Controller Design and Simulation for Mobile Inverted Pendulum (MiP)

Yuhao Lian

December 3, 2019

1 Introduction

This work is based on Zhu Zhuo's Master Thesis on controller designing for a Mobile Inverted Pendulum (MiP). We will first examine his controller's performance by running various tests in Simulink. Then we will try to design a controller using state-estimate feedback using parameter experimentally determined by Zhu Zhuo. Lastly we will conduct various tests on our controller and further discuss its performance