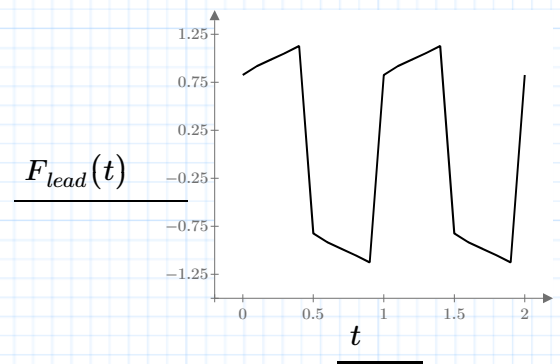
$$B_n := \frac{4}{\pi \cdot (2 \cdot n - 1)} \qquad dt_n := 0.05 \cdot (1 - e^{-(2 \cdot n - 1)})$$

$$F_{lag}(t) := \sum_n \left(B_n \cdot \sin \left((2 \cdot n - 1) \cdot 2 \pi \cdot (t - dt_n) \right) \right)$$

$$F_{lead}(t) := \sum_n \left(B_n \cdot \sin \left((2 \cdot n - 1) \cdot 2 \pi \cdot (t + dt_n) \right) \right)$$



(a) high frequency components lagging



(b) high frequency components leading