

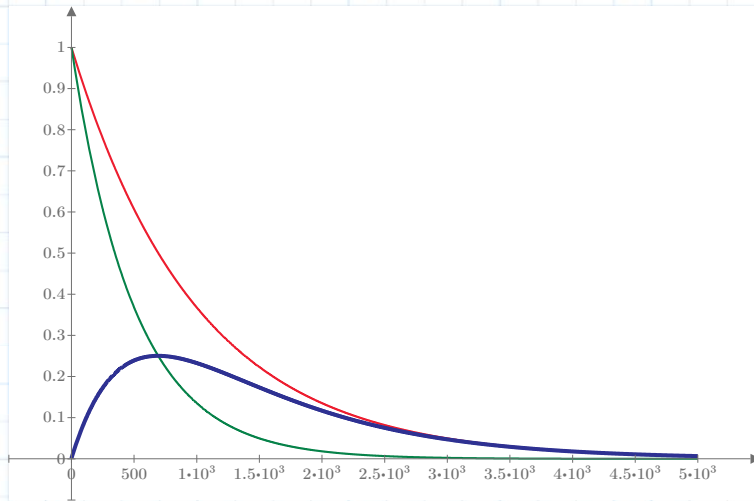
Ex.6 Convolution (Response of electric circuits, using matrix)

$$t := 0 .. 5000$$

$$x_t := 1 \cdot e^{\frac{-t}{1000}} \quad x_0 = 1 \quad x_{1000} = 0.368 \quad x_{5000} = 0.007 \quad \text{input}$$

$$h_t := 1 \cdot e^{-2 \cdot \frac{t}{1000}} \quad \text{impulse response}$$

$$y := \text{Re} \left( \frac{x * h}{1000} \right) \quad \text{output}$$



$x(t)$   
 $h(t)$   
 $y(t)$

$t$