Multivariable Control Problems

Coursework

Ashutosh Mukherjee

26.02.2023

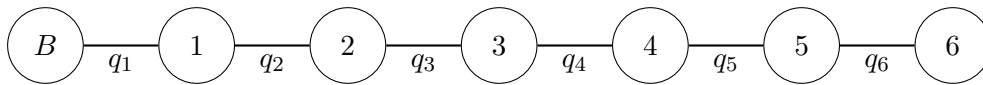# Contents

1 Topology and Mobility Analysis

Exercise 1.1

Serial Robot

The topology tree will contain seven (including the base) nodes depicting the links and six edges depicting the joints. The base link is depicted by B.

Parallel Robot

The topology tree will contain fourteen (including the top-platform and base) nodes depicting the links and eighteen edges depicting the joints (six of which are the prismatic joints). The prismatic joint edges are colored green and the spherical joints are colored blue. The base link is depicted by B and the top platform is depicted by EE.
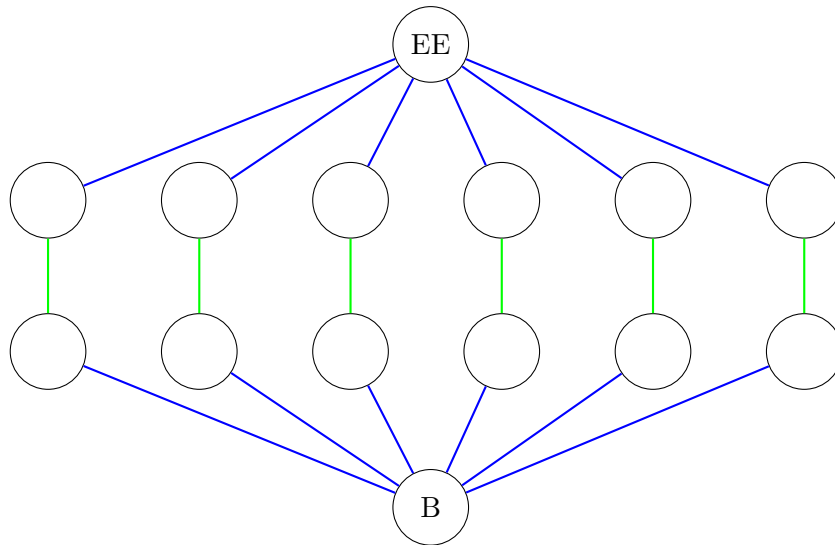
2 MIMO-systems

3 Stability and LFT

4 Coprime Factorizations and Youla Parametrisation