

## Results using well tuned gain parameters - New Task

This directory contains the simulation results for the following parameters.

### Inputs

initial configuration =  $[\text{math.pi}/2, 0.0, 0.0, 0.0, -0.35, -0.698, -0.505, 0.0, 0.0, 0.0, 0.0, 0.0]$

Tsc initial =  $[0.7, 0.7, \text{math.pi}/4]$

Tsc goal =  $[0, 0, \text{math.pi}]$

gains =  $[0.18, 0.00015]$

### Controller

**kp = 0.18**

**ki = 0.00015**

**The implemented controller is a feedforward + feedback PI controller**

### Results files

#### **youBot\_Trajectory.csv**

youBot\_Trajectory file will contain the configuration of the youBot end effector, at each 0.01 second time interval. Comments will be printed in the file, indicating the specific format of the configuration (phi, x, y, J1, J2, J3, J4, J5, W1, W2, W3, W4). ***The youBot\_Trajectory.csv file can be loaded into CoppeliaSim Scene6\_youBot\_cube.***

#### **trajectory\_Xerr.csv**

trajectory\_Xerr file will contains the error-twist, at each 0.01 second time interval. Comments will be printed in the file, indicating the specific format of the error (Wx, Wy, Wz, Vx, Vy, Vz)

### Cube Configuration

	X (meters)	Y (meters)	Phi (radian)
Initial	0.7	0.7	0.78539
Goal	0	0	3.14159