

# Controller Information and Results

## Controller Type

- **Feedforward + Proportional (P) Controller**

## Feedback Gains

- **K<sub>p</sub>**: Identity Matrix

## Performance Summary

- **Overshoot**: No overshoot
- **Response Speed**: Fast
- **Accuracy**: Successfully picks and places

## Notes

- This setup represents the new task scenario, where the block is set at a new initial and final configuration
  - New initial configuration: (x = 1.5, y = -0.5, phi = 0)
  - New final configuration: (x = -0.5, y = 1.5, phi = pi/2)
- The error twist response can be seen in the plot, where each velocity component is plotted over time and converges, and there is no visible overshoot or oscillation
- In order to account for these new block configurations, the  $T_{sc\_initial}$  and  $T_{sc\_final}$  inputs were edited to match the configuration in CoppeliaSim, and the trajectory generator function used that to create a new planned trajectory