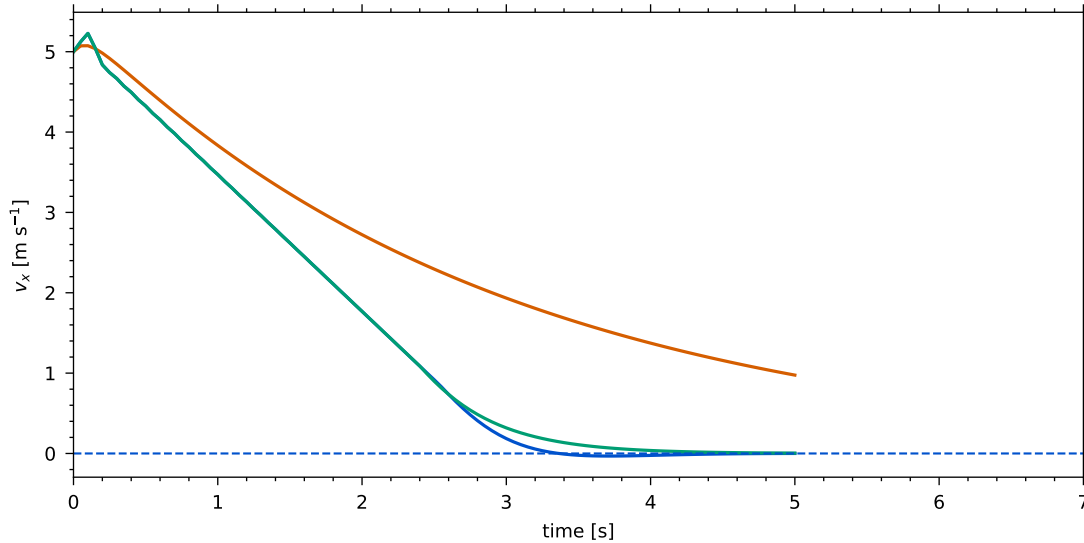
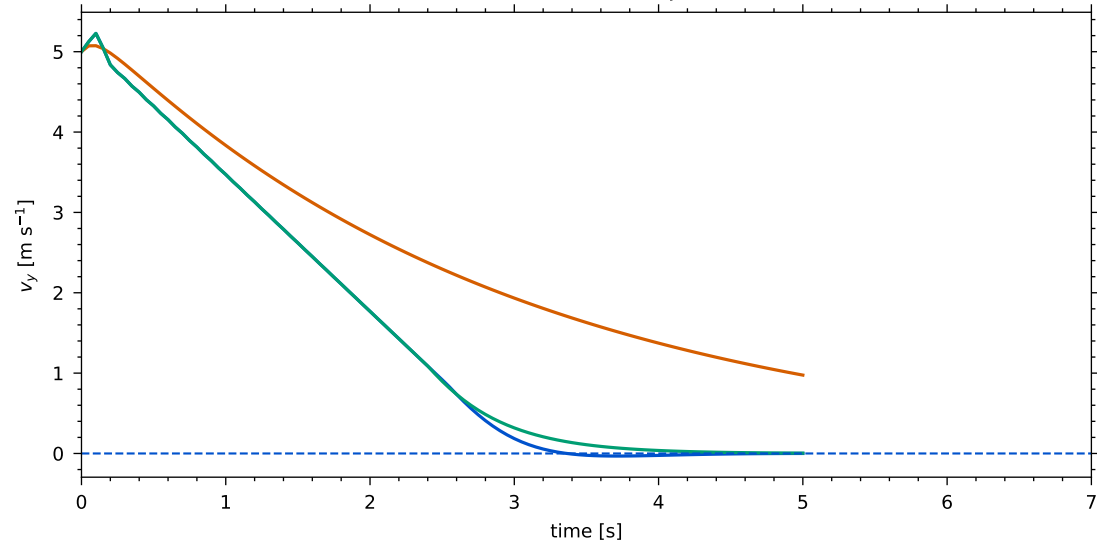


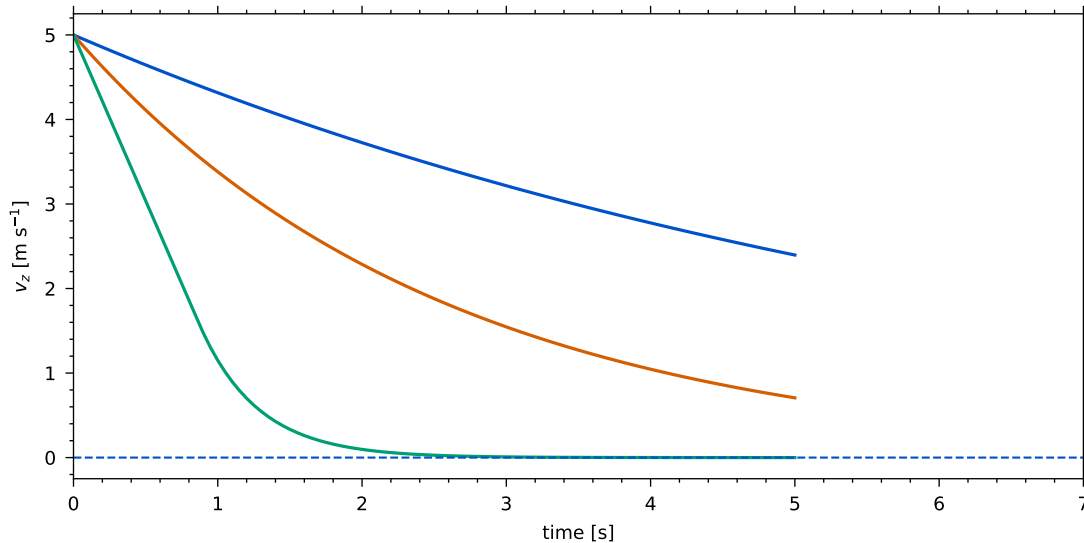
Open-loop prediction:  $v_x(0) = 5 \text{ m/s}$



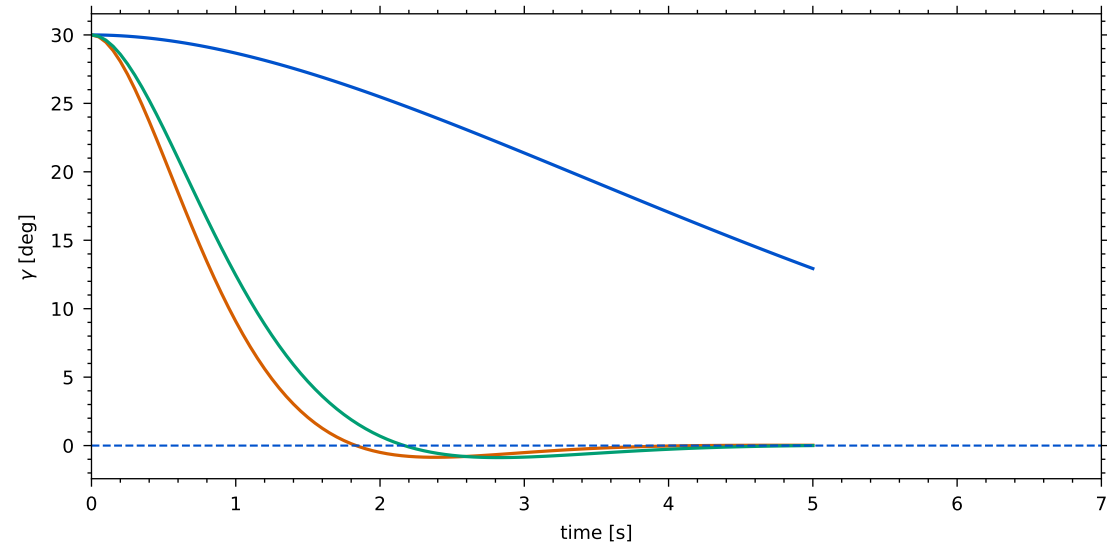
Open-loop prediction:  $v_y(0) = 5 \text{ m/s}$



Open-loop prediction:  $v_z(0) = 5 \text{ m/s}$



Open-loop prediction:  $\gamma(0) = 30^\circ$



$H = 5.0 \text{ s}, N = 100$

Identity  $Q = I, R = I$     Heuristic  $Q_{ii} = 1/x_{i,\max}^2, R_{ii} = 1/u_{i,\max}^2$     Final tuned