

# Robust and Optimal Control

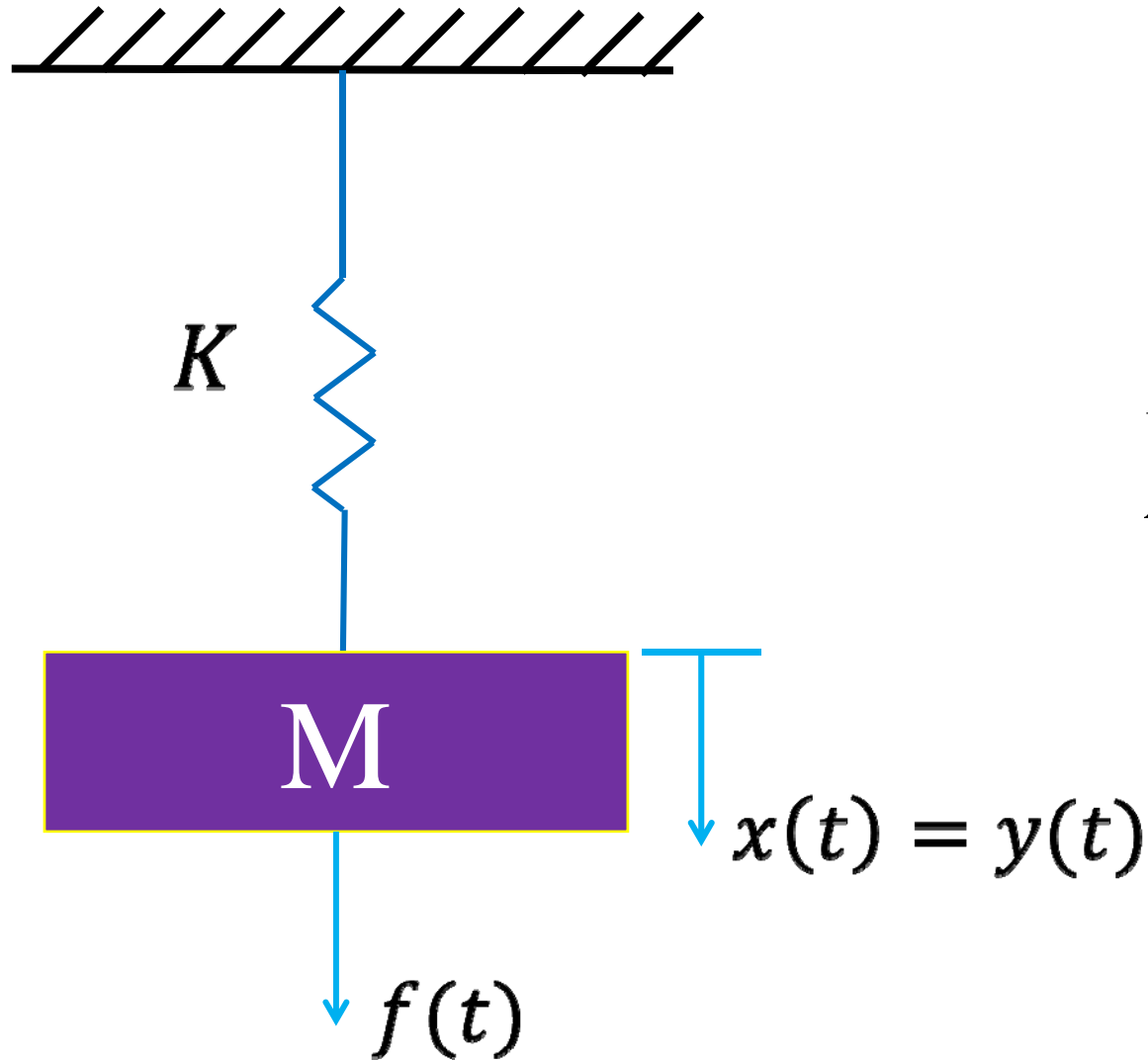
## A Two-port Framework Approach

# Coprime Factorization

## Outline

- Vibrational Motion With Damping
- Block Diagram
- Method: *Linear Fractional Transformation*
- Method: Right Coprime Factorization
- Method: Left Coprime Factorization
- Verification

## Vibration motion with damping

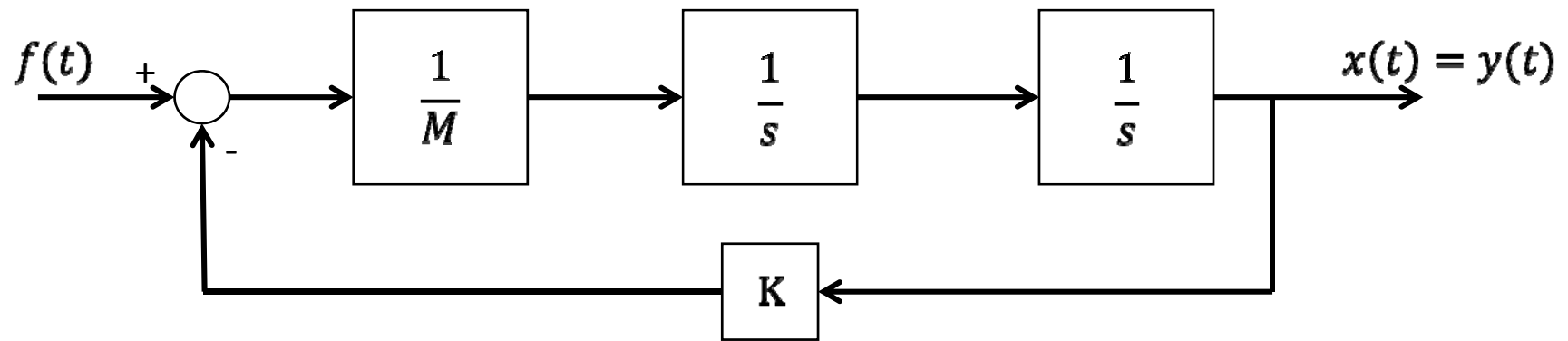


$$K = 2Nm^{-1}$$

$$M = 1kg$$

# Block diagram

$$M\ddot{x} + Kx = f(t)$$



for  $M = 1$  and  $K = 2$   $\longrightarrow$   $\ddot{x} + 2x = f(t)$

