



**Politecnico
di Torino**

Project II: distributed control
of a multi-agents magnetic levitation system

Modeling and control of cyberphysical systems

01UDSOV

Simone Gallo
s276217

Francesco Menon
s277870

Angelo Pettinelli
s269291

Esmeraldi Xuna
s277995

11 giugno 2021

1	Introduction
2	Abstract
3	Set Up
4	Distributed regulator based on a distributed neighborhood observer structure
4.1	Architecture Design
5	Distributed regulator based on local observers
5.1	Architecture Design
6	Results
6.1	Constant reference
6.2	Ramp reference
6.3	Sinusoidal reference
7	Noise Effect
8	Parameters tuning
8.1	Coupling gain
8.2	Weighting matrix
9	Conclusions