0.1 New Case

The new initial position of the block is $x = 1.5m$, $y = 0m$, $\theta = 0rad$ The controller is the same as in best case

$$K_p =$$

$$\begin{bmatrix} 30.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 \\ 0.0 & 20.0 & 0.0 & 0.0 & 0.0 & 0.0 \\ 0.0 & 0.0 & 30.0 & 0.0 & 0.0 & 0.0 \\ 0.0 & 0.0 & 0.0 & 20.0 & 0.0 & 0.0 \\ 0.0 & 0.0 & 0.0 & 0.0 & 30.0 & 0.0 \\ 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 30.0 \end{bmatrix}$$

$$K_i =$$

$$\begin{bmatrix} 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.0 \\ 0.0 & 0.1 & 0.0 & 0.0 & 0.0 & 0.0 \\ 0.0 & 0.0 & 0.1 & 0.0 & 0.0 & 0.0 \\ 0.0 & 0.0 & 0.0 & 0.1 & 0.0 & 0.0 \\ 0.0 & 0.0 & 0.0 & 0.0 & 0.1 & 0.0 \\ 0.0 & 0.0 & 0.0 & 0.0 & 0.0 & 0.2 \end{bmatrix}$$