



# Model predictive control of parallel compressors

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## **Master's Thesis**

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# Abstract

!!! Abstract

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# Introduction

Background info on compressor control, distributed MPC

# **Literature Review**

**Compressor Models**

**Model Predictive Control of Compressor Systems**

**Distributed Model Predictive Control**

# **Modelling & Simulation**

Single Compressor

Parallel Compressor System

Serial Compressor System

# Model Predictive Control

Introduction? Fundamental Equations?

Centralized Approach

Distributed MPC

Cooperative Control

Non-cooperative Control

Distributed State Estimation?



# Implementation

Quadratic Programming Solver

Embedded MATLAB Implementation

C++ Implementation

# Results

## Parallel Compressor System

### Benchmark Tests

Comparison: Controller Performance

Comparison: Computation Time

## Serial Compressor System

### Benchmark Tests

Comparison: Controller Performance

Comparison: Computation Time

## Conclusion