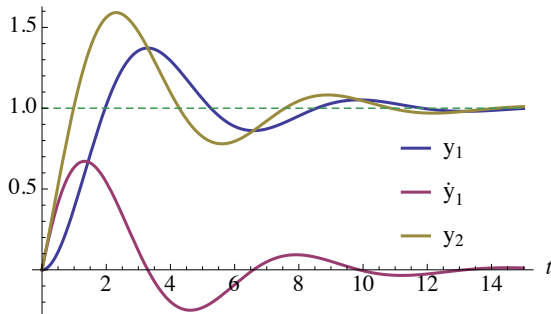


Effect of a LHP Zero

Step response (zero at $s = -a$)

$$y_2(t) = y_1(t) + \frac{1}{a} \dot{y}_1(t) \quad \text{where } y_1(t) = \text{original step response}$$



Effects of a LHP zero:

- ▶ increased overshoot (major effect)
- ▶ little influence on settling time
- ▶ what happens as $a \rightarrow \infty$? — effects become less significant