

System description

$$\begin{aligned}\dot{x} &= f(t, x, p) \\ x^+ &= F(t, x, p)\end{aligned}$$

Problem definition

$$t_0, (t_f), [\underline{x}, \overline{x}], [\underline{p}, \overline{p}]$$

Method  
choice

Over-approximation hub  
 $[\underline{R}, \overline{R}] \leftarrow TIRA([t_0, t_f], [\underline{x}, \overline{x}], [\underline{p}, \overline{p}])$   
 $[\underline{R}, \overline{R}] \leftarrow TIRA(t_0, [\underline{x}, \overline{x}], [\underline{p}, \overline{p}])$

Continuous-time  
monotonicity

Contraction/  
growth bound

Continuous-time  
mixed-monotonicity

Sampled-data  
mixed-monotonicity

Discrete-time  
mixed-monotonicity

Additional information:

$$\text{sign}(J_x), \text{sign}(J_p)$$

$$[\underline{J_x}, \overline{J_x}], [\underline{J_p}, \overline{J_p}]$$

$$\text{sign}(S_x), \text{sign}(S_p)$$

$$[\underline{S_x}, \overline{S_x}], [\underline{S_p}, \overline{S_p}]$$

matrix  $C$ , function  $G$

New methods  
provided by user